

COURSE CATALOG 2018-2019



MONTGOMERY
COUNTY COMMUNITY COLLEGE

mc3.edu



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ABOUT THE COLLEGE

MISSION AND PHILOSOPHY

Montgomery County Community College is a place where the future is created, a place where desire and knowledge are combined to yield opportunity. The College is a reflection and a response to the needs and aspirations of those who live, work and conduct business in Montgomery County and beyond. Grounded in a set of values that teach us to encourage, listen, respect and treat fairly those whom we serve, those with whom we work, and those who work with us in service, the College strives to ensure that all residents of Montgomery County have access to the highest quality and most affordable higher education possible. Most importantly, the College is dedicated to fostering the growth and success of all we serve.

The College believes that learning is a lifelong activity requiring constant adaptation of programs, courses and learning support services to reflect social, technological and workforce changes and to ensure that all learners reach their unique goals.

Believing in the right of everyone to have access to a quality education, to workforce training, to opportunities for personal and professional growth, and to culture and recreation, the College translates the values of its community and reaches out to it, inviting involvement, offering learning and fostering understanding.

As part of its role in the greater community, the College serves these vital functions:

- It provides quality associate's degree, certificate and continuing education programs that lead to transfer, employment and/or personal enrichment.
- It extends the reach of its programs and services, and thus educational opportunity, to meet the learning needs of those who cannot readily access collegiate educational opportunities because of academic, physical, economic, cultural or geographic boundaries.
- It links with leaders of the region's businesses and industries to assist in developing a vital, current and educated workforce.
- It serves as a cultural and recreational destination, presenting opportunities for area residents to attend activities that feature stimulating and popular entertainment and ideas.
- And, acting as a significant element in a larger regional learning community, the College works with K-12 and university teachers, leaders and learners to ensure a seamless and successful transition from high school, to the associate's degree, to the baccalaureate degree and beyond.

It is through its role as one institution with one set of shared values and principles, yet with multiple physical and virtual points of access, that the College works to define itself.

Evaluation of Mission Achievement

The College views education as a dynamic process that brings to the community a diverse, constantly changing set of learning opportunities; opportunities that grow, change, transform and multiply as the community and our learners confront and react to ever-present change. Thus, to fully meet our mission, the College participates in ongoing self-assessment and review in order to enhance and improve instructional programs and services to students and the county we serve.

STATEMENT OF VALUES

The students, faculty, support staff, administration and Board of Trustees of Montgomery County Community College uphold the following values:

Learning

To support this value, the College:

- Promotes learning as a lifelong activity.
- Encourages student-centered learning.
- Recognizes that learning is important in and of itself.

Accessible and Affordable Educational Opportunity

To support this value, the College:

- Provides equal opportunities in education and employment.
- Offers support services to assist students in meeting their educational goals.
- Makes programs and services available at an affordable cost.
- Provides educational services to the community.
- Offers programs and services at convenient locations and times.

Quality Programs and Performance

To support this value, the College:

- Provides up-to-date learning resources, tools and technologies within the framework of our financial support.
- Evaluates programs and services to improve institutional effectiveness.
- Promotes accountability, initiative, innovation and integrity.
- Provides a collegial work environment that rewards excellence, offers opportunities for professional development, and encourages teamwork and meaningful involvement in decision making.

Fairness and Equity

To support this value, the College:

- Respects all people without prejudice or discrimination.
- Strives to deal fairly with all people.
- Encourages all members of our College community to communicate openly, honestly and with integrity.
- Promotes tolerance, appreciation and understanding of alternative cultural and intellectual ideas.

Individual Worth

To support this value, the College:

- Is dedicated to each student's intellectual, personal and ethical growth.
- Respects the opinions of members of the College community and encourages open exchanges of ideas.
- Provides opportunities for the intellectual, personal, professional and ethical growth of faculty, support staff, administrators and members of the Board of Trustees.

Community Service

To support this value, the College:

- Responds to the needs of the community it serves.
- Plans educational programs with business and government.
- Cooperates with other educational providers.
- Provides opportunities and activities that culturally enrich the community.

A STRONG LEGACY, A SECURE FUTURE

Montgomery County Community College was formally founded by the Montgomery County Board of Commissioners on December 8, 1964. The College continues to be sponsored by Montgomery County.

Montgomery County Community College is approved as an institution of higher education by the Board of Education of the Commonwealth of Pennsylvania. The College is authorized by the Board to award associate's degrees in arts and sciences, as well as appropriate diplomas and certificates. Montgomery County Community College is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104, 267-284-5000.

Our operating funding sources are tuition, the Commonwealth of Pennsylvania and Montgomery County. In addition to support from the Commonwealth, County and other organizations, we benefit from the Montgomery County Community College Foundation, which raises funds to help the College develop programs, facilities and services.

OUR LOCATIONS

Central Campus
340 DeKalb Pike, Blue Bell, PA 19422
215-641-6300

West Campus
101 College Drive, Pottstown, PA 19464
610-718-1800

Virtual Campus
mc3.edu/virtual
215-641-6515

The Culinary Arts Institute
1400 Forty Foot Road, Lansdale, PA 19446
267-646-5970

ADMISSIONS

CENTRAL CAMPUS

Montgomery County Community College
340 DeKalb Pike
Blue Bell, PA 19422
215-641-6551
admissions@mc3.edu

WEST CAMPUS

Montgomery County Community College
101 College Drive
Pottstown, PA 19464
610-718-1906
admissions@mc3.edu

ADMISSIONS POLICY

Purpose

The College provides accessible and affordable educational opportunities to all who apply. The Admissions Policy is intended to support the success of applicants as they enroll at the College.

Policy

Admission to Montgomery County Community College is open to the following individuals:

- All high school graduates, General Equivalency/Commonwealth Diploma recipients and transfer applicants from another College or University.
- Any person who is a non-high school graduate and approved for enrollment in the Early Admissions program.
- Any non-high school graduate and non-General Equivalency recipient over the age of 18.

Montgomery County Community College has a strong institutional commitment to diversity and is committed to assuring equal opportunity to all persons as articulated in the EEO and Diversity Policy.

Procedure

The College requires prospective students to submit an application for admission. Certain programs have additional criteria and requirements. Prospective students must reference the College's website for the current admissions procedures and requirements.

Once published on the College website, any subsequent changes to College or program admissions criteria must be presented through the governance process relative to the proposed updates.

APPLICATION PROCESS

The College requires prospective students to submit an application for admission to enroll. All applicants are required to submit a high school transcript or transcript from their most recent educational experience. All applicants seeking admission to a program of study must complete a placement (assessment) test or provide proof of test exemptions as stated in the College's Placement and Testing Policy in order to establish academic readiness prior to entering a degree program. Applicants who have never graduated from high school and who have not completed the GED may be admitted to the College provided they are over the age of 18 and demonstrate, through placement testing, an ability to benefit from postsecondary educational experiences.

Montgomery County Community College is committed to assuring equal opportunity to all persons and does not discriminate on the basis of race, color, sex, religion, ancestry, national origin, age, applicable disability, or sexual orientation in its educational programs, activities, admissions, or employment practices as required by Title IX of the Educational Amendment of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and other applicable statutes. Inquiries concerning Title IX and or 504 compliance should be referred to the Director of Equity and Diversity Initiatives, 340 DeKalb Pike, Blue Bell, PA 19422, (215) 619-7413 V/TTY. Central Campus students seeking information regarding services for students with disabilities should contact the Director of Services for Students with Disabilities at 340 DeKalb Pike, Blue Bell, PA 19422, (215) 641-6575 V. West Campus students should contact the Coordinator of Disability Services at 101 College Drive, Pottstown, PA 19464, (610) 718-1853 V/TTY.

Applicants who do not demonstrate the appropriate level of academic preparation necessary for success must enroll in developmental courses as outlined in the College's Placement and Testing Policy.

COMMONWEALTH SECONDARY SCHOOL DIPLOMA

The Department of Public Instruction of the Commonwealth of Pennsylvania will issue a high school diploma to students who never completed high school upon receipt of an official college transcript showing satisfactory completion of 30 college credits. A high school diploma may not be issued in advance of the student's high school graduation class. Students who pursue this program at the College may be limited to part-time study until the diploma is earned. Please refer to the Pennsylvania Department of Education's website at www.pde.state.pa.us for more information on the Commonwealth diploma. Once the 30 college credits have been completed, the student should request an official transcript from Enrollment Services to be mailed with the official diploma request form and PA State identification to the Pennsylvania Department of Education.

GENERAL EQUIVALENCY DIPLOMA (GED)

Montgomery County Community College offers both a GED Preparation Program and administration of the GED test. Visit mc3.edu/ged or call 610-819-2056 for more information about testing.

READMISSION BY STUDENTS IN GOOD STANDING

Former students who have taken an enrollment break of 3 or more consecutive years and are in good academic standing must apply for readmission to the College. In some cases, students applying to be readmitted to the College may be encouraged to take placement tests.

The catalog in effect at the time of a student's readmission to the College, or any subsequent catalog, will govern the student's academic status and graduation requirements.

ACADEMIC RENEWAL FOR PREVIOUS STUDENTS

Academic Renewal, a one-time-only option, provides eligible students with an opportunity to restart their academic records by resetting their GPA and Cumulative Credits Earned for past academic performance once they demonstrate recent success.

To be eligible for Academic Renewal, the student must have:

- never been granted Academic Renewal
- an enrollment break of 3 or more consecutive years with a GPA less than 2.0
- completed 15 or more credits after the enrollment break with a GPA of 2.0 or greater
- met with an advisor or counselor to review the Academic Renewal Policy including the application process

For more information regarding Academic Renewal, visit <https://www.mc3.edu/about-mccc/policies-and-procedures/academic-renewal> or visit the Student Success Center and talk with an advisor or counselor.

READMISSION FOR STUDENTS PREVIOUSLY DISMISSED FOR DISCIPLINARY REASONS

Former students who have been dismissed from the College for disciplinary reasons must first receive approval from the Vice President of Student Affairs and Enrollment Management before being readmitted. This written approval must be received in Enrollment Services before the College can process the application.

ADMISSIONS PROCEDURE FOR INTERNATIONAL STUDENTS

International students are citizens of another country who are authorized to remain in the United States for a temporary period as non-immigrant students (on an F-1 visa) and who intend to return to their home country after graduation. International students must complete International Student Application (F-1 visa). After completing the application, we will issue international students a Letter of Admissions and the SEVIS Form I-20 Certificate of Eligibility for Nonimmigrant (F1) Status to use when applying for their F-1 visa at a U.S. Consulate in their home country. To apply for admission to Montgomery County Community College and for issuance of the I-20, international students must complete an application and send all documents by the application deadlines. Students transferring from another U.S. institution of higher learning should submit their completed application packets at least three weeks prior to the beginning date of the semester they wish to start. Only international transfer students are eligible to apply for entrance into the summer sessions.

Students applying for a Change of Non-immigrant Status must submit the International Student Application and all required documents before receiving an I-20. All international students must submit an Immunizations-Submission Form along with documentation proving vaccination of Measles, Mumps and Rubella as well as a negative screening/diagnosis of Tuberculosis. Students applying from overseas must submit this requirement within 60 days after arrival in the U.S. Transfer and Change of Status students must submit this requirement within 60 days of receiving their I-20. Failure to submit immunization documents by the deadlines will result in a registration hold and could affect visa status.

International students must demonstrate English proficiency to enroll in an associate's degree program. Students can submit a TOEFL (Test of English as a Foreign Language) or take the placement test on campus achieving college-ready scores for admission. Per federal regulations, all F-1 students are required to enroll in no less than 12 credits a semester. To apply or learn more about international admissions, international students should contact the Office of Admissions at 215-641-6551 or visit <http://mc3.edu/adm-fin-aid>.

ADMISSIONS PROCEDURE FOR PROGRAMS WITH SPECIAL ADMISSIONS REQUIREMENTS

Admission is selective for the Dental Hygiene, Medical Laboratory Technician, Nursing, Radiography, Surgical Technology, Police Academy Act 120 and Public Health training programs. Each program has specific admissions requirements and may have prerequisite coursework that must be completed before students are eligible to be admitted into the respective program. College coursework can begin before formal acceptance into each respective program.

CORRECTION: Regarding the admissions procedure for programs with special requirements above, the Physical Therapist Assistant program is a special admissions program. Public Health is not a special admissions program.

For the admissions prerequisite requirements for these programs, refer to the appropriate prerequisite curriculum listing in this catalog. Due to the competitive nature of these programs and class-size limitations, the College does not guarantee immediate acceptance into these programs even if you meet the admissions prerequisites. For certain programs, students may have to wait until there is space available in the class.

EARLY ADMISSIONS

Applicants for Early Admissions, including Dual Enrollment, must follow the same procedures as applicants seeking regular admission, as well as provide approval from their high school or diploma-granting institution and parent/guardian. An applicant less than 15 years of age must also schedule a personal interview through the Admissions Office. Admissions decisions for Early Admissions students are made by a team of representatives from the Admissions Office, Academic Affairs and the Student Success Center.

DUAL ENROLLMENT PROGRAM

The College's Dual Enrollment program enables current high school and home-schooled students to earn college credits prior to graduating from high school. Some dual enrollment students may also be granted dual credit for college course(s) to fulfill certain high school graduation requirements if their high school grants permission. The program is limited to students who have reached the age of 15 prior to the start of the semester for which they wish to enroll. If students desire dual credit, they are responsible to ensure that courses completed at the College will fulfill specific high school graduation requirements. Students who are less than 15 years of age may apply to participate in the Dual Enrollment program. Contact the Office of Admissions for specific requirements and to schedule an interview.

Most students who are approved for the program enroll on a part-time basis. A student interested in the Dual Enrollment program must submit the online Dual Enrollment application and use the Dual Enrollment Registration Form to register for courses. The Dual Enrollment Registration Form requires the signature of the student and parent/guardian; if the student desires dual credit, a signature from a high school representative is required. Students must meet the prerequisites for the course(s) they wish to take, including completion of the reading, writing and math placement tests when required. Exemptions may apply (see the College's Competency Validations in Academic Readiness Policy).

For more information about our Dual Enrollment program, call 215-641-6577 or admissions@mc3.edu.

Gateway to College

Central Campus

Student Success Center, College Hall
 Esau Collins
 215-461-1114
ecollins@mc3.edu

West Campus

Student Success Center, South Hall
 Jezerey Weiderman
 610-718-1841
jweiderm@mc3.edu

The Gateway to College program supports students who are at risk of not completing or have disengaged from their high school education. Through the program, students complete their high school diploma requirements at community and technical colleges while simultaneously earning college credits toward an associate's degree or certificate.

Program Benefits:

- scholarship program that pays for student tuition and books
- earn your high school diploma
- attend class in a supportive and educational environment
- earn college credit toward an associate's degree or certificate while taking classes toward high school diploma

Program Requirements:

- students 16- to 21-years-old who have dropped out of high school for at least 6 months
- students must be behind in high school credits for age or grade level
- possess reading skills at an eighth-grade level or higher
- referral and sponsorship by a partnering school district or community partner
- have the desire and determination to learn and to earn a high school diploma and a college degree (by age 21 and willing to commit to two or more years)

For more information about our Gateway to College program, please visit <http://mc3.edu/student-resources/outreach> or call one of our offices listed above.

HONORS PROGRAM

The Honors Program at Montgomery County Community College offers highly motivated and academically talented students an enriched academic experience. The Honors Program achieves this goal by cultivating academic excellence in small, specialized classes, collaborative and experiential learning opportunities, and an emphasis on leadership, community building and service.

Students can participate in the Honors Program in two ways. They can:

- complete the full Honors Program to receive an Honors designation on their degree
- enroll in Honors courses only—students who have completed 9-12 credits and have a grade point average (GPA) of 3.2 or higher may take Honors courses while completing their degree requirements

Honors Program students complete nine credits of Honors course work plus an experiential enrichment experience consisting of either a three-credit Honors Experience course, a capstone project or two non-credit service-learning experiences. In addition, Honors Club participation and completion of two intellectual activities each year are required to earn the Honors designation.

The College awards 25 Honors Program Scholarships each year to students who commit to completing the Honors Program and their degree at the College. Awards are based on merit and unmet need. Students who wish to be considered for an Honors scholarship must:

- apply to the College and the Honors Program
- file a FAFSA
- be a U.S. citizen or eligible non-citizen
- be pursuing first post-secondary degree
- be enrolled for 14 or more credits per semester
- be a resident of Montgomery County

For more information visit <http://mc3.edu/academics/honors>. The Honors International Business Certificate of Completion, a 12-credit international online experience, is available for students who have completed at least 12 college credit hours and maintain a 3.5 grade point average. This certificate may be combined with a certificate in Marketing or in Organizational Leadership in the Management A.A.S. program, or with the Business Administration A.S.

TRANSFER STUDENT ADMISSIONS

The College applies the following guidelines in order to award academic credit for prior learning:

- I. The consideration of transfer credit will be determined by course equivalencies, including expected learning outcomes, with those of the College's curricula and standards.
- II. Generally, credit will only be transferred from regionally accredited postsecondary institutions; however, the College recognizes valid educational experiences worthy of consideration outside of regionally accredited schools and has procedures to accommodate these based upon approval from the academic coordinator/ program director and documentation of course equivalencies, including expected learning outcomes.
- III. In addition, the College awards academic credit and course placement to students based on previous academic, employment, military and/or other learning experiences not earned in a traditional course. Credit is awarded for nationally recognized examinations [including Advanced Placement (AP) and College Level Examination Program (CLEP)], certifications or by portfolio evaluation of prior learning, based on course equivalencies, including expected learning outcomes.
- IV. Presented credits that meet grade and curricular requirements will be accepted at the College, up to 75 percent of the credits required for an associate's degree or certificate program. Transfer credit for specific majors are accepted to the extent that such acceptance would not be counter to discipline-specific accrediting agencies.
- V. Developmental coursework is not accepted for transfer credit but will be transcribed for prerequisite purposes.
- VI. Courses with a grade value of 2.0 (C) or higher will be considered for transfer. Courses with a grade value of "pass" or "satisfactory" will be accepted as transfer credits when the transcript states that a "pass" or "satisfactory" is equivalent to a C or above. Transfer courses will be awarded credit with no grade value (quality points) assigned.
- VII. In general, courses will be considered for transferability regardless of their age; however, some programs may restrict the age of courses used for program admission, prerequisite purposes and/or program completion.

For up-to-date information on opportunities for advanced standing and prior learning credits, visit the College website at <http://mc3.edu/adm-fin-aid/prior-learning-assessment>. Here are some of the more common opportunities to receive advanced standing or credits for priority learning:

Transfer of Credits

- I. Only official transcripts or score reports sent directly to Enrollment Services from the issuing institutions/organizations or delivered in a signed, sealed envelope will be reviewed. Facsimiles and/or unsealed documents are not considered official. Official documents for credits earned prior to admission should be submitted no later than the end of the first semester of attendance to meet subsequent course prerequisites and provide for accurate academic planning for degree completion. External courses and exams completed while currently in attendance should be submitted as soon as possible.
- II. Students who have credits from foreign educational institutions must have their transcript translated and reviewed by a NACES-accredited credential evaluation service. Military personnel are eligible to have their military experience and training evaluated for transfer credit by submitting an approved form (for example, a DD Form 214) and military transcript. Credit may be awarded for military training that has been evaluated by the American Council on Education and assigned a recommended credit value when the training is directly related to the student's program of study.
- III. The MCCC transcript will reflect only the total number of credits equated; awarded individual course equivalencies will not appear.
- IV. The College operates under the semester system. If a student seeks transfer credit for work completed under the "quarter" system, credits will be transferred in as follows:
 - A one-year course of nine credits, taken over three quarters will transfer in as six semester hours.
 - Two quarters of coursework totaling six credits will transfer in as a two-course sequence of two credits each.
 - One quarter of coursework totaling three credits equals two semester credits.
 - If one course of a two-course sequence is completed, the student will receive two transfer credits, which may, with approval from the appropriate discipline, satisfy a course prerequisite. Students must complete the minimum number of credits to graduate from the College.

AP Exams

Applicants from secondary schools offering college-level courses, as well as those who have gained educational experience from other sources, may take the appropriate Advanced Placement Examination from the College Board.

Students should request that the score, and the essay portion, of their examination be sent to Enrollment Services. AP exams with scores of three or higher for equivalent courses are accepted to meet degree requirements. See the College's website, mc3.edu, for the most up-to-date listing of AP credits awarded and more information.

CLEP Exams

Students may receive credits if they have successfully completed the CLEP (College Level Examination Program) sponsored by the College Entrance Examination Board (CEEB).

CLEP exams with scores of 50 or higher for equivalent courses are accepted to meet degree requirements. Montgomery County Community College is an official CLEP testing center. Please visit www3.mc3.edu/clep for information regarding testing dates and registration.

National Evaluations

American Council on Education (ACE)

ACE assesses non-collegiate instructional programs to provide credit recommendations. If you participated in a course through an organization that was evaluated by ACE, you can request a copy of your transcript from that organization. If those credit recommendations are equivalent to a course(s) in your MCCC program, you may be eligible for credit(s).

Military

Military personnel are eligible to have their military experience and training evaluated for transfer credit by submitting a DD 214 and military transcript. Credit may be awarded for military training that has been evaluated by the American Council on Education and assigned a recommended credit value when the training is directly related to the student's program of study.

Students Occupationally and Academically Ready (SOAR)

SOAR prepares students for college and careers in high priority occupations. Students who have participated in an approved SOAR program through their high school's Career and Technical Education Program may receive credit toward their certificate or degree. Visit CollegeTransfer.net to see how your high school credits may be accepted by Montgomery County Community College.

Prior Learning

The College may provide credit for prior learning that does not come from an academic setting or by transfer of credit from another institution. Students must be enrolled as degree-seeking students in the College in order to qualify for Prior Learning credit. Students may then elect to earn credit for specific courses by submission of a comprehensive portfolio that demonstrates that the student has met the learning outcomes for the course or by taking a challenge examination developed and administered by department faculty. There is a fee for the review of materials and for the awarding of credits. Additional information on Prior Learning transfer credit is available on the College's website.

Industry Certifications

The College recognizes various organizations that award professional certification, licenses and training in specific industry areas and grants credit based upon discipline faculty agreement on course equivalencies. Certifications and licenses must be current to be considered for credit. Students are required to submit a copy of their certification or license to the Records and Registration Office with their request for credit. A list of organizations for which credit is awarded is available on the College's website.

Reverse Transfer

Students who have transferred from Montgomery County Community College without earning an associate's degree or certificate may complete program requirements by transferring back courses that have been earned at other institutions and are approved as equivalent to the degree requirements of a program of study at the College, in accordance with the transfer of credit policy.

Appeal Procedures

Academic transcripts are evaluated based upon the procedures established in the Transfer of Credit Policy and through the guidance

provided by the academic disciplines. When transcripts are received for which there appears to be no Montgomery County Community College equivalent, or for which no equivalency can be established based upon the course name and course description, the academic discipline may be called upon to make a determination.

It is possible that errors in the articulation of coursework or prior learning can occur. In the event a student believes that this has occurred, the appeal procedure is as follows:

- I. The student should first contact the Office of Records and Registration to discuss the evaluation results with a transcript evaluator and provide any additional documentation needed to assist with the review (for example an updated transcript or college catalog, syllabus or other documentation from the sending institution).
- II. If the issue is not resolved, the student may request further review from the Director of Records and Registration/Registrar. After conferring with the student, the Director will present the student's claim along with any additional documentation to the Vice President for Academic Affairs and Provost, in consultation with the academic dean, and academic coordinator/ program director, for consideration and will communicate the decision to the student in writing, within 15 working days during the academic fall and spring semesters. The decision of the provost is final.
- III. Appeals to the Director of Records and Registration/ Registrar under item II above must be submitted no later than 90 days after the completion of the initial evaluation.

SHARED PROGRAMS

Through shared program arrangements, students can complete programs of study that are not offered by Montgomery County Community College but are available at Bucks County Community College, Community College of Philadelphia, Delaware County Community College and Lehigh Carbon Community College. Students who enroll for these majors at the peer community colleges must be authorized by the Director of Student Recruitment at both Montgomery County Community College and the host college to be eligible for program enrollment. The host college's sponsored tuition rate applies.

HOST COLLEGE	MAJOR
Bucks County Community College	Fine Woodworking (AFA)
	Furniture and Cabinet Making (Cert)
	Historic Preservation (Cert)
	Paralegal (AAS and Cert)
	Sports Management (AA) Meeting, Convention and Event Planning (AA and Certificate)
Community College of Philadelphia	Automotive Technology (AAS)
	Chemical Technology (AAS)
	American Sign Language/English Interpreting (AAS)
Delaware County Community College	Advanced Technology (AAS)
	Paralegal Studies (AAS)
Lehigh Carbon Community College	Professional Aviation (AAS)
	Veterinary Technician (AAS)

ACADEMIC TERMS AND FLEXIBLE LEARNING OPTIONS

COURSE DELIVERY

The College offers a variety of academic semesters and sessions. The regular fall, spring and summer semesters are approximately fourteen (14) weeks in length with one additional week for final examinations.

CONTINUOUS PROGRAMS OF STUDY

Continuous Programs of Study consist of courses offered 12-months out of the year to complete an associate's degree in about 16 months.

ACCELERATED DELIVERY

Accelerated Delivery options are also available. Students can complete a variety of select courses in as little as one week. Courses are also available in 2-, 3-, 6-, 7-, 8-, 10-, and 12-week options. Accelerated degree programs are available in Liberal Studies and General Studies. For more information about flexible learning options, visit the academic calendar at <http://mc3.edu/academics/academic-calendar>

VIRTUAL CAMPUS

The Virtual Campus offers courses and programs in a variety of technological platforms including online, hybrid (blended online and classroom) and videoconferencing. Courses are taught in traditional semesters and accelerated sessions to students who are motivated and independent learners. Currently, the College offers several completely online degrees through Virtual Campus. Refer to <http://www3.mc3.edu/virtualcampus> for course offerings, programs and support services.

TESTING AND PLACEMENT

CENTRAL CAMPUS

College Hall 264
 (2nd Floor Brendlinger Library)
 215-641-6646
testing@mc3.edu

WEST CAMPUS

South Hall 163
 610-718-1995
westtesting@mc3.edu

Montgomery County Community College offers testing services to meet the testing needs of students, faculty, staff and the community to promote student learning and success. The College's Testing Center offers these services:

- Placement testing (Accuplacer)
- Proctor class make-up exams
- Distance learning (online) proctored exams
- CLEP exams
- Workforce certification and licensure exams
- Preparation for placement test

Students with disabilities can receive testing in a distraction-free environment with special accommodations or adaptive technology available as needed. Hours of operation and other important information may be found at <http://mc3.edu/adm-fin-aid/testing-placement>.

PLACEMENT TESTING

Degree-seeking students must demonstrate their college readiness in reading, writing and math in order to be placed in the appropriate classes. There are many ways students can demonstrate college readiness. Students may submit score reports (PSAT, SAT, ACT, PSSA, AP, etc.), dual enrollment courses or college transcripts for evaluation. Students who do not have these items or have low scores or grades are required to take the College's placement tests. The College offers students many ways to prepare for placement tests; preparation is encouraged and can take place both on- and off-campus. For more information, review the College's Academic Readiness Policy and list of competency validations at <http://mc3.edu/about-us/policies/111>.

OTHER TESTING

Students taking exams for distance-learning (online) classes, classroom make-up exams, CLEP test, or workforce certifications or licensure will receive proctored testing in a quiet, secure environment. Appointments are required for these tests.

TUITION AND PAYMENT

TUITION AND FEES

Tuition and fees are established by the Board of Trustees of the College. The College reserves the right to change tuition and fees at any time. Please visit the College's website to review the approved tuition and fees at the time of enrollment at <https://www.mc3.edu/paying-for-college/tuition-and-other-costs>.

The student is responsible for tuition and fees. If the student is receiving financial aid or other scholarship monies, any remaining balance must be paid by the student. In the event of the loss of financial support, the student is responsible for the full amount due to the College. If the student is not planning to attend classes, he or she must drop classes in accordance with the refund policy to avoid charges. Students may not register until their financial obligations to the College are satisfied. Students anticipating difficulty in meeting their future financial obligations should apply for financial aid or for a payment plan through the Office of Enrollment Services.

RESIDENCY REQUIREMENTS

IN-COUNTY TUITION

Effective June 19, 2017, all students who have resided in Montgomery for a period of six months prior to registration will receive the sponsored in-county tuition and fees rate. International Students with an F1 or F2 visa status, or students who reside outside of the county or state, are not eligible for the sponsorship rate. The proof for establishing residency or a change of residence rests with the student. Residency may be established in less than six months if positive action has been taken to establish residency, such as a lease or purchase of a permanent independent residence (student's name must be on the lease or purchase agreement and student will have moved into residence for purposes other than attending college); Montgomery County voter registration card showing the new address; PA Vehicle Registration Card with the new address or update card from the DMV.

In accordance with PA House Bill 131, "veterans, their spouses and dependent children; military personnel, their spouses and dependent children; and civilian personnel working on a military base, their spouses and dependent children, who are admitted to a community college, [to] be charged the local sponsor rate, provided that the student is a resident of the state on the first day of the semester."

IN-STATE TUITION

To establish residency in the Commonwealth of Pennsylvania, students must demonstrate continuous residence in the Commonwealth for a period of (12) months prior to registration as a student. Minors under the age of 18, or a student whose age is 18 to 23 and is claimed as a dependent on his/her parent's federal income tax return, shall be presumed to have the same domicile as their parents or guardian and must use that address as his/her permanent address. Establishing an address for the purpose of attending college does not establish residency. The proof for establishing residency or a change of residence rests with the student.

PAYMENT PLAN

To assist students in meeting their financial obligation to the College, payment plans are offered for tuition and fees.

- To qualify for the payment plan for credit courses, you must:
- Be registered for three or more credits in a current semester and have a balance of at least \$200.00;

- Accept the payment plan terms and conditions; and
- Pay a \$35 non-refundable payment plan set-up fee (unless waived - see below), which is included with the initial payment. The fee will be waived if:
 - You select a six- or five-month payment plan option or
 - You select a four- or three-month payment plan option, and you elect for scheduled monthly payments.

Non-credit courses

This plan allows you to spread payments out over a four-month period. To qualify for the continuing education/non-credit course option, you must:

- Be in an approved program, such as Municipal Police Academy or Massage Therapy;
- Accept the payment plan terms and conditions;
- Pay a \$35 non-refundable payment plan set-up fee, which is included with your first payment; and
- Be prepared to pay your initial installment and set-up fee at the time of registration.

TUITION AND FEES REFUND POLICY

Tuition is fully refunded if we cancel a course. Otherwise, all refunds are subject to the College's Tuition Refund Policy. To withdraw or drop courses, or substitute another class for a canceled course, call or visit: Enrollment Services at either campus:

Central Campus, College Hall, 215-641-6551 • West Campus, South Hall 610-718-1944

The amount of a tuition refund is based on the date the student drops a course.

Refund Policy for Regular Semesters (14 Weeks in Length or Longer)

If Students Drop:

Prior to the first day of the semester	100% refund of tuition and fees
To the end of the first week of the semester	100% refund of tuition, no refund of fees
To the end of the second week of the semester	50% refund of tuition, no refund of fees
To the end of the third week of the semester	25% refund of tuition, no refund of fees
After the third week of the semester	No refund

They Receive this Tuition Refund:

Refund Policy for Special Sessions and Irregularly Scheduled Sessions and Courses (Less than 14 Weeks in Length)

If Students Drop:

Prior to the first day of the semester	100% refund of tuition and fees
To the day prior to the end of 10% of scheduled instruction	100% refund of tuition, no refund of fees
To the day prior to the end of 20% of scheduled instruction	50% refund of tuition, no refund of fees
After 20% of scheduled instruction	No refund

They Receive this Tuition Refund:

FINANCIAL AID

CENTRAL CAMPUS

College Hall, 215-641-6566
financialaid@mc3.edu

WEST CAMPUS

South Hall 151, 610-718-1906
financialaid@mc3.edu

Montgomery County Community College's Financial Aid Office offers an active financial aid program that is designed to bring educational expenses within the reach of students with varying financial resources. The Financial Aid Office can help students determine their eligibility for financial aid and assist them in applying for and securing a financial aid package that will meet their individual needs.

The College administers federal, state and institutional financial assistance, and offers these financial aid programs based on need:

- Pell Grants
- SEOG (Supplemental Educational Opportunity Grant)
- PHEAA Grants (Pennsylvania Higher Education Assistance Agency)
- Federal Work Study
- Subsidized Direct Loans

Federal Financial Aid Programs Non-need based:

- PLUS (Parent Loans for Undergraduate Students)
- Unsubsidized Direct Loans

The College also offers over 100 different scholarships, the majority of which are need-based, through the Montgomery County Community College Foundation. For more information on scholarships, call Financial Aid at 215-641-6566 or go to <https://www.mc3.edu/paying-for-college/financial-aid>.

How to Apply for Financial Aid

To apply for financial aid, students must complete the Free Application for Federal Student Aid (FAFSA), which is online at <https://fafsa.gov>. Students must reapply each academic year for a financial aid package. The Financial Aid Office first awards students who file by the following deadline dates, then awards students by date of application.

Important Dates and Deadlines

2018-19 Academic Year:

- **October 1, 2018** – FAFSA application available
- **April, 15, 2019** – Academic Works MCCC Foundation Scholarship application available on the student portal
- **May 1, 2019** – File your FAFSA by this date to be eligible for PHEAA State Grant consideration.
- **June 1, 2019** – MCCC Foundation Scholarship priority consideration deadline. Register for at least six credits for Fall 2019 and file your FAFSA by this date for priority consideration for scholarships.
- **June 30, 2019** – Last day to file a 2018-19 FAFSA

How Financial Aid is Awarded and Paid

The Financial Aid Office awards aid based on financial need. Financial need is the difference between the cost of attendance (COA) and the estimated family contribution (EFC). A student's EFC is determined by a federal formula that uses information provided by the applicant on the Free Application for Federal Student Aid (FAFSA). Generally, the Financial Aid Office offers a student a financial aid package consisting of grants, loans, scholarships and work-study. We first award gift aid, such as grants and scholarships to students with high financial need, followed by self-help aid, such as work-study and loan funds.

Students who plan to attend the entire academic year receive half of their aid for the fall semester and half for the spring semester.

The Business Office applies funds to the student's account, deducts any tuition and fees, and refunds the student any excess funds.

Summer Pell Grant funding will automatically be awarded, if available to you; loan funding may be available if enrolling in at least six credits and is to be requested in writing via email to financialaid@mc3.edu.

Financially eligible students may participate in the Act 101 Program, a state-funded program that offers one-on-one tutoring and counseling services, study skills workshops and individual guidance to help ensure that the students succeed in all courses and achieve their academic goals. Students are encouraged to take advantage of these resources to support their academic progress. Satisfactory academic progress is required to maintain eligibility for financial aid.

Financial Aid Policies

- Must be a U.S. citizen or national, U.S. permanent resident, citizen of certain Pacific islands, or other eligible noncitizen
- Must be formally admitted to the College and have a high school diploma or GED
- Cannot be in default on a federally funded loan or owe a refund on a federal grant
- Students must be enrolled for at least six academic credits to be eligible for most financial aid programs. Only certain federal Pell Grant recipients can receive financial aid at a less than half-time status. Financial aid does not cover audited courses or courses that do not fall within the student's program of study/major.

Students:

- Students must attend the classes for which they are registered or they will not be eligible for the amount of aid being received.
- Students who completely withdraw at or before 60 percent of the term may have to return a portion of their unearned federal financial aid and may owe tuition, fees and a repayment of federal funds. Students earn their financial aid based on the percentage of the term that they have completed. Federal funds must be repaid in the following order: unsubsidized Stafford Loan, subsidized Stafford Loan, PLUS Loans, federal Pell Grant and FSEOG funds. More detailed information can be found at <https://www.mc3.edu/paying-for-college/financial-aid/policies-and-resources/return-of-funds>.
- Students cannot receive financial aid for a class they intend to audit.
- Students applying for a federal Direct Loan must complete an entrance and exit interview and complete a Master Promissory Note to understand their obligation for loan repayment. These obligations can be completed online at studentloans.gov.
- Students with unusual circumstances such as death, disability, loss of income etc. may submit a written request with supporting documentation to the Financial Aid Office for special consideration of the status of their financial aid.
- Students who perform services in the Peace Corps or under the Domestic Volunteer Service Act of 1973 or comparable service for a tax-exempt organization of demonstrated effectiveness in the field of community service may be eligible for a deferment on a FFEL/Direct Loan.
- Students are eligible to receive Federal Pell Grant funds for the equivalent of six full-time years or 12 full-time semesters.
- PHEAA State Grant recipients must comply with PHEAA's Academic Progress Policy and meet PHEAA's eligibility requirements.
- The Financial Aid Office determines your financial aid award based upon your registration status as of the census date of each semester. Census dates can be found online at <https://www.mc3.edu/paying-for-college/financial-aid/policies-and-resources/attendance-requirements>
- Financial Aid for the semester will not be disbursed until all courses a student is registered in for the semester have started.

Student Financial Aid Satisfactory Academic Progress Policy (SAP)

Federal regulations require that all financial aid recipients meet federal academic progress standards while taking courses toward a degree or certificate program. This policy applies to all terms of enrollment regardless of whether or not the student received federal aid. Progress is measured by the student's cumulative grade point average, percentage of credits successfully completed and timeframe or pace toward completion of the program. The College checks progress at the end of the fall and spring semesters.

Financial Aid Programs

Grants	Amount	Who is Eligible?
Pell (federal program)	\$650-\$6,095	Citizen/permanent resident
SEOG (federal and institutional program)	\$200-\$600	Same
College work-study (federal and institutional)	Varies - work max. 20 hours/wk @ \$8/hour	Same
Pennsylvania Higher Education Assistance Agency (PHEAA)	Minimum \$100 Maximum is 80% of tuition up to \$2,900	Citizen/permanent resident - enrolled at least half-time. Resident of Pennsylvania.
Loans	Amount	Who is Eligible?
William D. Ford Federal Direct Loans	\$500-\$10,500	Citizen/permanent resident - enrolled at least half-time.
PLUS* (parent loan, federal and state program)	Up to cost of education	Same
Scholarships	Amount	Who is Eligible?
Variety offered through The Foundation	Varies	Varies

To apply for financial aid, students must file the FAFSA. Students must reapply for financial aid every academic year.

Progress Standards

Completion Rate (67% Rule): Students must, at a minimum, receive a satisfactory grade in courses attempted by completing 67% of the credits for which they are enrolled. This calculation is performed by dividing the number of credits earned by the number of credits attempted. The College begins checking completion rates after the student has attempted 12 credits. The College counts all withdrawals and incompletes as attempted credits, and these will negatively affect the GPA calculation used to determine SAP.

Maximum hours (150% Rule): Students may only receive financial aid up to the point at which they can no longer complete the program of study within 150% of the program length. The College counts all credits attempted and all transfer credits that are applied to the student's program. This calculation includes all semesters including those for which the student received no federal aid. For example, a student whose program requires 60 credits may attempt only up to 90 credits in that program.

Developmental Courses/English as a Second Language Courses:

Students may receive federal financial aid for a maximum of 30 semester hours of developmental coursework. There is no limit on ESL courses. Developmental and ESL courses are evaluated in the student's progress calculation including completion rate, maximum hours and cumulative grade point average.

Cumulative GPA Minimum Requirements (GPA Rule): A student must earn at least the minimum cumulative grade point average as shown in the table below. Your SAP GPA may be different than your academic GPA because the SAP GPA calculation takes into consideration all withdrawals, incomplete, audit and repeated courses.

Cumulative Credits Attempted	Minimum Acceptable Progress Cumulative GPA
12-23	1.51
24-35	1.75
36-47	1.83
48-59	2.00
60+	2.00

Withdrawals, Incompletes, Audits and Repeat Courses:

Withdrawals, Incompletes and Audits do not count as a passing grade. These grades are counted as attempted credits. Once an Incomplete grade has been changed to a passing grade, the student's progress can be recalculated upon written request by the student. Repeated coursework is also counted as attempted credits and all grades related to this repeated coursework are calculated into the student's financial aid SAP GPA calculation.

Change of Major and Second Degrees: Once a student completes all the requirements for their program, they can no longer receive financial aid unless they enter a new degree program. Students may apply for financial aid for the completion of two associate's degree programs. All applicable courses in the completed program will count as part of the 150% attempted credits in the student's second degree program.

Ineligibility for Financial Aid

Students who are on Academic Suspension or Academic Probation by the College are ineligible for financial aid. Students may still enroll without benefit of financial aid if they are on Academic Probation. Students who do not meet the progress standard and cumulative grade point average requirements will be ineligible for financial aid.

Appeals

If a student has mitigating circumstances that have affected academic progress, he/she may appeal their status. Mitigating circumstances include a serious illness or accident involving the student; death, accident or serious illness of an immediate family member; or other mitigating circumstance beyond the control of the student. The student must complete the Financial Aid Academic Progress Appeal Form, provide acceptable supporting documentation and complete all required steps outlined on the form Process for Filing a Financial Aid Appeal for Academic Progress.

If a student's appeal is approved, the student must follow the academic plan/recommendations of the College and successfully complete all courses with a grade of C or better in order to continue receiving federal student aid. Failure to follow the plan and successfully complete all registered courses during the semester of appeal will result in the loss of federal student aid. Students who are academically eligible can continue to take classes without the benefit of federal aid until the academic standards as described in this policy are met. Successful completion means the student receives a grade of A, B or C.

Withdrawals, Incompletes, or Audits grades do not count as successful completion grades.

The Financial Aid Office will place a student in a Probationary status when an appeal for Unsatisfactory or Max Time progress has been approved. The student will remain in a Probationary status until they meet the minimum criteria for satisfactory academic progress as defined in Section I.

Regaining Financial Aid Eligibility

Students who do not meet the Academic Progress policy requirements and choose to enroll at the College without financial aid assistance will have their progress checked at the end of that term of enrollment. If the student is successful, the College will reinstate financial aid eligibility for subsequent semesters.

ACADEMIC RESOURCES, SPECIAL PROGRAMS AND SERVICES

THE COLLEGE LIBRARIES

Central Campus, Blue Bell, College Hall, 215-641-6596

West Campus, Pottstown, South Hall, 610-718-1864

The Brendlinger Library at Central Campus and the West Campus Library provide calm, inviting spaces for solo and group study. Every library study room has a whiteboard and one of the larger rooms at Central is equipped with a SmartBoard. Central campus study rooms can be reserved from the library website or used on a drop-in basis. At either library, you can use computer workstations, borrow a laptop or access the wireless network to use your own device. Printers, photocopiers and scanners are also available at both libraries. In addition to current novels, non-fiction, and graphic novels, the Central and West campus libraries offer a large selection of feature films and documentaries on DVD. To support your coursework, the libraries provide academic books, journals, archival and primary sources, streaming media, and online research databases. The

libraries also provide access to government information and support for grant-seekers. You can browse the library collection and borrow circulating items for free using your college ID or other approved identification. Access the article databases, e-books, and online tutorials 24/7 at our website: www.mc3.edu/library. We are here to help. Contact the libraries' staff online by using chat or in-person by visiting our service desks. You can also make an appointment to meet with a librarian. The librarians offer individualized support for your coursework and assignments and can help you work through a topic, develop an effective research strategy, pick the most useful resources and evaluate and cite your sources.

DEVELOPMENTAL EDUCATION

Student success is a high priority at the College, and the College offers a variety of courses and services to prepare students for college-level work. These developmental courses and instructional interventions, including Supplemental Instruction, subject-area tutoring and refresher courses, work in tandem to prepare students for the challenges of college academics.

ACHIEVING THE DREAM

Achieving the Dream: Community Colleges Count is a national initiative that, in part, seeks to successfully move students from developmental education to credit, college-level courses. Through its Achieving the Dream: Community Colleges Count participation over the past several years, the College has strengthened its dedication to student access and success by improving developmental instruction, curricula and services. In 2011, the College was named a Leader College by Achieving the Dream for our work to support student success.

TUTORIAL SERVICES

Central Campus, Blue Bell, College Hall 180
215-641-6452, lalcc@mc3.edu

West Campus, Pottstown, South Hall 159
610-718-1945, lalwest@mc3.edu

All Montgomery County Community College students are encouraged to use the resources available in Tutorial Services. Tutorial Services offers extensive peer, professional and paraprofessional face-to-face and online tutoring and learning support to students enrolled in the College's courses. Tutorial assistance, learning specialists and workshops are available weekly both in-person and online. This free service is available whenever school is in session.

SUPPLEMENTAL INSTRUCTION

Supplemental Instruction (SI) is a program that offers peer-assisted study sessions for traditionally highly enrolled, low success rate college-level courses. Please contact jluddy@mc3.edu or call 215-461-1104 for more information.

STUDENT SUCCESS INITIATIVES

Central Campus, Blue Bell
Student Success Center
College Hall, 215-641-6577

West Campus, Pottstown
Student Success Center
South Hall, 610-718-1906

College can be challenging and we're here to help! At Montgomery County Community College, we are committed to providing an academic environment that fosters student success. Every student deserves a high-quality, affordable and accessible education. The Student Success Initiatives Program strives to address the unique needs and concerns of all students in order to facilitate a successful transition from their high school, post-secondary or non-educational experiences into the college community. This intentional, comprehensive curricular and co-curricular initiative promotes an understanding and appreciation of a college education, and assists students with developing strategies and attitudes that will maximize academic success and prepare students to become life-long learners and responsible citizens and leaders. The College offers a number of programs and initiatives that are designed to help our students fulfill their academic goals.

Welcome Month

Welcome Month is designed to ensure that students transition to the College successfully and learn about the resources available. The College extends its orientation program into the first month of classes; activities include workshops, sporting events, Student Club Fair and other student-oriented events.

Peer Mentoring

The purpose of the Peer Mentoring Program is to increase a student's chance of academic and personal success in their first year of college by connecting them with successful upper level students who will assist them with their journey through college. Mentors help with unanswered questions, provide Blackboard and Student Self-Service tutoring, assist in navigating through the College processes and resources and provide campus tours and information. Program Goals:

1. Promote intellectual, social and moral development of students
2. Establish effective connections between upper-level students and new students resulting in successful transitions, increased satisfaction and persistence of both groups
3. Improve communication between students and College staff

Early Alert

The purpose of Early Alert is to enhance student success through online communication between faculty, academic advisors and students when there is concern about the student's academic performance and/or class attendance. Students receiving early alerts are strongly encouraged to follow up with faculty and academic advisors as well as seek support in our Tutorial Services Center.

ACT 101 PROGRAM

ACT 101 is part of a state program called the Higher Education Equal Opportunity Act, which encourages students who may be educationally underprepared and financially disadvantaged to attend college. ACT 101 provides students with special support services to help them achieve and reach their highest potential. Students in the ACT 101 program are eligible for the following services; free tutoring, counseling, personal growth and study skills workshops, and social and cultural events.

In order to qualify for the ACT 101 program, students must meet the following requirements:

- Be a resident of Pennsylvania
- Have a potential for success
- Be educationally underprepared
- Qualify for financial aid or meet certain state-mandated income requirements

Students who want more information on the ACT 101 Program can indicate their interest by visiting the Student Success Center at either campus, or visit <http://mc3.edu/student-resources/outreach> or call: Central Campus, 215-641-6660 West Campus, 610-718-1834

KEYS (KEYSTONE EDUCATION YIELDS SUCCESS)

Central Campus, Blue Bell
 Student Success Center
 215-641-6330, 215-641-6662

West Campus, Pottstown
 Student Success Center
 South Hall, 610-718-1936, 215-641-6330

Let KEYS open the door to a brighter future for you and your family. You do the work and KEYS will help support your success. Keystone Education Yields Success (KEYS) has been developed by the PA Department of Human Services in response to growing research showing that individuals who earn a certificate or an associate's degree are better able to secure jobs with family-sustaining wages, benefits and opportunities for advancement. Montgomery County Community College KEYS students can enhance their chances of success through the KEYS Program. Our students are securing careers in the medical field, education, technology, business, hospitality and other high-demand occupations.

The KEYS program is designed to support TANF/Cash and SNAP/ Food eligible students succeed in community college.

Eligible student may receive the following:

- KEYS Student Facilitators will connect you to relevant career, academic, financial aid and community resources
- Paid or reduced child care
- Paid books and school supplies up to \$1,000
- Paid job-related professional fees and uniform costs, funding limited
- Paid Vocational Work Experience (VWE), in relation to your course of study, funding limited
- Paid transportation assistance (transPass, mileage, car repair, license, registration, inspection and more)
- Computer laptop loan program
- Referrals to community service agencies to support academic success and family stability

Contact KEYS staff for referral consideration from your local County Assistance Office, CAO.

POWER PROGRAM

Lori Schreiber
 Community Liason
 215-461-1151
 lschreib@mc3.edu

Lisa Barbiero
 Program Advisor
 215-641-6425
 lbarbier@mc3.edu

The Power Program (Partnership on Work Enrichment and Readiness) is a career and educational exploration course for people in mental health recovery. This program is fully subsidized and allows participants the ability to earn two college credits upon completion.

In addition to the twice weekly class, participants are provided with individual advising to help develop a personalized career plan. A transportation stipend is available to eliminate any cost to the student. Some of the class topics highlighted in this program include career assessment, resume writing, study skills, time management, professionalism, success skills for college, public speaking, information about college financial aid, disability services and other college resources.

The class is open to individuals who have a mental health diagnosis and are interested in participating in college coursework that focuses on career development.

NATIONAL HONOR SOCIETY

The College has a chapter of Phi Theta Kappa, the National Honor Society for community colleges. Phi Theta Kappa exists to recognize and encourage scholarship among students, to provide opportunity for development of leadership and service, to promote an intellectual climate for the exchange of ideas and provide stimulation for continuing academic excellence. The College's chapters are Alpha Kappa Zeta at the Central Campus which was chartered in 1984, and Beta Tau Lambda at West Campus, which was chartered in 2011. To be eligible for membership, students must:

- Maintain a 3.5 GPA or above
- Have earned a minimum of 12 credits from the College
- Be of good moral character and possess recognized qualities of leadership

Eligible students will receive an invitation to join once they have fulfilled the requirements. Contact the Student Leadership and Involvement Office on the Central and West campuses if you have any questions about joining Phi Theta Kappa.

MINORITY STUDENT MENTORING INITIATIVE (MSMI)

If you identify as a minority student, you could benefit from the Minority Student Mentoring Initiative (MSMI) Program. MSMI is a campus mentoring resource for all minority students. If a student elected to identify as a minority student on his/her Admission Application or new-student Intake Form, he/she would be considered a MSMI participant. Eligible program participants will be offered an opportunity to be paired with an on-campus mentor who will challenge the student personally, academically and professionally. The mentor will support the student in working through hardships or obstacles as he/she matriculates, and will challenge the student to develop the mental toughness, academic discipline and organizational skills necessary to succeed. As a member, students will be invited to attend personal and professional development workshops, student conferences, and participate in community service initiatives. MSMI provides participants with:

- Mentoring relationships
- A sense of community
- Academic support
- Cultural activities and events
- A clear roadmap toward graduation
- Networking opportunities
- A plan for life after Montco

If you would like to learn more, email the Coordinator of Mentoring Services or call the Student Success Center at the contact information listed below:

Mentoring Services – MSMI@mc3.edu
 Student Success Center – (215)641-6577

STUDENT SERVICES

ACADEMIC ADVISING

Central Campus, Blue Bell
 Student Success Center, College Hall
 215-641-6577
advising@mc3.edu

West Campus, Pottstown
 Student Success Center, Room 151, South Hall
 610-718-1906
advising@mc3.edu

Professional academic advisors are available in the Student Success Center on each campus to assist students with their advising needs. Academic advisors are assigned to students based on their program of study and will assist students in:

- Selecting a program of study that matches their career goals
- Clarifying challenges toward goal achievement and discussing potential solutions
- Identifying degree requirements and verifying progress toward graduation
- Developing an educational plan
- Following appropriate steps to transition to either the workforce or to another college

Advising services are available to all full-time and part-time students. Students are required to schedule an appointment to meet with their assigned advisor during their first semester and students are encouraged to meet with their advisor on a regular basis. Students are ultimately responsible for their course selections, as well as for the fulfillment of degree or certificate requirements.

HEALTH AND WELLNESS SUPPORT

Throughout many phases of your life, you may encounter challenges that can have a negative effect on your emotional and physical health—and the many demands of juggling college classes, work and relationships can take a significant toll if not sufficiently addressed. Our academic counselors, located in the Student Success Center, are available to support your academic success and can guide you to appropriate local community resources for additional counseling services. We encourage you to utilize the many on-campus and off-campus resources.

On-Campus Resources:

MindKare Behavioral Health Kiosk

Located on the ground floors of College Hall and Parkhouse Hall, the MindKare Behavioral Health Kiosk uses an interactive touch screen display to provide individuals a quick and anonymous mental health screening. This assessment, which is also available online:

- Screens for common mental health disorders, such as depression, anxiety and substance abuse
- Gives an overview of the signs and symptoms of treatable behavioral health disorders
- Provides information and resources for quality, local treatment options

Visit screening.mentalhealthscreening.org/mc3 to learn more.

Student Support and Referral Team

The Student Support and Referral Team (SSRT) is a free, confidential referral service available to all students and faculty to connect you to healthcare professionals and additional community resources.

SSRT is stationed in the Student Success Center at Central Campus and West Campus. You can email SSRT at their secure, confidential address studentreferral@mc3.edu.

If you are having an emergency or crisis situation, dial 911 to get immediate assistance to your location.

TRANSFER SERVICES

TRANSFER PARTNERSHIPS

Our graduates are enthusiastically welcomed by four-year colleges and universities, both regionally and nationally. A variety of partnerships and agreements with four-year institutions have made it possible for students to maximize their experience and credits at the College before transferring to complete their bachelor's degree. Through our transfer partnerships, we have dual-admission relationships with over 20 four-year colleges in the area. When you graduate from Montgomery County Community College with an A.A. or A.S., A.F.A., and selected A.A.S. degrees and the required GPA, you are ensured admission to your intended four-year school if it is part of this program. We also design our curriculum tracks to meet the requirements of these schools, thus making it more feasible for your credits to transfer.

The College has formal partnership agreements with the following: Albright College, Alvernia University, Arcadia University, Bellevue University, Bloomsburg University, Cabrini University, Chestnut Hill College, Cheyney University, Delaware Valley University, DeSales University, Dongseo University (international), Drexel University, East Stroudsburg University, Eastern University, Gwynedd-Mercy University, Kutztown University, LaSalle University, Lehigh University, Messiah College, Neumann University, Peirce College, Penn State Abington, Philadelphia University's Accelerated Bachelor of Science Degree Completion (Evening) Program, Rosemont College, Saint Joseph's University, Strayer University, Temple University, Ursinus College, Villanova University's Bachelor of Interdisciplinary Studies Degree Program, West Chester University, Widener University and Wilmington University. We expect to add more partner schools in the future. Additionally, most Partnership Programs include the opportunity for:

- A waiver of the application fee for dual-admissions students at partner institutions
- Admission into a parallel bachelor's degree program with junior status
- Acceptance of the College's A.A. and A.S. core curriculum
- Scholarships/course discounts for Montgomery County Community College graduates with a specific GPA or higher who are included in the Dual Admissions or Letter of Intent program
- Meeting with advisors at partner institutions
- Attending events and meeting faculty and staff at partner institutions
- Attending regularly scheduled Partner Days and Evenings with representatives from partner schools

PROGRAM-TO-PROGRAM TRANSFER AGREEMENTS

The College also has program-to-program transfer agreements or guides with several of our partner schools, as well as with other four-year institutions. These agreements guarantee students who graduate with

an associate's degree the ability to transfer all of their credits to the specified four-year institution and the ability to graduate with their bachelor's degree in two full-time years. Students are encouraged to contact their advisor to discuss the program-to-program agreements.

In addition, the College has eleven programs that are TAOC (Transfer Articulation Oversight Committee) compliant. The TAOC was established under section 24 P.S. §20-2004-C of Article XX-C of the Public Institution Code of 1949. The committee reports to the Pennsylvania Department of Education. The programs that have become TAOC-approved include Business Administration, Computer Science, Criminal Justice, Education in the Early Years, Fine Arts, History, Mathematics, Mass Media, Psychology and Theatre. Students who graduate within any of these programs will be assured transfer as juniors into bachelor degree programs in similar fields of study at any of the 14 Pennsylvania State (PASSHE) universities. These include Bloomsburg University of Pennsylvania, California University of Pennsylvania, Cheyney University of Pennsylvania, Clarion University of Pennsylvania, East Stroudsburg University of Pennsylvania, Edinboro University of Pennsylvania, Indiana University of Pennsylvania, Kutztown University of Pennsylvania, Lock Haven University of Pennsylvania, Mansfield University of Pennsylvania, Millersville University of Pennsylvania, Shippensburg University of Pennsylvania, Slippery Rock University of Pennsylvania, and West Chester University of Pennsylvania. Additionally, Carlow University, Lackawanna College, Neumann University, Pennsylvania College of Technology and Saint Francis University have also opted to participate in TAOC offerings. Students may learn more about TAOC offerings by contacting their advisor or by logging onto www.patrac.org.

ASSISTANCE WITH TRANSFER PLANNING

Students planning to transfer to four-year institutions should become familiar with the transfer process during their freshman year. Early in their first year, they should begin gathering information on one or more colleges and carefully plan for transfer. Students who need help may seek assistance from our advisors and counselors in the Student Success Centers. Transfer is more difficult in some highly specialized majors, and may require strategic planning. Choosing a four-year institution and a program of study are important for successful transferability.

In addition to the Partnerships and Program-to-Program Agreements that benefit our students, the Student Success Center has developed Transfer Guides to describe how our courses fit into curricula offered by many area colleges. Transfer of credits should be a smooth process for students who carefully follow the guides and have earned grades of C or higher.

Four-year college representatives visit our campuses to meet with students for Transfer Fairs and Partner days and on designated evenings in the fall and spring. We also encourage students to use the resources available in the Student Success Center on either campus.

THE UNIVERSITY CENTER

The University Center provides a pathway for students to continue their education without leaving the footprint of the campus. Choose from various bachelor's, master's or doctoral degree programs, as well as several certificate programs from some of the most highly recognized four-year institutions in our area. Classes are conveniently held at both of our campuses and offer an opportunity for potential tuition discounts. Call 610-718-1931 for more information.

Albright College

- Bachelor of Science in Accounting (both campuses)
- Bachelor of Science in Business Administration (both campuses)
- Bachelor of Science in Crime and Justice (both campuses)
- Bachelor of Science in Applied Psychology and Organizational Behavior (both campuses)
- Bachelor of Science in Information Systems (both campuses)

Alvernia University

- MBA (West Campus)
- Master of Education (M.Ed.) (West Campus)
- ESL Certification (West Campus)
- Special Education Cert. (PK-8 or 7-12) (West Campus)
- Disabilities and Inclusive Communities Certification (West Campus)

Cabrini University

- Master of Education (M.Ed.) Teaching and Learning (Central Campus)
- Early Elementary Cert. (PK-4) (Central Campus)
- ESL Cert. (Central Campus)
- Reading Specialist Cert. (Central Campus)
- Special Education Cert. (PK-8 or 7-12) (Central Campus)
- Innovative Leadership Principal Cert. (PK-12) (Central Campus)
- Urban Education (Central Campus)
- Bachelor of Science in Education w/ Early Childhood Cert. (PK-4) (Central Campus)

Chestnut Hill College

- Bachelor of Science in Business Communications (Both Campuses)
- Bachelor of Science in Human Services (Both Campuses)
- Bachelor of Science in Social Gerontology (Both Campuses)
- Bachelor of Science in Liberal Studies (West Campus)
- Master of Science in Administration of Human Services (West Campus)

Immaculata University

- Doctorate of Education in Higher Education (Central Campus)
- Master of Science in Nursing (Central Campus)
- Master of Science in Management and Leadership (Central Campus)
- Bachelor of Science in Health Care Management (Central Campus)
- Bachelor of Science in Allied Health (Central Campus)

Penn State Abington

- Bachelor of Science in Nursing, RN to BSN (Central Campus)

University of the Sciences

- Master of Business Administration – Pharmaceutical and Business (Central Campus)
- Post-Graduate Certificates in Pharmaceutical Business, Pharmaceutical Marketing, and Finance (Central Campus)

CAREER SERVICES

Central Campus, Blue Bell

Student Success Center, College Hall
 215-641-6577, careerservices@mc3.edu

West Campus, Pottstown

Student Success Center, South Hall
 610-718-1906, careerservices@mc3.edu

The Career Services Department is a comprehensive career counseling and resource center designed to engage students as active participants in

their career development. We are committed to providing assistance to all MCCC students and alumni to help develop, evaluate and effectively initiate their career and educational goals. Services available include:

- Individual career counseling
- Personal and professional development
- Employment, internship and shadowing opportunities
- Career-related seminars and workshops
- Career fairs and networking events

SERVICES FOR STUDENTS WITH DISABILITIES

Central Campus, Blue Bell

Disability Services Center, College Hall
 215-641-6575, Disabilities@mc3.edu

West Campus, Pottstown

Student Success Center, South Hall
 610-718-1853, westdisab@mc3.edu

Montgomery County Community College welcomes all qualified students with disabilities to participate in its educational programs, services and activities to the fullest extent possible. In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act of 2008, the College will provide reasonable accommodations to ensure equal access to the College community.

Academic accommodations are determined on a case-by-case basis by the College's Disability Services, based upon the current functional impact of the student's condition in the educational setting. Students with disabilities may be eligible for academic accommodations, auxiliary aids, use of assistive technology and supportive and advocacy counseling. There are no additional fees for these services.

All students with disabilities who seek an accommodation have the responsibility to identify themselves to Disability Services. Students with disabilities need to provide recent and relevant documentation from a qualified professional to support the need for services and accommodations. They must also schedule an intake meeting with Disability Services and participate in an interactive process to establish eligibility for services. Students are responsible for providing documentation at their own expense in order to be considered for accommodations. Refer to the Disability Services area of the College's website for the Documentation Guidelines.

Students are encouraged to make their needs known as soon as possible. For more information about services, eligibility and documentation requirements, contact the Director of Disability Services at Central Campus. Students attending West Campus should contact the Coordinator of Disability Services. Complete policies and procedures for students with disabilities are available on the College's website and from the Director and Coordinator of Disability Services.

VETERANS' EDUCATIONAL BENEFITS

Central Campus, Blue Bell

Veterans Resource Center, 215-619-7307

West Campus, Pottstown

Veterans Resource Center, 610-718-1839

Veterans and certain dependents of veterans, Reservists and National Guard members may be entitled to educational benefits from the Department of Veterans Affairs. You should verify your program status before registering. If you have eligibility questions, call 888-442-4551. If you are using veterans benefits for the first time or are transferring to the College, contact the veterans' advisor for assistance in determining which documents you are required to complete for the application or transfer process. New student-veterans must provide a copy of their military discharge (DD-214, Member 4 copy) and a copy of the Department of Veterans Affairs (VA) Certificate of Eligibility for education benefits. VA regulations require that you maintain a 2.0 GPA in your declared major to receive educational benefits. The VA will not pay for audits, withdrawals or no pass grades.

ENGLISH AS A SECOND LANGUAGE (ESL) ADVISING

Central Campus, Blue Bell
 ESL/International Student Advisor
 Student Success Center, College Hall
 215-641-6577

The College offers a variety of courses and special support services for students who need to learn the English language. We encourage ESL students to contact our ESL/International Student Advisor (at the above location) for assistance throughout their college career.

The ESL/International Student Advisor will assist students in understanding test results, selecting ESL and other college courses based on these results and making a successful transition to the College. English and reading levels for ESL students include:

- Four semi-intensive beginner-level courses (ESL003, ESL004, ESL 005 and ESL 006), which introduce students to basic English vocabulary and pronunciation, and include practice in listening, speaking and writing
- Intermediate levels, ESL Basic Writing I and II (ESL010 and ESL 011), which prepare students for college-level English Composition I
- Vocabulary Development I and II (REA014 and REA017), which further increase students' English vocabulary and reading comprehension
- Oral/Aural Skills(ESL009), which develop listening and conversation skills

English as a Second Language Non-Credit Classes

A wide variety of high-quality non-credit ESL courses for adults and mature teens at all levels are available. You will study new vocabulary, improve your pronunciation, become familiar with American idioms and much more. If you wish to learn English or enhance your English writing and speaking skills, the ESL/International Student Advisor is available to meet with you at the Central Campus or you may speak with her by phone for assistance in selecting the right class for you. Classes are available weekday mornings, evenings and Saturdays. To make an appointment call 215-619-7396 or email ContinuingEducation@mc3.edu.

HEALTH & WELLNESS

Health & Personal Property Insurance

Students are strongly encouraged to obtain insurance coverage for personal illness, injury and/or loss of personal property by fire or theft while attending the College.

The College does not assume liability for illnesses and/or injuries sustained while on College premises and/or during clinical rotations and other educational internships at off-campus sites. The College does not provide payment for medications, laboratory tests and other medical services related to such illnesses and/or injuries. Students are urged to obtain their own personal health insurance coverage.

Students may be eligible for health insurance coverage under a parent's or guardian's health plan, depending on age, dependent status and other available resources for healthcare coverage.

To assist students in need of health insurance and/or healthcare-related services, the College's Office of Health & Wellness provides resource information on some low-to-moderate cost individual health plan options, as well as several local health centers/clinics offering a variety of health care services at a reduced cost. (Note: These plans and health centers/clinics are not associated with the College.)

Drug and Alcohol Prevention

The College's campuses are drug- and alcohol-free environments. In addition, the College implemented the Clean Air Policy in Fall 2007 to further reduce the use of tobacco products at all campus locations to support a healthy and safe environment for all who come to learn, work and take advantage of the many cultural events.

To support healthier lifestyle behaviors, the College has a strong alcohol and drug abuse awareness and prevention program and provides information on resources for tobacco cessation. Health-related information on tobacco addiction and the health risks associated with the use of illicit drugs and the abuse of alcohol are made available to students by the Office of Health & Wellness. Additional information is available during many of the free events held on campus, including health fairs, health screenings, fitness days and health awareness programs. Counselors in the Student Success Center and members of the Student Support & Referral Team (SSRT) are available on a confidential basis, to respond to students with issues related to drugs and alcohol as well as to connect students with College and community resources.

SSRT: Student Support Referral Team

Central Campus, Blue Bell
 Student Success Center, College Hall
 215-641-6577
StudentReferral@mc3.edu

West Campus, Pottstown
 Student Success Center, South Hall
 610-718-1906
studentreferral@mc3.edu

The Academic Counselors can connect you with helping professionals for issues related to:

- Stress
- Anxiety
- Anger
- Emotional distress
- Depression
- Eating disorders
- Abusive relationships
- Suicidal thoughts

This is a free, confidential referral service available to current students of the College. Students are encouraged to self-refer by visiting the Student Success Center during normal business hours, sending an email to SSRT at StudentReferral@mc3.edu, or calling the Student Success Center at either campus at the above numbers. Please note that this is not a hotline service. If you are having an emergency or crisis situation, dial 911 to get immediate assistance to your location.

DENTAL HYGIENE CLINIC

Central Campus, Blue Bell
 Health Science Center, Room 211, 215-641-6483
 Fax 215-619-7171, <http://mc3.edu/component/content/article/234-areas-of-study/health-sciences/dental-hygiene/8194-clinic>

Since 1973, the Dental Hygiene Clinic on Central Campus has been providing the public with comprehensive preventive dental hygiene services. Services at this sophisticated dental facility include oral prophylaxis (teeth cleaning), initial periodontal therapy, x-rays, sealants, fluoride treatments and other procedures. Licensed dentists and dental hygiene faculty supervise all treatments. The Dental Hygiene Clinic operates September through May, by appointment. A nominal fee for service is charged to Montgomery County Community College students and employees.

CHILD CARE SERVICES

Central Campus, Blue Bell
 Debbie Ravacon
 Director of The Children's Center
 215-641-6618
dravacon@mc3.edu

The Children's Center at the Central Campus offers a high-quality child care and education program for children of students, faculty, staff and area residents. The Center boasts NAEYC accreditation as well as a Star 4 rating from PA Keystone Stars. The Center serves children ages two through five years, with operating hours from 7:30 a.m. to 5 p.m. For information, visit www.mc3.edu and search: Children's Center.

West Campus, Pottstown
 YWCA Tri-County Area
 315 King Street
 Pottstown, PA 19464
 610-323-1888
childcare@wcatricountyarea.org

Ready Set Grow Child Care operates with the belief that children learn best when their individuality is nurtured and recognized and when they are treated with respect and caring. The YWCA serves children 3 months to 5 years with operating hours from 6:30 a.m. to 6:00 p.m. Monday through Friday.

ACADEMIC GRADING AND PROGRESSION POLICIES

Graded Designations

Grades	Quality Points
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
D	1.00
F	0.00
XF	Academic misconduct
FS	F stopped attending
NP	No pass
P	Pass

Non-Graded Designations

Grades	Quality Points
AU	Audit
AT	Attended
CE	Credit by exam
CL	Credit for prior learning experience
I	Incomplete
M	Military Deployment
NC	No credit
NS	No show for attendance
W	Student initiated during withdrawal period
WEX	Withdrawal with approved excuse

Midterm Academic Progress*

S	Satisfactory
U	Unsatisfactory

* does not appear on transcript

Grading System

The grading system at Montgomery County Community College is a plus/minus system with associated quality points. These quality points are used in the calculation of the cumulative grade point average (GPA) for college level courses. A student's cumulative grade point average is determined by dividing the number of credits attempted into the quality points earned. The use of a GPA calculator can assist in calculating the cumulative grade point average. Each instructor provides written explanation of the approved grading system in the course syllabus. Students are responsible for understanding the grading system.

Note on Letter Grades

The lowest passing grade is "D." Students may repeat courses. The best grade earned will be used to calculate their GPA; however, all courses attempted and grades received appear on the transcript.

Monitoring of Attendance and Student Progress

Instructors are required to complete attendance reporting after 20 percent of the course contact time has occurred — at the second week of the semester or at the conclusion of the second class meeting in an accelerated session. An Early Alert is automatically issued for any student not attending class(es), so that proactive intervention can be initiated by the student's academic advisor/counselor. Instructors report students who have attended class meetings using a code of "AT" (Attended), and students who have never attended using a code of "NS" (No Show). If the student began course attendance and subsequently stopped attending, the instructor would report the student as "AT" and enter a Last Date of Attendance (LDA). It is the student's responsibility to notify the College if they intend to withdraw from classes. Failure to attend class meetings or to pay tuition and fees does not constitute a withdrawal ("W"). The instructor, after consultation with the Division Dean, determines course reentry for a student after extended absence or lack of beginning attendance in the course. The College does not disburse financial aid to students who have been identified as ineligible through this procedure.

Administrative Deregistration

Students are administratively deregistered for the purposes of dropping them from class rosters when they have been reported as a "NS" (No Show). Administrative deregistration is treated the same as a regular drop status as it relates to the student's GPA and course attempts. Instructors will assign an "FS" grade to a student who began attendance but subsequently stopped attending and did not withdraw.

Midterm Academic Progression

At the midterm period of each semester/session, instructors are required to enter an indicator of student progress into the electronic grading system. An "S" is entered if the student is making satisfactory academic progress (A, B or C grade); a "U" is entered if the student is attending classes and is not making satisfactory academic progress (a D or F grade). An Early Alert will be immediately entered for any student receiving a grade of "U," so that proactive intervention can be initiated by the student's academic advisor/counselor. At midterm, if the student has stopped attending, the instructor will assign a midterm grade of "U," enter a Last Date of Attendance (LDA) and a final grade of "FS."

Repeating a Course

Students can repeat a course to earn a higher grade. After two course attempts, requests for the third must be approved by a Dean, Director or Advisor/Counselor.* A student who would like to request the possibility of a fourth course attempt must meet with the Provost or his/her designee for consideration. The College uses the best grade earned in the course to calculate the student's grade point average; however, the grade from each course attempt will appear on the student's transcript. It is important to note that all course withdrawals and audits count as attempts.

*Health career programs require the student to obtain the signature of the Program Director.

Withdrawal from Courses

Students initiate the process of course withdrawal after consultation with the instructor and/or an academic advisor/counselor. After the Add/Drop period ends and prior to completion of 60 percent of the course time, a student wishing to withdraw must submit an official drop/add/withdrawal form. An official grade of "W" (Withdrawal) is assigned to the course. After completion of 60 percent of the course time and prior to 75 percent of the course time, the student must request and receive permission from the course instructor to withdraw from the course. The instructor completes an online Withdrawal Permission Form and indicates a final course status grade of "W" (Withdrawal). The College's Registration Calendar outlines specific dates associated with the withdrawal process that must be followed.

For Excused Withdrawal ("WEX") due to medical, catastrophic or other circumstances beyond the student's control, students can request withdrawal from a course during the semester after 75 percent of the course time with supporting documentation. Review of documentation for an Excused Withdrawal will occur by the Division Dean, Program Director or Instructor and a recommendation will be provided to the Provost's Office.

Incomplete Grade

After 75 percent of the course time has been completed, and prior to the last class meeting, students with satisfactory academic standing who are unable to complete their coursework due to valid, unforeseen circumstances can seek an incomplete grade of "I" with the permission of the instructor. If the request is approved, the instructor outlines an agreement of the work the student must complete on the Incomplete Form. An Early Alert is submitted by the instructor to the student's academic advisor/counselor so student progress can be monitored. The deadline for completing the course requirements is no more than three months* after the final day of the semester in which the Incomplete grade was issued. An "I" grade (Incomplete) is changed to an "F" grade when the agreement of work on the Incomplete Form is not satisfied or when more than three months from the final day of the semester have elapsed. This grade cannot be a withdrawal ("W"). The College's Registration Calendar outlines specific dates associated with the incomplete grade process.

*If a course requirement requires longer than three months, for example, a performance-based assessment, then this deadline can be extended with the approval of the Dean or Program Director.

Withdrawal for Military Deployment or Reassignment

The College will provide the following options for students who have been deployed or reassigned for military service in order to appropriately maintain the student's academic and financial records with Montgomery County Community College.

- During the Drop/Add registration period, with copies of the deployment orders, the Registrar may backdate the student's registration so that no charges are assessed for the term and no courses appear on an official transcript.
- After the drop/add period (Withdrawal Period), the affected student or student's spouse shall receive a grade of "M" on their official transcript for all classes they are unable to complete due to the military leave of absence. See <http://www.mc3.edu/component/content/article/89-about-us/policies/aa-3/114-military>. Without deployment orders the student must follow standard College withdrawal procedures. A retroactive appeal to have the courses and charges removed from the record can be initiated upon delivery of the required deployment orders.

- After the drop/add period (Withdrawal Period), the College can provide the student with an option to apply for an incomplete (I) grade with the course instructor. The incomplete grade (I) must be completed by the end of the semester following deployment. If the course is not completed and the student submitted a copy of the deployment orders prior to leaving, the incomplete grade (I) will be converted to a military withdrawal grade (M). If the student does not complete the requirements of the incomplete (I) grade and did not submit a copy of the deployment orders prior to leaving, the incomplete grade (I) will convert to a failing (F) grade. The student may appeal the grade and tuition upon return to the College with submission of the deployment orders.

DETERMINATION OF GRADE POINT AVERAGE (GPA)

The total grade points earned for each course attempted are determined by multiplying the credit hours by the grade point. The student's Grade Point Average (GPA) is then calculated by dividing the total amount of grade points earned by the total amount of credit hours attempted. The GPA may range from 0.0 to 4.0.

Course	Credit Hours	Grade	Points	Total Grade	Points
ENG 101	3	B	3.00	3 x 3.00 =	9.00
PSY 101	3	F	0.00	3 x 0.00 =	0.00
MAT 100	3	C	2.00	3 x 2.00 =	6.00
BIO 121	4	D	1.00	4 x 1.00 =	4.00
FRE 101	3	A	4.00	3 x 4.00 =	12.00
TOTAL	16				31.00

$31 \text{ (total grade points)} \div 16 \text{ (total credits attempted)} = 1.93 + \text{GPA}$

Credits attempted include credits within the student's load for which grades of A, A-, B+, B, B-, C+, C, D, F are given. Credit for courses awarded CR, I, P, NP, CL, NG, W, TR, CE or AU, AW are not included in the GPA calculation. Courses with a course number below 100 are also not included in the GPA.

GRADE REPORTS

Students must obtain their grade reports on Self-Service, the College's automated recordkeeping and reporting system that provides protected access to academic and financial records.

GRADE APPEAL

In the interest of due process, the College provides an appeal process for a student who believes that a recorded final grade does not accurately reflect the performance in a course. The student must first attempt to resolve the grade with the course instructor. If unable to resolve the matter with the instructor, the student must complete the Student Information and Step One Section of the Grade Appeal form and request Division Dean's intervention. If unable to resolve the matter at the Division level, the Dean will complete Section Two of the Grade Appeal form and the Associate Vice President of Academic Affairs will convene a Committee to hear the grade appeal. See Policies and Procedures on the college website for details.

For the Grade Appeal Policy including the process and corresponding deadlines, refer to <http://mc3.edu/about-us/policies/113>.

PROGRAM EVALUATIONS

Central Campus
 Student Success Center
 College Hall
 215-641-6577
advising@mc3.edu

West Campus
 Student Success Center
 South Hall
 610-718-1906
advising@mc3.edu

The Program Evaluation is a personalized computer analysis of a student's progress toward graduation in a major. It includes courses taken at Montgomery County Community College, course equivalents for transferred courses from other colleges, general information about the program requirements, and a list of courses that do not apply to the selected program. We encourage students to review their Program Evaluations to monitor their academic progress, and to identify the coursework they have yet to complete in their current major.

In the event that a student chooses to request a course substitution in order to meet program requirements, a Request to Substitute a Course form is submitted together with supporting documentation. The request is forwarded electronically to the appropriate dean for the identified program after review by the student's assigned academic advisor. Students are notified via College email of either approval or denial of the request. The electronic Course Substitution form is found on the student portal under the Academic Affairs or Registration tab.

Students are encouraged to view and print their Program Evaluation at www.mc3.edu, accessing Student Self-Service and select Academics then View My Progress. Students may also see how their coursework applies to a different major by using the View a New Program feature of My Progress on Student Planning or by requesting a new audit from the offices listed above. Questions about the Program Evaluation may be answered in either Student Success Center.

CHANGING A MAJOR

Central Campus, Blue Bell
 Student Success Center
 College Hall
advising@mc3.edu

West Campus, Pottstown
 Student Success Center
 South Hall
advising@mc3.edu

Students who wish to change their programs of study or request a different academic advisor must complete a Change of Major form available online in the Student Portal.

DISTINCTIONS FOR HIGH GRADES

The College awards distinctions to students in recognition of high academic achievement.

Dean's List

The College recognizes the academic achievement of full-time students who have earned 12 or more cumulative credits. To receive Dean's List status, full-time students must have earned a GPA of 3.5 or above in the most recently completed semester, completed 12 or more credits and have not earned any F, NP or I grades or have been placed on Academic Warning for that semester. Developmental level courses are excluded in this computation.

Dean's Commendation List

The College recognizes the academic achievement of part-time students who have earned 12 or more cumulative credits. To receive Dean's Commendation List status, part-time students must have

earned a GPA of 3.5 or above in the most recently completed semester, completed 3 to 11 credits and have not earned any F, NP or I grades or have been placed on Academic Warning for that semester. Developmental level courses are excluded in this computation.

Graduation Honors

To graduate from the College with an Honors distinction, an Associate Degree student must earn a cumulative GPA of:

- 3.25 to 3.49 for *cum laude*
- 3.50 to 3.74 for *magna cum laude*
- 3.75 to 4.00 for *summa cum laude*

Students who were issued an XF grade at any point during their academic career at the College are ineligible for graduation honors.

ACADEMIC PROGRESSION

In an effort to increase the ability of students to reach their educational goals, the College has established academic milestones to monitor the continuum of progression toward graduation.

To graduate from the College, a student must fulfill all degree or certificate requirements and earn a cumulative Grade Point Average (GPA) of 2.0 or better. Acceptable progression toward graduation includes maintaining a cumulative GPA as outlined in the Academic Progress Table.

Academic Warning

A student who earned a semester GPA less than 2.0 or who received an F, XF or NP grade in college-level courses or a D, F, XF or NP grade in developmental courses will be issued an Academic Warning unless he/she falls into another category as outlined in the Academic Progress Table.

Academic Probation

A student who has attempted 12 credits or more will be placed on Academic Probation if the cumulative GPA falls within the range as outlined in the Academic Progress Table.

Academic Suspension

The College will issue Academic Suspension to a student who has attempted 24 cumulative credits or more and meets the following: has semester GPA less than 2.0; has been on Academic Probation for at least three semesters since entering the College; and has a cumulative GPA within the range as outlined in the Academic Progress Table. See <http://www.mc3.edu/about-us/policies/116>.

STUDENT ACADEMIC CODE OF ETHICS

In the pursuit of knowledge and scholarship, all members of the academic community at Montgomery County Community College must maintain a constant commitment to academic integrity. The College provides an environment that fosters critical thinking and judgment; and, in order to safeguard the integrity of the institution, we expect students to follow the policies of the College and the faculty. To fulfill their part of that commitment, students must adhere to an academic code of ethics by refraining from participation in acts of academic dishonesty, including plagiarism, cheating on examinations and assignments and aiding another student in committing an act of academic dishonesty.

By attending the College, students accept this Student Academic Code of Ethics. To review the entire Academic Code of Ethics and the consequences for non-adherence visit <http://mc3.edu/about-us/policies/110>.

ACADEMIC DISCIPLINE

Students are expected to be well-motivated and constructive in their pursuit of learning. Attendance at the College is a privilege, not a right. Students, by the act of registration, concede to the College the right to require the withdrawal of any student at any time when necessary to safeguard the College's ideals of scholarship and character and to secure compliance with its regulations.

Each individual faculty member has the right to remove a student from class for reasons of academic discipline. When academic discipline problems cannot be satisfactorily resolved with the student, faculty member and division dean, the matter will be adjudicated by the Vice President of Academic Affairs. A written statement will be filed with the Vice President by the faculty member or student involved in the situation. The Vice President shall then meet with the faculty member and student(s) involved and shall decide what action, if any, will be taken.

If, after this meeting, any of the parties are not satisfied with the resulting decision, formal procedures follow guidelines developed by the Committee on Academic Progress.

Instances of non-academic student misconduct are the responsibility of the Dean of Student Affairs at Central Campus or the Assistant Vice President of Student Affairs at West Campus.

ACADEMIC PROGRESS TABLE

Cumulative Credits Attempted	GPA for Academic Suspension	GPA for Academic Probation	Minimum Acceptable Progress (Cumulative GPA)
12-23	—	0.00 - 1.50	1.51
24-35	0.00 - 1.39	1.40 - 1.74	1.75
36-47	0.00 - 1.49	1.50 - 1.82	1.83
48-59	0.00 - 1.59	1.60 - 1.99	2.00
60+	0.00 - 1.69	1.70 - 1.99	2.00

STANDARDS FOR STUDENT CONDUCT

Montgomery County Community College is committed to providing a campus environment in which all students have an equal opportunity to learn, study and grow as scholars and as citizens of the larger community. Students are expected to treat all members of the College community with dignity, respect, fairness and civility, and to behave in a responsible manner at all times both in and outside of the classroom.

While fully recognizing every individual student's personal rights, including the right to free speech, the College has established a Student Code of Conduct to describe behavior that is in violation of acceptable College standards and the disciplinary sanctions and disciplinary procedures for code violations. The Code applies to behavior on College-owned property, in College classes conducted on campus or at a distance, and at all College-sponsored activities whether on- or off-campus. Academically-related classroom violations are addressed under the College's Academic Discipline Policy and Academic Code of Ethics.

Behavior that is considered in violation of the College's Code of Conduct may result in disciplinary action. Any violation of the Code of Conduct should be reported to the Dean of Student Affairs.

The Code of Conduct is available in the Student Handbook, on the website at <http://mc3.edu/about-us/policies/125> and from the Dean of Student Affairs.

STUDENT RECORDS AND TRANSCRIPTS

PRIVACY OF STUDENT RECORDS – FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

Montgomery County Community College accords all the rights under the Family Educational Rights and Privacy Act of 1974 (the Act) to its students. The College collects, maintains, secures and destroys student records for the educational welfare and advancement of the students. No one outside the College shall have access to, nor will the College disclose any information from students' education records without the written consent of the students, except to personnel within the College, to officials of other institutions in which students seek to enroll, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation functions, to persons in compliance with a judicial order, to persons in an emergency in order to protect the health or safety of students or other persons, and to individuals and agencies permitted under the Act. The Act affords current and former attending and registered students of the College the right to access their education records.

Notification of Rights under FERPA

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the College receiving a request for access. Students should submit written requests for records to the Director of Student Records and Registration/Registrar. The Director of Student Records and Registration/Registrar will make arrangements for access and notify the student of the time and place where the

records may be inspected. If the records are not maintained by the Director of Student Records and Registration/Registrar, that official shall advise the student of the correct official/department the student should expect to hear from within 15 business days.

2. The right to request the amendment of the student's education record that the student believes is inaccurate. Students may ask the College to amend a record that they believe is inaccurate. They should direct a written request to the Director of Student Records and Registration/Registrar clearly identifying the part of the record they want changed and specifying why it is inaccurate.
3. If the College decides not to amend the record as requested by the student, the College will notify the student of the decision within 15 days and will advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
4. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent as indicated below:
 - a. to school officials who have a legitimate educational interest in the record
 - b. to officials of another school where the student seeks or intends to enroll, or where the student is already enrolled if the disclosure is for purposes related to the student's enrollment or transfer
 - c. to authorized representatives of the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or State and local educational authorities, such as a state postsecondary authority that is responsible for supervising the College's state-supported education programs. Disclosures under this provision may be made in connection with an audit or evaluation of federal- or state-supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs. These entities may make further disclosures of Personally Identifiable Information to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation or enforcement or compliance activity on their behalf
 - d. in connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount or conditions of the financial aid or to enforce the terms and conditions of the aid
 - e. to organizations conducting certain studies for or on behalf of the College, or in order to (a) develop, validate or administer predictive tests; (b) administer student aid programs; or (c) improve instruction
 - f. to accrediting organizations to carry out their functions
 - g. to parents of an eligible student, if the student is a dependent, for IRS tax purposes
 - h. to comply with a judicial order or a lawfully issued subpoena.
 - i. to appropriate officials in connection with a health or safety emergency
 - j. as it relates to directory information, unless the student restricts directory information
 - k. to a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, the disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding

- l. to the general public, the final results of a disciplinary proceeding, if the school determines the student is an alleged perpetrator of a crime of violence or non-forcible sex offense and the student has committed a violation of the College's rules or policies with respect to the allegation made against him or her
 - m. to the parents of a student regarding the student's violation of any federal, state, or local law, or of any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21
 - n. to the student
5. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Family Policy Compliance Office
 U.S. Department of Education
 400 Maryland Avenue, SW
 Washington, DC 20202-5901

Notice for Directory Information

Within Montgomery County Community College, school officials who have been determined by the College to have legitimate educational interests may receive personally identifiable information from the student's education records without the student's consent. These school officials may include personnel employed by the College in an administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted as its agent to provide service instead of using College employees or officials; or a student serving on an official committee such as a disciplinary or grievance committee. In addition, authorized representatives may receive personally identifiable information with respect to federal- or state-supported educational programs, in conducting any audit or evaluation, or any compliance or enforcement activity in connection with federal legal requirements that relate to these programs. The College may provide directory information in accordance with the provisions of the Act to include:

- Student's full name
- Address
- Electronic mail address
- Photograph
- Telephone listing
- Date of birth
- Major field of study
- Dates of attendance/enrollment
- Participation in officially recognized activities and sports
- Weight and height (members of athletic teams)
- Degrees, honors and awards received
- Most recent educational agency or institution attended
- Enrollment status (full-time or part-time)

Students may withhold directory information by notifying the Director of Records and Registration/Registrar in writing within three weeks after the first day of classes for the semester in which the withholding of directory information is to take effect. A student's requests for non-disclosure will be honored until the student requests its removal.

TRANSCRIPTS

A transcript is a comprehensive record of your academic progress, including coursework, grades and degrees earned. Online requests for transcripts are fulfilled through the National Student Clearinghouse, a trusted source for secure transcript delivery. Transcripts cost \$5 per copy. To order a transcript, visit <https://www.mc3.edu/admissions/transferring/request-mccc-transcripts>

WHERE TO GO FOR MORE INFORMATION

In compliance with federal regulations, here is a list of key contacts for specific disclosure information.

Rights under Family Education Rights and Privacy Act (FERPA)

Director of Records and Registration/Registrar
 Central Campus, 215-641-6562

FFEL/Direct Loan Deferments for Peace Corps or Volunteer Services

Financial Aid, 215-641-6566

Completion, Graduation and Transfer Out Rates

Institutional Research, 215-641-6674

Campus Security Statistics

Public Safety, 215-641-6605

DEGREE REQUIREMENTS AND GRADUATION

DEGREE AND CERTIFICATE REQUIREMENTS

All of the core classes and number of credits required in each discipline for the degrees and certificates offered by the College are listed in the "Core Curriculum and Degrees" section of this catalog and the sections for each academic division. Students should also work closely with advisors and counselors to ensure that they take the appropriate courses.

It is the student's responsibility to meet all requirements in the selected program of study, including any developmental level course requirements. Students may track their academic progress through Student Educational Planning on their myMC3 Student Portal.

To graduate, degree students must complete a minimum of 60 semester credits. Students who have earned credit through transfer and assessment of prior learning experiences must complete at least 25 percent of the required credits in order to earn a degree or certificate from Montgomery County Community College.

Diplomas, certificates and transcripts will not be released until all financial obligations of a student to the College have been met, including tuition and fees, parking tickets and Library/AV fines or fees.

The College reserves the right to graduate students who have completed all their program requirements.

APPLICATION FOR GRADUATION

Central Campus, Blue Bell
 Enrollment Services
 College Hall 240
 215-641-6551

West Campus, Pottstown
 Enrollment Services
 South Hall 151
 610-718-1944

During their last semester at the College, students can indicate their intent to graduate by submitting an Application for Graduation on their myMC3 Student Portal. Students should refer to www.mc3.edu for deadlines.

The application does not need to be signed by academic departments however, students may wish to review their most recent degree audit with their advisor or the Student Success Center to ensure that they have met their degree requirements.

SELECTING YOUR PROGRAM OF STUDY

DEGREE AND CERTIFICATE PROGRAMS

The College meets the diverse educational and occupational needs of our students with a variety of degree and certificate options. To graduate, students must earn a cumulative GPA of at least 2.0 and fulfill all degree requirements of the program in which they are enrolled.

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at, www.mc3/gainfulemployment.

Associate in Arts

Associate in Arts (AA) degrees are designed to provide the first two years of education for students who intend to transfer to a four-year institution. These programs are designed to give students broad, general background in subjects ranging from English and history to science and mathematics. Through electives, students may pursue individual interests while they are being exposed to their core curriculum.

Associate in Fine Art

The Associate in Fine Art (AFA) curriculum provides the foundation studies and studio expertise that parallels the first two years of study at a four-year college. The program also provides students whose intention it is to seek employment after earning an associate's degree with the opportunity to develop their skills and produce a portfolio in the visual arts.

Associate in Science

Associate in Science (AS) degrees are designed primarily for students who intend to transfer to a four-year institution. Most of the programs also prepare the student for immediate entrance into a career. Our AS programs provide a solid foundation in traditional liberal arts courses and specialty courses.

Associate in Applied Science

Associate in Applied Science (AAS) degrees are designed to enable students to prepare for employment immediately upon graduation.

Certificate Programs

The College's certificate programs are designed to provide education leading to entry-level employment. The certificate programs are generally discipline-intensive, containing few core curriculum courses; however, most certificate courses can be applied to a corresponding associate's degree program.

Specialty Certificates

The College awards professional certificates to students who have completed at least 30 college credits and return to school to pursue special, intensive study in a specialized program consisting of at least 18 credit hours.

Certificates of Completion

The College has designed short-term, job-ready certificate programs that can be completed in as little as one semester.

Additional Degrees

Students who want to receive a second associate's degree from the College must complete at least 21 additional college-level credits and fulfill all of the course requirements as outlined in this catalog.

Certificate Programs, Non-Credit

The College's non-credit certificate programs are designed to provide training in less than one year for entry-level high-demand occupations. Most of the certificate programs include preparation to take exams for industry certifications. Several of the programs include an internship or practicum. With successful completion of some programs, completed coursework can be articulated to count toward credit requirements for a credit certificate or degree program.

MEETING THE REQUIREMENTS

Our requirements are recommended in the sense that we have structured them to provide students with specific courses of study to meet educational requirements elsewhere. Students planning to transfer to the junior class of a four-year institution are offered courses at Montgomery County Community College that parallel those offered in the freshman and sophomore years of most four-year colleges and universities. The College realizes, however, that our requirements will occasionally not accommodate the objectives of all students, even though our programs frequently allow electives; therefore, students may choose to substitute other courses if their selections are approved by the appropriate Division Dean or Program Director.

Similarly, students planning to transfer to four-year institutions are responsible for knowing the precise freshman and sophomore requirements of those institutions, so that they can plan their curriculum at the College accordingly.

SELECTING YOUR COURSES: COURSE NUMBERING AND CREDITS

Much of the rest of this Catalog is devoted to the core curriculum requirements for the College's degrees, details on the programs and course requirements within each of the College's academic divisions and descriptions of each individual course.

To help you choose your courses, here is a guide to what their numbers and prefixes mean, as well as how the College calculates course credits:

Deciphering a Course Number and Prefix

Courses are designated with a three-letter course prefix and three numbers. The three-letter course prefix is an abbreviation for the discipline — for example, NUR for Nursing. The three digits of the course number indicate the following:

- The first digit generally refers to class level/year, with 0 indicating below college level, 1 indicating freshman level and 2 indicating sophomore level.
- The second digit generally refers to the level within a discipline, where possible. The higher the number, the more advanced the course.
- The third digit refers, where appropriate, to sequences within specializations of the discipline. For example, 0 indicates a one-semester introductory or survey course in the discipline, and 1 and 2 indicate a basic two-course sequence. Numbers above 2 designate other advanced courses and/or sequences.

For example: EDU 100
 EDU = Education course
 1 = Freshman level
 0 = Lowest-level course in discipline
 0 = Introductory or survey course

Numbers Representing Content Levels

- Courses numbered 1 to 19 are developmental; they have content similar to high school or below high school level. They include basic skill courses such as arithmetic, algebra, elementary reading and writing. They may not be applied toward the graduation credit requirements for a degree or certificate. However, students placing into these courses as a result of placement testing must complete each course with a grade of C or better in order to graduate with a degree or earn a certificate.
- Courses numbered 20 to 99 are specialized courses that have high school-level content but are not basic skill-level courses. They may not be applied toward graduation credit requirements for certificates or degrees.
- Courses numbered 100 to 199 have content at the college freshman level. Most of these courses require a high school-level background or equivalent in order for the student to receive maximum benefit and have a reasonable chance of succeeding in the course. These courses may apply toward graduation credit requirements of degrees and certificates.
- Courses numbered 200 to 299 have content at the college sophomore level. Most of these courses require that a student have a freshman-level background or equivalent in the discipline and/or related skill areas in order to receive maximum benefit and have a reasonable chance of succeeding in the course. These courses may apply toward graduation credit requirements for degrees and certificates.

INTERSHIPS AND INDEPENDENT STUDY

Each discipline may utilize internships and independent study. The faculty of each discipline, along with the Division Dean, determine the appropriateness of these classes for their students' curriculum needs.

198, 298 Cooperative Internships

These courses, available in a number of disciplines, provide students with an opportunity to integrate what they have learned in the classroom with valuable hands-on work experience in their field of study. Students work full-or part-time for a specified period of time (usually a minimum of 225 hours for three credits).

198 Cooperative Internship I
 298 Cooperative Internship II

199, 299 Independent Study

Independent Study is a one-semester course that affords the student and instructor the flexibility to collaborate in creating an individualized plan of learning that builds upon previous course work within the discipline, expands the student's knowledge in an area of interest and/or promotes continued personal development. A contract for individualized learning is developed collaboratively between the instructor and student and submitted to the Division Dean for consideration.

HOW THE COLLEGE DETERMINES COURSE CREDITS

One College semester credit hour is a unit of coursework equivalent to 55 minutes of instruction per week, for 14 weeks of lecture or equivalent-type classes. It also assumes that students, on average, have a minimum of two hours of out-of-class study each week.

Not all courses are taught in a lecture format. Three commonly accepted semester-hour equivalents for laboratory and clinic instruction are:

- One semester-hour credit equals two hours of structured laboratory study weekly, which includes frequent tutorial or lecture-type interaction of a faculty member with students, and a minimum (on average) of one hour of out-of-lab study weekly. An example is computer science courses that have two lecture hours weekly, two lab hours weekly and three credits.
- One semester-hour credit equals three hours of structured laboratory study that includes less frequent interaction between the faculty member and students than the first example, with few out-of-lab assignments. Examples include biology, chemistry and physics courses that have three lecture hours weekly, three lab hours weekly and four credits.
- One semester hour equals usually not more than five hours of clinical time weekly, which includes some interaction between a faculty member and the student. Outside assignments may augment the clinic. Dental hygiene, medical laboratory technician, nursing, radiography and surgical technology courses fall into this category.

The three numbers following a course title indicate, in order, the credit hours for the course, the number of hours per week the class meets for lectures, and the number of hours per week spent in the laboratory.

For example: BIO 121 General Biology 1, 4-3-3
 4 = four hours credit
 3 = three hours weekly of lecture
 3 = three hours weekly of lab



MAJORS, DEGREES AND CERTIFICATES

Major codes are used during admission and when you declare a major. Note: Career programs are for students who plan to immediately enter the workforce. Transfer programs are for students who plan to transfer on to another educational institution.

TWO-YEAR ASSOCIATE DEGREES

Career Programs

	MAJOR CODE	DEGREE CODE
Accounting	AL	AAS
Baking and Pastry Arts	CUL.B	AAS
Biotechnology	BI	AAS
Computer Networking -		
Network Administration	CN.NADM	AAS
Cyber Security	CN.CYBS	AAS
Culinary Arts	CUL.A	AAS
Dental Hygiene (Selective Admission)	LIB-DH	AAS
Emergency Management & Planning -		
Homeland Security	EP.HS	AAS
Engineering Technology -		
Electrical	EO	AAS
Mechanical	EO	AAS
Nanofabrication	EO	AAS
Fire Science	FS	AAS
Health & Fitness Professional	PE.FIT	AAS
Health Services Management -		
Medical Coding	HS.MC	AAS
Medical Office Assistant	HS.MOA	AAS
Hospitality Management	HOS	AAS
Human Services -		
Addictions	MH.D&A	AAS
Child, Youth, and Family Services	MH.Y	AAS
Gerontology	MH.GER	AAS
Interactive Media -		
Web Development	IM.WDEV	AAS
Web Design	IM.WDES	AAS
Mobile Applications	IM.MAP	AAS
Game & Simulation Design	IM.EGD	AAS
Management -		
Management	MGT	AAS
Marketing	MGT.MKT	AAS
Office Management	MGT.OFM	AAS
Organizational Leadership	MGT.OLEA	AAS

TWO-YEAR ASSOCIATE DEGREES

Career Programs (continued)

	MAJOR CODE	DEGREE CODE
Medical Laboratory Technician (Selective Admission)	ML	AAS
Nursing (Selective Admission)	NR	AAS
Radiography (Selective Admission)	RT	AAS
Physical Therapist Assistant (Selective Admission)	PTA	AAS
Sound Recording Music Technology	SRT	AAS
Surgical Technology (Selective Admission)	SR	AAS

TWO-YEAR ASSOCIATE DEGREES

Transfer Programs

	MAJOR CODE	DEGREE CODE
Business Administration	BA	AS
Communication	ST	AA
Computer Science	SC	AS
Criminal Justice	PS	AS
Dance	DAN	AA
Education in the Early Years - Birth through 4th Grade	EEY	AA
Education in the Middle Years - Fourth through Eighth Grade	EMY	AA
Engineering Science	EG	AS
Environmental Studies	EV	AS
Exercise Science and Wellness -	ESW	AS
Fine Art	FA.A	AFA
History	HIS	AA
Information Technology	IT	AS
Liberal Studies	LI	AA
Life Sciences	LSC	AS
Mass Media -		
Mass Media Production	COM.MP	AA
Mass Media Studies	COM.MS	AA
Mathematics	LM	AA
Music	MU	AA
Physical Sciences	LP	AS
Psychology	PSY	AS
Public Health	PBH	AS
Secondary Education	ES	AA
Theater Arts	THA	AA

CERTIFICATE PROGRAMS
One-Year/Less (Career)

	MAJOR CODE	DEGREE CODE
Accounting	C.ACC	CRT
Cloud Computing	C.CLC	CRT
Computer Networking	C.PC	CRT
Cyber Security	C.CYBS	CRT
Culinary Arts	C.CULA	CRT
Baking & Pastry Arts	C.CULB	CRT
Addictions	CD	CRT
Emergency Management Planning	C.EP	CRT
Fire Science	CF	CRT
Gerontology	CG CC	CRT
Hospitality Management	C.HOS	CRT
Human Services	C.MH	CRT
Management	C.MGT	CRT
Marketing	C.MKT	CRT
Medical Assisting	C.MA.	CRT
Office Management	C.OFM	CRT
Organizational Leadership	C.OLEA	CRT
Personal Training	PTC	CRT
Software Engineering	C.SOFT	CRT
Web Design & Development: Design Concentration	C.DES	CRT
Web Design & Development: Developmental Concentration	C.DEV	CRT

SPECIALTY CERTIFICATES

	MAJOR CODE	DEGREE CODE
Accounting	PA	SPC
Computer Information Systems	PI	SPC
Computer Networking	PN	SPC
Game Design	PG	SPC
Hospitality	PH	SPC
Marketing/Management	PM	SPC
Office Administration	PO	SPC
Public Relations	PPR	SPC
Software Engineering	PF	SPC
Web Development	PW	SPC

CERTIFICATE OF COMPLETION
Short-Term (Job-Ready)

	MAJOR CODE	DEGREE CODE
Accounting with QuickBooks	CS.AQB	CC
Biotechnology and Biomanufacturing	CS.BIC	CC
Certified Bookkeeper	CS.CBK	CC
Entrepreneurship	C.ETP	CC
Homeland Security	CS.HS	CC
Honors International Business	CS.HIB	CC
GIS Systems Operation	CS.GIS	CC
Medical Coding	CS.MC	CC
Medical Office Assistant	CS.MOA	CC
Payroll Specialist	CS.PRS	CC
Phlebotomy	CS.PBT	CC
Professional Leadership	CS.PLEA	CC
Security Management	CS.SM	CC

NON-CREDIT WORKFORCE DEVELOPMENT CERTIFICATE PROGRAMS
Career Programs

A+
Cisco Certified Network Associate (CCNA)
CCNA Security
CCNA Voice
CITRIX
Entrepreneurial Certificate
Medical Billing and Coding
Microsoft Certified Solutions Associate (MCSA)
Microsoft Certified Solutions Expert (MCSE)
Microsoft Office Specialist (MOS)
Municipal Police Basic Training Curriculum (ACT 120)
Notary Public Training and Renewal
Nurse Reactivation and Nurse Refresher
Pharmacy Technician
QuickBooks
ServSafe Training and Certification

GENERAL EDUCATION CORE CURRICULUM

The General Education Core Curriculum offers students the opportunity to explore a range of classic academic subjects. It also enables them to develop the common skills, knowledge and values needed to be productive and prosperous in our ever-changing local and global environments.

Developed by Montco's faculty, the General Education Core Curriculum's six learning areas and competencies help students to communicate, understand, solve problems and value themselves and others. They create a solid educational foundation, providing students with the tools necessary for an informed, constructive future and a good quality of life. The Core fosters the intellectual habits and breadth of academic experiences that are the hallmark of an educated person.

WHAT DOES THE GENERAL EDUCATION CORE CURRICULUM MEAN FOR STUDENTS?

Students who are currently enrolled in a program of study and do not change the course of study after the start of the fall 2018 term will be able to meet the previous core requirements, but may choose to meet new general education core requirements, in order to graduate. Students enrolled or who change majors after the start of fall of 2018 need to meet the current core requirements. Program requirements as well as a list of specific courses that meet the new core requirements can be found on the College's website and in the course catalog.

All programs have been designed by the faculty to include the core requirements. Students will meet the core requirements by following the program as noted in the course catalog and on the College's website. Courses meeting the core goals are identified on the College's website and listed below. Students with questions about the program of study, possible course substitutions and transfers should meet with an advisor in the Student Success Center.

COURSES MEETING GENERAL EDUCATION AREAS

Aesthetic Sensibility

ART 111, ART 121, ART 161, ART 171, DAN 102, DAN 104, DAN 110, DAN 121, DAN 123, DAN 131, DAN 134, DAN 151, ENG 201, ENG 202, ENG 211, ENG 212, ENG 221, ENG 222, ENG 235, ENG 236, ENG 237, ENG 238, ENG 245, ENG 246, ENG 255, ENG 256, ENG 257, ENG 265, ENG 266, ENG 275, GEO 220, MUS 110, MUS 140, MUS 146, MUS 221, MUS 260, MUS 261, MUS 262, MUS 263, THA 105, THA 114

Communication

Oral Communication

CMS 110, CMS 113, CMS 120, THA 105

Written Communication

CMS 125, CMS 225, ENG 101, ENG 102, ENG 115, ENG 117, MSP 230

Cultural Awareness and Diversity

ANT 101, ANT 104, ANT 204, ANT 205, ART 101, ART 102, ART 103, ART 111, ART 121, ART 161, ART 171, BIO 115, CHI 101, CHI 102, CMS 115, ECO 117, EDU 245, ENG 212, ENG 222, ENG 246, ENG 255, ESW 206, ESW 207, ESW 255, FRE 101, FRE 102, GEO 110, GEO 130, GEO 207, GEO 235, GER 101, GER 102, HCP 120, HIS 101, HIS 102, HIS 122, HIS 203, HIS 205, HIS 214, HIS 218, HIS 220, HIS 234, HIS 235, HIS 250, HIS 260, HSW 105, IDS 115, IDS 116, ITA 101, ITA 102, JPN 101, JPN 102, MGT 111, MKT 111, PBH 101, PHI 101, POL 101, POL 124, PSY 137, PSY 255, SOC 101, SOC 105, SOC 224, SOC 230, SPA 101, SPA 102, SPA 230, THA 114

Ethical Perspectives

ACC 150, BIO 115, CJS 205, CMS 115, CMS 202, ESW 255, GEO 235, HCP 120, HIS 101, HIS 102, HIS 205, HIS 214, HIS 218, HIS 234, HIS 235, HIS 260, HSW 105, IDS 116, MAS 114, MGT 111, MGT 210, MKT 111, MSP 200, PBH 101, PHI 100, PHI 101, PHI 115, PHI 120, PSY 255, SOC 105

Reasoning

Quantitative Reasoning

ACC 110, MAT 103, MAT 106, MAT 131, MAT 140, MAT 188/189, MAT 190

Scientific Reasoning

AST 120, AST 121, BIO 120, BIO 121, BIO 140, CHE 121, CHE 131, CHE 151, GLG 115, GLG 120, GLG 121, GLG 125, GLG 151, PHY 115, PHY 121, PHY 151

Technological Fluency

CIS 110, CIS 1101, CIS 111, CIS 155, GEO 210, GEO 220, OFM 101



BUSINESS PROGRAMS

ACCOUNTING (A.A.S.)

Purpose

The Accounting program is designed to prepare the graduate for employment in an entry-level accounting position as a bookkeeper.

Program Outcomes

- Create financial statements, performing each step in double entry accounting cycle in both a manual and computerized environment utilizing QuickBooks;
- Prepare all calculations, entries and reports for a complete payroll cycle;
- Evaluate financial statements as they affect the profitability, liquidity, and solvency of the business organization;
- Report accounting information relevant for managerial planning and decision making in both a manual and computerized environment utilizing QuickBooks;
- Apply the laws, regulations, and accounting practices pertaining to individual federal taxes.

Our 61- to 62-credit-hour program also teaches you critical thinking and problem-solving skills, traits valued in the business and financial worlds. Additionally, it gives you the practical knowledge needed to work as a bookkeeper. After successfully completing the program, you will receive an Associate of Applied Science degree in accounting. You also will be prepared to pass national certification exams to gain additional credentials that certify proficiency in payroll, bookkeeping, and QuickBooks skills and knowledge.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Aesthetic Sensibility Elective	3
ENG 117 or ENG 102	Writing for Business or English Composition II.....	3
CIS 110	Computer Information Systems for Management.....	3
Elective	Oral Communication Elective.....	3
Elective	Scientific Reasoning Elective.....	3 - 4

Major Requirements

ACC 110	Business Mathematics.....	3
ACC 115	Financial Accounting	4
ACC 116	Managerial Accounting	3
ACC 117	Payroll Accounting.....	3
ACC 118	Professional Bookkeeping	3
ACC 150	Legal Environment of Business.....	3
ACC 221	Accounting Information Systems.....	3
ACC 241	Tax Accounting	3
ACC Elective	ACC-211, ACC-230, ACC-242 or ACC-251.....	3
CIS 215	Decision-Making Using Spreadsheets.....	3

ECO 110 or ECO 121	Elements of Economics or Macroeconomics	3
Elective	ACC, ECO, MGT, MKT, OFM or ETP (except ETP-112).....	3
MGT 111	Principles of Management	3

Electives

Elective	Elective	3
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TOTAL PROGRAM CREDITS: 61-62

*See advisor for specific course information/recommendations.

ACCOUNTING (CERTIFICATE)

Purpose

The Accounting Certificate program is designed to prepare students for a bookkeeping position in small- to medium-sized firms or as a payroll, accounts payable, or accounts receivable clerk in a larger firm. All of the courses can be applied toward an Associate Degree in Accounting.

Program Outcomes

- Create financial statements, performing each step in double-entry accounting cycle in both a manual and computerized environment utilizing QuickBooks;
- Apply concepts of internal control to business processes;
- Prepare all calculations, entries and reports for a complete payroll cycle;
- Report accounting information relevant for managerial planning and decision-making in both a manual and computerized environment utilizing QuickBooks..

Program Curriculum

ACC 110	Business Mathematics.....	3
ACC 115	Financial Accounting	4
ACC 116	Managerial Accounting	3
ACC 117	Payroll Accounting.....	3
ACC 118	Professional Bookkeeping	3
ACC 221	Accounting Information Systems.....	3
CIS 110	Computer Information Systems for Management.....	3
CIS 215	Decision Making Using Spreadsheets.....	3
ENG 117	or any Oral Communication Elective Writing for Business and Industry or any Oral Communication Elective	3
MGT 111	Principles of Management	3

TOTAL PROGRAM CREDITS: 31

ACCOUNTING WITH QUICKBOOKS

Purpose

The Accounting with QuickBooks Certificate program is designed to prepare the graduate for a bookkeeping position in a small to medium sized firm with additional skills in internal control and computerized accounting using QuickBooks software. All of the courses can be

applied toward an Associate Degree in Accounting. Additionally, students completing the Accounting with QuickBooks Certificate program will be prepared to pass the Intuit QuickBooks Certified User exam.

Program Outcomes

- Create financial statements, performing each step in double-entry accounting cycle in a computerized environment utilizing QuickBooks;
- Report accounting information relevant for managerial planning and decision-making in a computerized environment utilizing QuickBooks;
- Apply concepts of internal control to business processes

By the end of program, you will be prepared to take the Intuit QuickBooks Certified User exam.

Program Curriculum

ACC 110	Business Mathematics.....	3
ACC 115	Financial Accounting	4
ACC 116	Managerial Accounting	3
ACC 221	Accounting Information Systems.....	3
CIS 110	Computer Information Systems for Management.....	3

TOTAL PROGRAM CREDITS: 16

BUSINESS ADMINISTRATION (A.S.)

Purpose

The Business Administration program is designed primarily for those students who plan to transfer to a four-year college or university and major in an area of business such as accounting, finance, international business, management, marketing, human resources management, information systems, etc.

Program Outcomes

- Analyze the preparation of financial statements and managerial accounting reports, and their use to support decision-making by internal and external users;
- Analyze macroeconomic and microeconomic environments of business;
- Examine management theory and practices in the key functional areas within an organization in today's global business environment;
- Examine how marketing integrates with other functional areas within the organization as well as society as a whole;
- Apply relevant laws, regulations and ethical considerations to U.S. and international business activity for potential liability and legal protection and remedies.

The Business Administration program meets the Pennsylvania Department of Education's Transfer Agreement Oversight Committee (TAOC) for a seamless transfer to schools in the Pennsylvania State System of Higher Education (PASSHE). These include Kutztown, Millersville and Slippery Rock. Additionally, we have program-to-program transfer agreements with such schools as Arcadia, Cabrini, Chestnut Hill, Wilmington and Albright.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
CIS 110	Computer Information Systems for Management.....	3
ENG 102	English Composition II.....	3
Elective	Aesthetic Sensibility Elective	3
CMS 110 or CMS 120	Introduction to Speech Communication or Public Speaking	3
Elective	AST 120, BIO 121, CHE 121, CHE 151, PHY 121 or PHY 151.....	4
Elective	Cultural Awareness and Diversity Elective	3

Major Requirements

ACC 115	Financial Accounting	4
ACC 116	Managerial Accounting	3
ACC 150	Legal Environment of Business.....	3
ECO 121	Macroeconomics	3
ECO 122	Microeconomics	3
MAT 130	Probability and Statistics	4
MAT 140	Finite Mathematics for Business	3
MAT 142	Calculus for Business.....	3
MGT 111	Principles of Management	3
MKT 111	Principles of Marketing	3

Electives

Elective*	Elective	6
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TOTAL PROGRAM CREDITS: 60

CERTIFIED BOOKKEEPER

Purpose

The Certified Bookkeeper certificate is designed to prepare the graduate for a bookkeeping position in a small to medium sized firm. Career students, requiring more in-depth accounting skills, will gain solid technical knowledge and practical skills thereby substantially improving on-the-job performance and providing the skills for higher-level jobs. All of the courses can be applied toward an Associate Degree in Accounting. Additionally, students completing the Certified Bookkeeper Certificate program will take the national certification exam to obtain the American Institute of Professional Bookkeepers' (AIPB) Certified Bookkeeper (CB) designation and will be prepared to pass the national certification exam to obtain the American Payroll Association's (APA) Fundamental Payroll Certification (FPC) designation.

Program Outcomes

- Create financial statements, performing each step in double entry accounting;
- Apply concepts of internal control to business processes;
- Prepare all calculations, entries and reports for a complete payroll cycle.

Program Curriculum

ACC 110	Business Mathematics.....	3
ACC 115	Financial Accounting	4
ACC 117	Payroll Accounting.....	3
ACC 118	Professional Bookkeeping	3

TOTAL PROGRAM CREDITS: 13

For more information about our graduation rates, the median debt of Students who completed the program, and other important information, Please visit our website at, www.mc3/gainfulemployment.

**ENTREPRENEURSHIP
(CERTIFICATE OF COMPLETION)**

Purpose

The Entrepreneurship Certificate Program is designed to prepare students to launch and/or grow a successful business, small or large, profit or nonprofit. Linking theory and practice, students will acquire the knowledge and skills that are essential to managing a viable business.

Program Outcomes

- Assess and identify viable business opportunities to pursue;
- Demonstrate proficiency in fundamental accounting procedures for new or existing entrepreneurial ventures;
- Develop a practical Business Plan with realistic implementation capabilities;
- Demonstrate the proper soft skills of a business person, including the ability to communicate effectively, efficiently and professionally in written and/or oral presentations.

Program Curriculum

ACC 105	Survey of Accounting.....	3
ETP 110	Entrepreneurial Essentials.....	3
ETP 113	Entrepreneurial Business Plan.....	3

TOTAL PROGRAM CREDITS: 9

HEALTH SERVICE MANAGEMENT (A.A.S.)

Purpose

The Health Services Management Associates in Applied Science (A.A.S.) degree provides the student with a broad, solid foundation for attaining an entry level clinical management position in a variety of health settings, including private and public practitioners' offices, hospitals, holistic health practices, long-term care facilities, and health and wellness centers. The student is prepared to use critical thinking in making relevant management decisions in today's dynamic and expanding health services environment.

Program Outcomes

- Demonstrate effective written communication skills appropriate to the health services management environment;
- Utilize critical thinking skills and ethical principles in managing business office situations including customer and personnel relationships;

- Apply business management principles and techniques to the dynamic and expanding health services environment.

After graduation, you can look forward to beginning entry-level, clinical management positions at hospitals, physicians' offices, long-term care facilities, health and wellness centers and holistic health practices. You can also use your degree as a stepping-stone to further education.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 102,	ENG 115 or ENG 117	
	English Composition II, Writing for Technical	
	Communication or Writing for Business and Industry.....	3
OFM 101	Business Software Essentials.....	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

ACC 110	Business Mathematics.....	3
BIO 103 or BIO 130	Introduction to Human Anatomy and Physiology or	
	Introductory Anatomy and Physiology	3-4
ESW 210 or ESW 236	Holistic Health: Complementary and Alternative	
	Health Practices or Personal Health and	
	Wellness Education.....	3
HCP 114, HCP 120 or MGT 210	Medical Law and Ethics for Health Care	
	Professionals, Ethical Issues Affecting	
	Consumers and the Health Care Professions	
	or Ethical Decision Making in Business.....	3
HCP 224	Medical Terminology.....	3
HCP 225	Health Insurance and Professional Billing	3
HCP 228	Electronic Medical Records Management	3
MGT 111	Principles of Management	3
MGT 131	Human Resources Management.....	3
MGT 160	Customer Relationship Management	3
MGT 221	Supervision	3
PSY 137	Introduction to Organizational Psychology	3

Electives

Elective ¹	Elective	3
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TOTAL PROGRAM CREDITS: 60

¹ MGT 110 Introduction to Business or MAT-106 Mathematics Applications is recommended.

Medical Coding students take HCP-226 Principles of Medical Coding I; Medical Office Assistant students recommended to take MGT-110 Intro to Business or MAT-106 Math Applications

Medical Coding students take HCP-227 Principles of Medical Coding II; Medical Office Assistant students take MAS-117 Medical Office Administration (4 credits)

Medical Coding students take HCP-230 CPT Coding and Reimbursement Methods; Medical Office Assistant students take MAS-118 Professional Essentials for the Medical Office

MANAGEMENT (A.A.S)

Purpose

The Management AAS degree program is designed to provide students with the foundation needed in order to develop competencies in managerial decision making. Students are presented with a broad-based knowledge of the functional areas of management. Course work focuses on theory and application in order to foster the essential skills that are needed to succeed in today's global business environment. Students will develop a keen understanding of business practices as well as learn how to become a more effective decision maker, manager, and leader.

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's global business environment;
- Examine the social, legal and ethical principles that guide appropriate and responsible managerial decision-making;
- Apply critical-thinking and analytical acumen in order to determine appropriate actions;
- Exhibit professional and proficient communication skills: verbal, written and interpersonal.

We've created this program for both new students and those already working in business. Upon graduation, you can transfer to a four-year institution to continue your education or pursue new employment opportunities. Management AAS classes are offered on campus as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102 or ENG 117	English Composition II or Writing for Business and Industry	3
CIS 110 or OFM 101	Computer Information Systems for Management or Business Software Essentials.....	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4
Elective	Cultural Awareness and Elective.....	3
MAT 106, MAT 130, MAT 131 or ACC 110	Mathematics Applications, Probability and Statistics, Introduction to Statistics I or Business Mathematics.....	3 - 4

Major Requirements

ACC 105 or ACC 115	Survey of Accounting or Financial Accounting.....	3 - 4
ACC 150 or ACC 151	Legal Environment of Business or Business Law I.....	3

Elective	ACC, ECO, ETP, MGT or MKT Course.....	3
ETP 110 or ETP 113	Entrepreneurial Essentials or Entrepreneurial Business Plan.....	3
MGT 110	Introduction to Business	3
MGT 111	Principles of Management	3
MGT 131	Human Resource Management.....	3
MGT 210	Ethical Decision Making in Business.....	3
MGT 221	Supervision	3
MGT Electives	MGT Electives (two courses).....	6

TOTAL PROGRAM CREDITS: 60-63

MANAGEMENT (CERTIFICATE)

Purpose

The Management Certificate program is designed to prepare students for employment in an entry level management position and/or enhance career opportunities. These positions include assistant office manager, junior department manager, management trainee, and other management opportunities. All of the courses can be applied towards an associate's degree in Management.

Program Outcomes

- Exhibit professional and proficient communication skills: verbal, written and interpersonal;
- Apply fundamental knowledge of management concepts to function effectively in a global business environment;
- Apply learned management skills required to continue career or educational pursuits.

Should you decide to pursue an Associate degree in Management, your certificate credits can be applied to our Management AAS program. Our Management Certificate is a smart, cost-effective way to begin your management career.

Gainful Employment Information

Program Curriculum

ACC 150 or ACC 151	Legal Environment of Business or Business Law	3
ACC, ECO or MKT Elective	ACC, ECO or MKT Elective	3
ETP 110 or ETP 113	Entrepreneurial Essentials or Entrepreneurial Business Plan.....	3
MGT 110	Introduction to Business	3
MGT 111	Principles of Management	3
MGT 131	Human Resource Management.....	3
MGT 210	Ethical Decision Making in Business.....	3
MGT 221	Supervision	3
MGT Electives	MGT Electives	6

TOTAL PROGRAM CREDITS: 30

MARKETING Concentration

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's global business environment;
- Examine the social, legal and ethical principles that guide appropriate and responsible managerial decision-making;
- Apply critical-thinking and analytical acumen in order to determine appropriate actions;
- Exhibit professional and proficient communication skills: verbal, written and interpersonal.

We've created this program for both new students and those already employed in business. After graduation, you can transfer to a four-year institution to continue your education or pursue new employment opportunities. Management AAS classes are offered on campus as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102 or ENG 117	English Composition II or Writing for Business and Industry	3
CIS 110 or OFM 101	Computer Information Systems for Management or Business Software Essentials.....	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3
Elective	Scientific Reasoning Elective.....	4
Elective	Cultural Awareness and Diversity Elective	3
MAT 106, MAT 130, MAT 131 or ACC 110	Mathematics Applications, Probability and Statistics, Introduction to Statistics I or Business Mathematics ..	3 - 4

Major Requirements

ACC 150 or ACC 151	Legal Environment of Business or Business Law I	3
Elective	ACC, ECO, ETP, MGT or MKT Course.....	3
Elective	MKT-1981 Coop Internship Marketing I or CMS-125 Introduction to Public Relations3	
ETP 110 or ETP 113	Entrepreneurial Essentials or Entrepreneurial Business Plan.....	3
MGT 111	Principles of Management	3
MGT 210	Ethical Decision Making in Business.....	3
MKT 111	Principles of Marketing	3
MKT 121	Personal Sales Management.....	3
MKT 131	Advertising and Promotion.....	3
MKT 211	Digital Marketing	3

TOTAL PROGRAM CREDITS: 61-63

¹ MKT 198 Internship is strongly recommended

MARKETING (CERTIFICATE)

Purpose

The Marketing Certificate program is designed to prepare the student for employment in an entry level marketing position and/or enhance career opportunities. These areas include sales, customer service, advertising and promotion, public relations, purchasing, and distribution. All of the courses can be applied toward an associate's degree in Management.

Program Outcomes

- Exhibit professional and proficient communication skills: verbal, written and interpersonal;
- Apply fundamental knowledge of marketing concepts to function effectively in a global business environment;
- Apply learned marketing skills required to continue career or educational pursuits.

We've created this program for both new students and those already employed in business. All of the Marketing Certificate coursework can be applied toward an Associate degree in Management.

Program Curriculum

ACC 150 or ACC 151	Legal Environment of Business or Business Law I	3
Elective	ACC, ECO, or MGT	3
ETP 110 or ETP 113	Entrepreneurial Essentials or Entrepreneurial Business Plan.....	3
MGT 110	Introduction to Business	3
MGT 210	Ethical Decision Making in Business.....	3
MKT 111	Principles of Marketing	3
MKT 121	Personal Sales Management.....	3
MKT 131	Advertising and Promotion.....	3
MKT 198 or CMS 125	Coop Internship Marketing ¹ or Introduction to Public Relations	3
MKT 211	Digital Marketing	3

TOTAL PROGRAM CREDITS: 30

¹ MKT 198 Internship is strongly recommended

OFFICE MANAGEMENT Concentration

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's global business environment;
- Examine the social, legal and ethical principles that guide appropriate and responsible managerial decision-making;
- Apply critical-thinking and analytical acumen in order to determine appropriate actions;
- Exhibit professional and proficient communication skills: verbal, written and interpersonal.

We've created this program for both new students and those already employed in business. Upon graduation, you can transfer to a four-year institution to continue your education or pursue new employment opportunities. We have program-to-program transfer agreements with such schools as Temple University, Southern New Hampshire University and Cabrini. Management AAS classes are offered on campus as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102 or ENG 117	English Composition II or Writing for Business and Industry	3
CIS 110 or OFM 101	Computer Information Systems for Management or Business Software Essentials.....	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4
Elective	Cultural Awareness and Diversity Elective	3
MAT 106, MAT 130, MAT 131 or ACC 110	Mathematics Applications, Probability and Statistics, Introduction to Statistics I or Business Mathematics ..	3 - 4

Major Requirements

ACC 150 or OFM 245	Legal Environment of Business or Desktop Publishing ...	3
MGT 111	Principles of Management	3
MGT 114	Strategic Analytics for Leaders	3
MGT 210	Ethical Decision Making in Business.....	3
MGT 231 / CIS 231	Project Management	3
OFM 110	Microsoft Word Applications	3
OFM 161	Modern Office Management.....	3
OFM 198	Cooperative Internship in Office Management.....	3
OFM 243	Integrated Office Software Applications	3
OFM 250	Proofreading and Editing	3

TOTAL PROGRAM CREDITS: 61-63

OFFICE MANAGEMENT (CERTIFICATE)

Purpose

The Office Management Certificate program is designed to prepare the graduate for an administrative support position in an office environment as an administrative assistant, receptionist, customer service representative, front desk coordinator, or software trainer. All of the courses can be applied toward an associate's degree in Management.

Program Outcomes

- Apply managerial theory and office procedures for diverse business environments;
- Demonstrate current computer and software skills to accomplish assigned tasks with efficiency and effectiveness;
- Utilize appropriate skills and techniques to organize, prioritize and complete tasks, and produce associated documents in a professional office environment.

Upon completing the Office Management Certificate program, you may take on such office roles as administrative assistant, receptionist, front desk coordinator or customer service representative. Should you want to continue your education, all of your courses can be applied toward an Associate degree in Management.

Gainful Employment Information

Program Curriculum

ACC, ETP or OFM Elective ACC 150	Legal Environment for Business, ETP 110 Entrepreneurial Essentials or OFM 245 Desktop Publishing.....	3
MGT 111	Principles of Management	3
MGT 114	Strategic Analytics for Leaders	3
MGT 231 / CIS 231	Project Management	3
OFM 101 or CIS 110	Business Software Essentials or Computer Information Systems for Management.....	3
OFM 110	Microsoft Word Applications	3
OFM Elective	OFM 250 Proofreading and Editing or	
OFM Elective	OFM 243 Integrated Office Software Applications or	
OFM 161	Modern Office Management.....	3
OFM 198	Coop Internship in OFM	3

TOTAL PROGRAM CREDITS: 30

ORGANIZATIONAL LEADERSHIP Concentration

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's global business environment;
- Examine the social, legal and ethical principles that guide appropriate and responsible managerial decision-making;
- Apply critical-thinking and analytical acumen in order to determine appropriate actions;
- Exhibit professional and proficient communication skills: verbal, written and interpersonal.

We've created this program for both new students and those already employed in business. Upon graduation, you can transfer to a four-year institution to continue your education or pursue new employment opportunities. Management AAS classes are offered on campus as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102 or ENG 117	English Composition II or Writing for Business and Industry	3
CIS 110 or OFM 101	Computer Information Systems for Management or Business Software Essentials.....	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4
Elective	Cultural Awareness and Diversity Elective	3
MAT 106, MAT 130, MAT 131 or ACC 110	Mathematics Applications, Probability and Statistics, Introduction to Statistics I or Business Mathematics.....	3 - 4

Major Requirements

CMS 230	Communication in Organizations	3
MGT 112	Principles of Leadership	3
MGT 113	Conflict Resolution and Negotiation	3
MGT 114	Strategic Analytics for Leaders	3
MGT 210	Ethical Decision Making in Business	3
PSY 137	Introduction to Organizational Psychology	3

Electives

Elective	Elective	3
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TOTAL PROGRAM CREDITS: 61-63

*See advisor for specific course information/recommendations.

**ORGANIZATIONAL LEADERSHIP
MANAGEMENT (CERTIFICATE)**

Purpose

The Organizational Leadership Certificate is designed to provide the student with essential tools needed to develop leadership skills necessary in today's global business environment. Emphasis will be placed on developing a working knowledge and understanding of improving work environments in organizations. Through experiential learning, students will gain knowledge of performance evaluation, communication, conflict resolution, achievement and leadership. All of the courses can be applied toward an Associate Degree in Management.

Program Outcomes

- Recommend solutions to leadership challenges based on a social, legal, ethical and economic foundation;
- Demonstrate ability to appropriately address conflict resolution challenges and negotiate effective solutions;
- Evaluate information to guide decision-making for enhanced organizational performance;
- Analyze the nature of group interaction and how it relates to effective participation and leadership in organizations.

Upon successfully completing the program, you will receive an Organizational Leadership Certificate. All your certificate coursework can be applied toward an Associate degree in Management.

Program Curriculum

CMS 230	Communication in Organizations	3
Electives*	Electives	9
ENG 117	Writing for Business and Industry	3
MGT 112	Principles of Leadership	3
MGT 113	Conflict Resolution and Negotiation	3
MGT 114	Strategic Analytics for Leaders	3
MGT 210	Ethical Decision Making in Business	3
PSY 137	Introduction to Organizational Psychology	3

TOTAL PROGRAM CREDITS: 30

*See advisor for specific course information/recommendations.

ORGANIZATIONAL LEADERSHIP Concentration

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's global business environment;
- Examine the social, legal and ethical principles that guide appropriate and responsible managerial decision-making;
- Apply critical-thinking and analytical acumen in order to determine appropriate actions;
- Exhibit professional and proficient communication skills: verbal, written and interpersonal.

We've created this program for both new students and those already employed in business. Upon graduation, you can transfer to a four-year institution to continue your education or pursue new employment opportunities. Management AAS classes are offered on campus as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
ENG 102 or ENG 117	English Composition II or Writing for Business and Industry	3
CIS 110 or OFM 101	Computer Information Systems for Management or Business Software Essentials	3
Elective	Oral Communication Elective	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective	4
Elective	Cultural Awareness and Diversity Elective	3
MAT 106, MAT 130, MAT 131 or ACC 110	Mathematics Applications, Probability and Statistics, Introduction to Statistics I or Business Mathematics	3 - 4

Major Requirements

CMS 230	Communication in Organizations	3
MGT 112	Principles of Leadership	3
MGT 113	Conflict Resolution and Negotiation	3
MGT 114	Strategic Analytics for Leaders	3
MGT 210	Ethical Decision Making in Business	3
PSY 137	Introduction to Organizational Psychology	3

Electives

Elective	Elective	3
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TOTAL PROGRAM CREDITS: 61-63

*See advisor for specific course information/recommendations.

PAYROLL SPECIALIST

Purpose

The Payroll Specialist certificate is designed to prepare the graduate for a payroll position in a small to medium sized firm. Career students,

requiring more in-depth accounting skills, will gain solid technical knowledge and practical skills thereby substantially improving on-the-job performance and providing the skills for higher-level jobs. All of the courses can be applied toward an Associate Degree in Accounting. Additionally, students completing the Payroll Specialist Certificate program will be prepared to pass the national certification exam to obtain the American Payroll Association's (APA) Fundamental Payroll Certification (FPC) designation.

Program Outcomes

- Create financial statements, performing each step in double-entry accounting;
- Prepare all calculations, entries and reports for a complete payroll cycle;
- Prepare quarterly and year-end payroll tax returns.

When you receive your Certificate of Completion, you're ready to take the American Payroll Association's Fundamental Payroll Certification exam. If you are interested in further studies, you can apply your certificate credits toward:

- The Certified Bookkeeper Certificate of Completion
- The Accounting with QuickBooks Certificate of Completion
- An Accounting Certificate
- An Associate's degree in Accounting

Program Curriculum

ACC 110	Business Mathematics	3
ACC 115	Financial Accounting	4
ACC 117	Payroll Accounting.....	3

TOTAL PROGRAM CREDITS: 10

PROFESSIONAL LEADERSHIP (CERTIFICATE)

Purpose

The Professional Leadership Certificate of Completion is designed to provide the student with essential tools needed to develop leadership skills necessary in today's global business environment. All of the courses can be applied toward an Associate Degree in Management.

Program Outcomes

- Recommend solutions to leadership challenges based on a social, legal, ethical and economic foundation;
- Demonstrate ability to appropriately address conflict resolution challenges and negotiate effective solutions;
- Evaluate information to guide decision-making for enhanced organizational performance.

Along with increasing your leadership skills, you will earn nine credits in the certificate program. These credits can be applied toward an Associate degree in Management at Montco.

Program Curriculum

MGT 112	Principles of Leadership	3
MGT 113	Conflict Resolution and Negotiation.....	3
MGT 114	Strategic Analytics for Leaders	3

TOTAL PROGRAM CREDITS: 9

CREATIVE ARTS PROGRAMS

DANCE (A.A.)

Purpose

The Dance program is designed for students planning to transfer to a baccalaureate program in Dance. The program provides both a liberal arts (core studies) background and dance coursework designed to prepare students for successful transfer to a four-year institution as a Dance major. Some graduates have gone directly into careers teaching at private dance studios/schools.

Program Outcomes

- Demonstrate intermediate-level proficiency in modern dance and ballet technique;
- Perform in-class improvisations alone, with a partner, and in a group with commitment to the movement;
- Choreograph and perform a dance using basic principles of dance composition;
- Perform selected dance repertory for the public according to established criteria;
- Analyze cultural influences on contemporary dance;
- Integrate critical elements of dance training into personal dance practice.

In our program we have an encouraging and diverse student body whose members foster collaboration, creativity and leadership. We believe that you should "dance healthy" and support a body-friendly approach that includes health and nutrition.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Quantitative Reasoning course (MAT 106 or higher)....	3 - 4
Elective	Cultural Awareness and Diversity Elective**	3
Elective	Scientific Reasoning Elective	4
Elective	ESW 147 Mat Pilates or ESW 148 Hatha Yoga	2
HIS 101, HIS 102 or HIS 205	History of Western Civilization I, History of Western Civilization II or History of U.S. from 1877 ...	3
CMS 110, CMS 120 or THA 105	Speech Communication, Public Speaking or Introduction to Acting I	3

Major Requirements

DAN 101	Introduction to Dance Studies*	3
DAN 104	Modern Dance I.....	3
DAN 110	Introduction to Dance as Art in America*	3
DAN 123	Ballet I	3
DAN 151	Dance Improvisation.....	3
DAN 155	Dance Performance Ensemble I	1
DAN 156	Dance Performance Ensemble II	1

DAN 157	Dance Performance Ensemble III*	1
DAN 161	Dance Repertory and Performance I*	3
DAN 204	Modern Dance II*	3
DAN 223	Ballet II*	3
DAN 251	Dance Composition*	3
Elective	DAN 131, DAN 134, DAN 162, DAN 205 or DAN 224	3
MUS 120	Music Fundamentals	3
MUS 140	Introduction to Digital Music Technology	3

TOTAL PROGRAM CREDITS: 63-64

Students who cannot demonstrate a fundamental level of proficiency in modern dance and ballet may be required to take DAN 102/103 and/or DAN 121/122.

Students planning to transfer as third year dance majors may need to take at least two DAN techniques courses per semester, which will require additional credit hours. Check the requirements of the intended transfer institution.

*Course must be completed with a "C" or better to complete program.
**ANT 104, MUS 110 or THA 114 recommended.

FINE ART (A.F.A.)

Purpose

The Art program is designed for students planning to transfer to baccalaureate programs or professional schools preparing students for a B.F.A. degree. The curriculum parallels the foundation program of art schools or art programs at a four-year college. Students develop their skills while preparing a comprehensive portfolio. The program allows students to continue studies leading to careers in graphic communications, art education, and/or the fine arts.

Program Outcomes

- Describe visual concepts and express them using appropriate vocabulary in written reviews and oral presentations;
- Examine and compare culturally diverse and historically significant examples of art;
- Analyze and evaluate works of art using descriptive analysis and observation skills to critique, argue, and defend one's work and works created by others;
- Solve problems in the creation of visual products employing the skills of problem identification, research and information gathering, analysis, generation of alternative solutions, and evaluating outcomes;
- Describe and respond to audiences and contexts that artistic solutions must address including recognizing the physical, cognitive, cultural, social, and individual factors that shape aesthetic decisions;
- Create and develop visual form incorporating principles of visual organization and composition, visual hierarchy, symbolic representation, aesthetics, and the construction of meaningful pieces;
- Create a portfolio of work applying the knowledge, techniques, and perceptual skills addressed in the studio.

Depending upon your interest, you can take courses in animation, ceramics, drawing, graphic design, illustration, painting, photography, printmaking or sculpture. You can also choose classes that easily transfer to a four-year college. Our beautiful art galleries at Central and West campuses feature exhibitions of students and artists of national renown.

Program Curriculum

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Oral Communication Elective 1.....	3
MAT 106	Mathematics Applications2	3
Elective	Cultural Awareness and Diversity Elective1	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

ART 101	Art History.....	3
ART 102	Art History II.....	3
ART 103, ART 104, ART 107 or ART 108	Art History: Modern Art, History of Graphic Design, Non Western Art or History of Photography.....	3
ART 111	Drawing I.....	3
ART 11	Drawing I.....	3
ART 121	Painting I.....	3
ART 130	2 D Design Principles	3
ART 131	Color Theory	3
ART 138	or ART 148 Digital Art I or Graphic Design Applications	3
ART 140	3 D Design Principles	3
Electives*	Fine Art Studio*	15

TOTAL PROGRAM CREDITS: 64

¹Students planning to transfer should choose electives based on their transfer destination's requirements.

²THA 105 Introduction to Acting is an option for the Oral Communications requirement.

Concentrations

* If you are planning to major in a specific discipline, select electives from the lists below. These are recommendations only. If customization is desired, you should consult with a faculty member. All courses below are 3-credit studio courses.

2D Fine Art

ART 122	Painting II
ART 171	Printmaking I
ART 211	Drawing III
ART 221	Painting III

3D Fine Art

ART 141	3 D Design Materials and Techniques
ART 145	Introductory Woodworking
ART 245	Sculpture: Clay Modeling
ART 246	Sculptural Fabrication and Mold Making
ART 247	Advanced Sculpture

Ceramics

ART 161	Ceramics I
ART 261	Ceramics II
ART 262	Ceramics III
ART 266	Raku Pottery

Graphic Design

ART 135	Typography
ART 149	Page Layout and Design
ART 231	Graphic Design I
ART 232	Graphic Design II
ART 237	Portfolio Workshop
ART 201	Illustration I
ART 202	Illustration II
ART 122	Painting II
ART 211	Drawing III

Photography

ART 151	Photography I
ART 152	Photography II
ART 155	Digital Photography I
ART 156	Digital Photography II

Printmaking

ART 171	Printmaking I
ART 271	Printmaking II
ART 272	Printmaking III

TOTAL PROGRAM CREDITS: 64

MASS MEDIA PRODUCTION (A.A.)

Purpose

Graduates will be prepared to pursue continued study beyond the two-year AA degree or obtain entry-level positions in mass media communication. Examples of career paths in mass media communication include producers, writers, videographers, broadcast journalists, editors, recording engineers, film directors, reporters, web content managers, social media strategists, publicists, directors of communications, corporate communication managers, ad agency executives, public relations managers, information managers and press secretaries. There are two concentrations: Media Studies and Media Production.

Program Outcomes

- Apply effectively the essential communication skills, including reading, writing, speaking, listening and visual image creation;
- Explain the history, theory and practical applications of mass communication;
- Apply professional, legal, and ethical principles of communication to diverse audiences and contexts;
- Distinguish the various tasks and ongoing development requirements performed by communication professionals in a rapidly changing environment;
- Apply rhetorical analysis and media literacy skills to advance civic responsibility and an understanding of communication in a free society.

You will work independently and in small groups in the field and in our digital editing labs. You'll also work closely with experienced faculty to create professional content. After graduating, you may transfer to a four-year institution and continue your studies in television, radio, recording, film and emerging media. You may also enter the marketplace as a news writer, production assistant, camera operator and entry-level reporter.

Program Curriculum

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
ENG 165 or ENG 238	Journalism I or the Literary Vision of Film	3
CMS 120	Public Speaking	3
MAT 106, MAT 130 or MAT 131.....	Mathematics Applications, Probability and Statistics or Introduction to Statistics I	3 - 4
PSY 101	Introduction to Psychology	3
Elective	Scientific Reasoning Elective.....	3 - 4
Elective	ANT 104, SOC 101, HIS 101, HIS 102, HIS 203, HIS 205 or POL 124.....	3
Elective	Any Literature, Music, Dance or Theatre course***	3
Elective	ART 101, ART 102, ART 103, ART 104, ART 107, ART 108, ART 148, ART 151 or ART 155	3

Major Requirements

MSP 107	Introduction to Video Production and Literacy	3
MSP 111	Mass Media and Society.....	2
MSP 125 or MSP 126	Introduction to Broadcast Writing or Introduction to Scriptwriting	3
MSP 200	Ethics, Responsibility, Mass Media and the Law	3
MSP 291	Mass Media Capstone	3
MSP or SRT Elective	MSP 225, MSP 230, MSP 235, MSP 268, MSP 278 or SRT 250.....	3
SRT 104	Sound Recording Technology	3

Electives

Elective*	Electives	9 - 11
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TOTAL PROGRAM CREDITS: 60-63

MEDIA STUDIES (A.A.)

Program Outcomes

- Apply effectively the essential communication skills, including reading, writing, speaking, listening and visual image creation;
- Explain the history, theory and practical applications of mass communication;
- Apply professional, legal, and ethical principles of communication to diverse audiences and contexts;
- Distinguish the various tasks and ongoing development requirements performed by communication professionals in a rapidly changing environment;
- Apply rhetorical analysis and media literacy skills to advance civic responsibility and an understanding of communication in a free society.

After graduating, many of our students transfer to four-year institutions to continue their studies in fields as diverse as law, journalism, film studies, creative writing and more.

Program Curriculum

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
CMS 120	Public Speaking	3
MAT 106, MAT 130 or MAT 131	Mathematics Applications, Probability and Statistics or Introduction to Statistics I	3 - 4
PSY 101	Introduction to Psychology	3
Elective	Scientific Reasoning Elective.....	3 - 4
Elective	ANT 104, SOC 101, HIS 101, HIS 102, HIS 203, HIS 205 or POL 124	3
ENG 165 or ENG 238	Journalism I or the Literary Vision of Film	3
Elective	Any Literature, Music, Dance or Theatre Elective***	3
Elective	ART 101, ART 102, ART 103, ART 104, ART 107, ART 108, ART 148, ART 151 or ART 155	3

Major Requirements

MSP 107	Introduction to Video Production and Literacy	3
MSP 111	Mass Media and Society.....	2
MSP 112	Media Industries	3
MSP 200	Ethics, Responsibility, Mass Media and the Law.....	3
MSP 291	Communication Capstone	3
MSP Elective	MSP 125, MSP 210, MSP 211, MSP 213, MSP 215, MSP 216, MSP 217, MSP 225, MSP 230 or 235.....	3
MSP Elective	MSP 210, MSP 211, MSP 213, MSP 214, MSP 216 or MSP 217	3

Electives

Elective*	Electives	9 - 11
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TOTAL PROGRAM CREDITS: 60-63

MUSIC (A.A.)

Purpose

The Music curriculum is designed for students planning to Transfer to a baccalaureate program in Music. The curriculum Provides both a liberal arts (core studies) background and music Coursework comparable to the first two years at a four year institution.

Program Outcomes

- Demonstrate proficiency at the intermediate level on either the guitar or the piano;
- Demonstrate an understanding of the basic principles of tonal harmony;
- Demonstrate functional proficiency in Aural Theory (ear training);
- Describe the musical and cultural characteristics of at least two periods of music history;
- Demonstrate proper use of basic hardware and software tools of music technology.

Opportunities for private lessons and access to private, state-of-the-art recording studios also exist.

Our graduates generally transfer to such four-year schools as Temple University, West Chester University and The University of the Arts. Many go on to become performers or music educators. Note that, to graduate, students must maintain a “C” or above in all MUS courses

Program Curriculum

Program effective Fall 2018

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	ART 101, ART 102, HIS 101, HIS 102 or any language course	3
Elective	Quantitative Reasoning Elective (Students may not take MAT 103 or MAT 108 to fulfill this goal)	3 - 4
Elective	CMS 110, CMS 120 or THA 105.....	3
Elective	Scientific Reasoning Elective.....	4
Elective	ART, DAN, ENG or THA course	3

Major Requirements

Applied Electives	Guitar Class, Piano Class, Ensemble, or Private Lessons	2
Ensemble	Choir, Chamber Choir, Jazz Lab Band, Jazz Performance Ensemble, Wind Ensemble, Strings	1
Ensemble	Choir, Chamber Choir, Jazz Lab Band, Jazz Performance Ensemble, Wind Ensemble, Strings	1
Ensemble	Choir, Chamber Choir, Jazz Lab Band, Jazz Performance Ensemble, Wind Ensemble, Strings	1
Ensemble	Choir, Chamber Choir, Jazz Lab Band, Jazz Performance Ensemble, Wind Ensemble, Strings	1
MUS 140	Introduction to Digital Music Technology	3
MUS 150 or MUS 170	Guitar Class I or Piano Class I.....	1
MUS 151 or MUS 171	Guitar Class II or Piano Class I.....	1
MUS 210, MUS 211, MUS 212, MUS 213 or MUS 214	Music History for Majors (choose two courses)	6
MUS 221	Music Theory I	3
MUS 222	Music Theory II	3
MUS 231	Aural Theory I	3
MUS 232	Aural Theory II	3
MUS Elective	Students may not use MUS 120	3

Electives

Elective*	Electives	6
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TOTAL PROGRAM CREDITS: 60-61

SOUND RECORDING AND MUSIC TECHNOLOGY (A.A.S.)

Purpose

The Sound Recording and Music Technology A.A.S. curriculum is designed for students planning to obtain a two-year degree in Sound Recording Technology, Music Production and Music Technology. The degree prepares students to obtain the following entry-level positions:

sound technician, audio engineer, recording studio technician, sound engineer for animation and film, audio producer, music producer, digital audio editor, production manager, production assistant, theater sound designer, and multimedia developer for which both musical and technological knowledge are essential. The A.A.S. curriculum offers a comprehensive Background in sound recording, music production, and music technology expertise comparable to the first two years at a media conservatory.

Program Outcomes

- Integrate knowledge and theory of recording industry, sound recording and music technology into productions;
- Use professional sound recording techniques and tools to record, engineer and edit music productions as well as conceive, plan, write, record and edit pieces, projects and production packages;
- Create a professional portfolio including résumé, reel, personal statement and other promotional materials in both print and online;
- Apply knowledge of guitar or piano, tonal harmony, and aural theory to a performance and through productions;
- Apply practical knowledge of terminology, process, procedures and use of current technology to entry-level employment in the recording industry and sound recording field.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Scientific Reasoning Elective.....	3 - 4
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	Cultural Awareness and Diversity Elective	3

Major Requirements

Elective	Discipline History*	3
ETP 110	Entrepreneurial Essentials.....	3
MUS 110	Music Appreciation	3
MUS 140	Introduction to Digital Music Technology++	3
MUS 141	Digital Music Technology++	3
MUS 150 or MUS 170	Guitar Class I or Piano Class I++.....	1
MUS 240	The Art and Business of Songwriting++	3
MUS 241	The Business of Music++	3
SRT 104	Introduction to Sound Recording Technology	3
SRT 159	Introduction to Music Production.....	3
SRT 250	Sound Recording Technology I	3
SRT 256	Sound Recording Technology II.....	3
SRT 259	Music Production.....	3
SRT 297	Sound Recording and Music Technology Internship	3
SRT 290	Sound Recording and Music Technology Capstone.....	1
SRT or MUS Elective	3
Workshop Elective	Workshop Elective**	1
Workshop Elective	Workshop Elective***.....	1

TOTAL PROGRAM CREDITS: 61-63

THEATRE ARTS (A.A.)

Purpose

The Theatre Arts curriculum is designed for students planning to transfer to a baccalaureate program in Theater or related studies. The curriculum provides both a liberal arts (core studies) background and theater arts coursework comparable to the first two years at a four-year institution.

Program Outcomes

- Demonstrate an understanding of the personal, social and aesthetic value of the art of theater;
- Demonstrate knowledge of basic, individual and ensemble acting skill;
- Analyze theater history and literature using research, critical thinking skills and performing arts vocabulary;
- Apply skills necessary for the planning, production, direction and evaluation a theatrical performance;
- Distinguish the roles of actor, director, playwright, designers, producers and other professionals involved in creating theater;
- Comprehend the engagement between artists and audience in the act of theater.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	English Literature: ENG 235, ENG 236, ENG 237 or ENG 275	3
Elective	HIS 101, HIS 102 or HIS 205.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective T	Technological Fluency Elective.....	3
Elective	Quantitative Reasoning Elective (MAT 103 may not be used to fulfill this elective)	3
Elective	Scientific Reasoning Elective.....	4
CMS 120	Public Speaking	3
Elective Any DAN or ESW course	2 - 3
Elective Any ART, MSP or MUS course	3

Major Requirements

THA 105	Introduction to Acting I: Improvisation and Fundamentals.....	3
THA 106	Introduction to Acting II: Scene Study	3
THA 114	Introduction to Theater	3
THA 150	Theater Production Workshop I: Introduction to Stage Craft.....	3
THA 151	Theater Production Workshop II: Applied Stage Craft ...	3
THA 201 or THA 205	Acting for the Camera or Directing: Creating World of Stage	3
THA 203	Theater Production Workshop III: Advanced Stage Craft	3
Elective	THA 201, THA 205, THA 250, THA 251 or THA 252.....	3

Electives

Elective	Electives	3
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TOTAL PROGRAM CREDITS: 60-61

WEB DESIGN (CERTIFICATE)

Purpose

The Web Design and Development Certificate program Design Concentration prepares graduates for employment as entry-level Website designers, information architects, and user experience designers.

Program Outcomes

- Design and develop interactive and standards compliant websites that demonstrate modern web development and visual design techniques;
- Create websites that incorporate the fundamental principles of visual design;
- Plan and manage the administrative and business processes for software development;
- Display the foundational skills and professional practices necessary to succeed and grow in the web design and development field;
- Evaluate end-user needs and develop websites that adhere to usability and accessibility guidelines;
- Demonstrate the ability to work and communicate effectively with others in a team development environment.

Program Curriculum

ART 130	Two Dimensional Design Principles	3
ART 135	Typography	3
ART 138	Digital Art I	3
ART 148	Computer Graphics I	3
ART 149	Computer Graphics: Page Layout and Design.....	3
ART 233	Visual Design for the Internet	3
CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
CIS 114	Web Design and Development.....	3
CIS 140	Client Side Web Development	3

TOTAL PROGRAM CREDITS: 30

CULINARY AND HOSPITALITY PROGRAMS

BAKING AND PASTRY (A.A.S.)

Watch your pastry career rise to great heights

Our program prepares you for entry- to mid-level positions in the baking and pastry industry. Through hands-on instruction and working in our student-operated bakery, you'll also be ready to take the Certified Pastry Culinarian exam of the American Culinary Federation.

Program Outcomes

- Distinguish between, and successfully utilize a wide array of ingredients and baking methods to produce and/or plate, and critically analyze a variety of fundamental and contemporary baked goods, products and desserts;

- Demonstrate all costing techniques related to profitable menu design and profitable food service business operations;
- Demonstrate computer business applications and point of sale system operations as it relates to the foodservice industry;
- Demonstrate the proper ethical purchasing and procurement processes as it relates to the proper flow of goods for a successful food service operation;
- Demonstrate appropriate safety and sanitation practices and safe food service equipment operation as it relates to the hospitality industry;
- Demonstrate technical skills according to the Certified Pastry Culinarian (CPC) exam of the American Culinary Federation;
- Develop a business plan appropriate to their skills.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
OFM 101	Business Software Essentials.....	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ACC 110	Business Mathematics.....	3
ESW 206	Basic Nutrition.....	3

Major Requirements

BPA 124	Introduction to Cakes	3
BPA 131	Bread and Rolls.....	3
BPA 198	Baking and Pastry Arts Practicum I.....	1
BPA 220	Advanced Baking and Pastry	3
BPA 233	Chocolates and Confections	3
BPA 254	Tiered Cakes and Sugar Artistry	3
BPA 263	Bakery Production	3
BPA 298A	Baking and Pastry Arts Practicum II.....	3
BPA 298B	Baking and Pastry Arts Practicum III.....	3
CUL 101	Culinary Foundations	3
CUL 105	Safety and Sanitation	2
CUL 114	Food and Beverage Operations	3
CUL 120	Culinary Techniques	3
CUL 151	Purchasing and Cost Control	3
CUL 170	Management and Supervision	3
CUL 220	Menu Planning	3
CUL 270	Culinary Entrepreneurship.....	3

TOTAL PROGRAM CREDITS: 69

BAKING AND PASTRY ARTS (CERTIFICATE)

Learn the recipe for success as a professional baker with a Baking and Pastry Arts Certificate from Montco.

Our certificate program prepares you for entry-level positions in the baking and pastry industry. Through hands-on instruction and working in our student-operated bakery in Lansdale, you'll gain the fundamental food industry and management skills needed to thrive in this field.

Program Outcomes

- Distinguish between, and successfully utilize a wide array of ingredients and baking methods to produce and/or plate, and critically analyze a variety of fundamental and contemporary baked goods, products and desserts;
- Demonstrate all food and beverage costing techniques related to profitable food service business operations;
- Reflectively practice proper ethical purchasing and procurement processes as it relates to the proper flow of goods for a successful food service operation;
- Demonstrate appropriate safety and sanitation practices, including safe food service equipment operation, as it relates to the hospitality industry;
- Demonstrate appropriate employability skills necessary for an entry-level position in the industry.

Program Curriculum

CUL 105	Safety and Sanitation	2
CUL 101	Culinary Foundations	3
CUL 120	Culinary Techniques	3
BPA 120	Introduction to Baking & Pastry.....	3
CUL / BPA 198	Culinary and Baking and Pastry Practicum I.....	1
BPA 124	Introduction to Cakes	3
BPA 131	Bread & Rolls	3
BPA 220	Advanced Baking & Pastry	3
CUL / BPA 298A	Culinary and Baking and Pastry Practicum II	3
BPA 233	Chocolates & Confections	3
BPA 254	Tiered Cakes & Sugar Artistry.....	3
BPA 263	Operations/Production.....	3
CUL / BPA 298B	Culinary and Baking and Pastry Practicum III	3

TOTAL PROGRAM CREDITS: 36

CULINARY ARTS (A.A.S.)

Purpose

The Culinary Arts program prepares students for a wide variety of entry level to mid-level positions in the food service industry. It combines a foundation of culinary and management skills the industry demands, in addition to a curriculum that incorporates opportunities to learn and work in a student-operated restaurant. The program introduces students to the basic philosophies of the food service industry and offers the student a well-rounded academic experience that prepares the student for a successful career as a culinary professional. This program provides all of the educational components required for the Certified Culinarian (CC) certification through the American Culinary Federation and upon completion of the program; graduates receive an Associate of Applied Science Degree.

Program Outcomes

- Demonstrate proficient use of culinary terminology and classical cooking methods using a wide array of ingredients to design, produce, plate, and critically analyze a variety of classic, contemporary, regional and international dishes;
- Demonstrate all costing techniques related to profitable menu design and profitable food service business operations;

- Demonstrate computer business applications and point of sale system operations as it relates to the foodservice industry;
- Demonstrate the proper ethical purchasing and procurement processes as it relates to the proper flow of goods for a successful food service operation;
- Demonstrate appropriate safety and sanitation practices, and safe food service equipment operation as it relates to the hospitality industry;
- Demonstrate technical skills according to the Certified Culinarian (CC) exam of the American Culinary Federation;
- Develop a business plan appropriate to their skills.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
OFM 101	Business Software Essentials.....	3
CMS 110 or CMS 120	Speech Communication or Public Speaking	3
ACC 110	Business Mathematics	3
ESW 206	Basic Nutrition.....	3

Major Requirements

CUL 101	Culinary Foundations	3
CUL 105	Safety and Sanitation	2
CUL 114	Food and Beverage Operations	3
CUL 120	Introduction to Culinary Techniques	3
CUL 125	American Regional Cuisine.....	3
CUL 151	Purchasing and Cost Control	3
CUL 160	Culinary Baking	3
CUL 198	Culinary Arts Practicum I	1
CUL 170	Management and Supervision	3
CUL 220	Menu Planning	3
CUL 221	Garde Manger	3
CUL 250	European Cuisines	3
CUL 260	Global Cuisines	3
CUL 270	Culinary Entrepreneurship	3
CUL 282	Restaurant Operations	4
CUL 298A	Culinary Arts Practicum II	3
CUL 298B	Culinary Arts Practicum III	3

TOTAL PROGRAM CREDITS: 69

CULINARY ARTS (CERTIFICATE)

Purpose

The Culinary Arts certificate prepares students for a wide variety of entry-level positions in the culinary arts industry. It combines a foundation of culinary and management skills the industry demands, in addition to a curriculum that incorporates opportunities to learn and work in a student operated restaurant. The curriculum introduces students to the basic fundamental skills and philosophies of the food service industry and helps prepare them for their career as foodservice professional.

Program Outcomes

- Demonstrate proficient use of culinary terminology and classical cooking methods using a wide array of ingredients to design, produce, plate, and critically analyze a variety of classic, contemporary, regional and international dishes;

- Demonstrate all food and beverage costing techniques related to profitable food service business operations;
- Reflectively practice proper ethical purchasing and procurement processes as it relates to the proper flow of goods for a successful food service operation;
- Personally demonstrate appropriate safety and sanitation practices, including safe food service equipment operation, as it relates to the hospitality industry;
- Demonstrate appropriate employability skills necessary for an entry level position in the industry.

Program Curriculum

CUL 105	Safety and Sanitation	2
CUL 101	Culinary Foundations	3
CUL 120	Culinary Techniques	3
CUL 122	Advanced Culinary Techniques	3
CUL / BPA 198	Culinary and Baking and Pastry Practicum I	1
CUL 160	Culinary Baking	3
CUL 221	Garde Manger	3
CUL 125	American Regional	3
CUL / BPA 298A	Culinary and Baking and Pastry Practicum II	3
CUL 250	European Cuisines	3
CUL 260	Global Cuisines	3
CUL 282	Restaurant Operations	3
CUL / BPA 298B	Culinary and Baking and Pastry Practicum III	3

TOTAL PROGRAM CREDITS: 36

HOSPITALITY MANAGEMENT (A.A.S.)

Purpose

The two-year hospitality management program prepares students for a wide variety of entry-level to mid-level positions in the hospitality industry. The program introduces students to the basic philosophies of the hospitality industry and offers the student a well-rounded academic experience that prepares the student for a successful career as a hospitality professional. Upon completion of the program, graduates receive an Associate of Applied Science Degree.

Program Outcomes

- Demonstrate the concepts and skills necessary to achieve customer service excellence;
- Demonstrate the ethical, legal, and social standards accepted in the hospitality industry;
- Make creative and appropriate decisions for a variety of hospitality management situations;
- Apply basic culinary terminology, knife skills, cooking techniques, and appropriate safety and sanitation practices for the hospitality industry;
- Use technology to achieve operational efficiency and productivity in hospitality operations;
- Exhibit personal and business standards accepted in the hospitality industry;
- Develop a professional career portfolio.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ACC 110	Business Mathematics.....	3
OFM 101	Business Software Essentials.....	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
PSY 137	Introduction to Organizational Psychology	3
Elective	Scientific Reasoning Elective.....	3 - 4

Major Requirements

CUL 101	Culinary Foundations	3
CUL 102	Hospitality Fundamentals	3
CUL 114	Food and Beverage Operations	3
CUL 120	Introduction to Culinary Techniques	3
CUL 151	Purchasing and Cost Control	3
CUL 170	Management and Supervision	3
CUL 220	Menu Planning	3
HOS 111	Introduction to Hospitality Management	3
HOS 185	Managing the Customer Experience	3
HOS 214	Fundamentals of Special Event Management	3
HOS 231	Hospitality Marketing	3
HOS 251	Principles of Tourism, Hotel and Casino Management ..	3
HOS 297	Cooperative Internship in Hospitality Management.....	3
MGT 210	Ethical Decision Making in Business.....	3

TOTAL PROGRAM CREDITS: 60-61

HOSPITALITY MANAGEMENT (CERTIFICATE)

Purpose

A hospitality certificate prepares students for a wide variety of entry-level positions in the hospitality industry. The program introduces students to the basic philosophies of the hospitality industry and offers the student a well-rounded academic experience that prepares the student for a successful career as a hospitality professional. Upon completion of the program, graduates receive a certificate in hospitality.

Program Outcomes

- Demonstrate the concepts and skills necessary to achieve customer service excellence;
- Apply basic culinary terminology, knife skills, cooking techniques, and appropriate safety and sanitation practices for the hospitality industry;
- Use technology to achieve operational efficiency and productivity in hospitality operations;
- Exhibit personal and business standards accepted in the hospitality industry;
- Develop a professional career portfolio.

Program Curriculum

CUL 101	Culinary Foundations	3
CUL 102	Hospitality Fundamentals	3
CUL 114	Food and Beverage Operations	3
CUL 120	Introduction to Culinary Techniques	3
CUL 151	Purchasing and Cost Control	3
CUL 170	Management and Supervision	3
CUL 220	Menu Planning	3
HOS 111	Introduction to Hospitality Management	3
HOS 185	Managing the Customer Experience	3
HOS 214	Fundamentals of Special Event Management	3
HOS 251	Principles of Tourism, Hotel and Casino Management ..	3
HOS 297	Cooperative Internship in Hospitality Management.....	3

TOTAL PROGRAM CREDITS: 36

EDUCATION PROGRAMS

EDUCATION IN THE EARLY YEARS (A.A.)

Purpose

Education in the Early Years: Birth through Fourth Grade is a program to prepare graduates for professional opportunities in early childhood education as teachers in child care settings, as professionals in family child care facilities, or as teachers in corporate child care. The program will also prepare graduates who want to pursue Bachelors' degrees for transfer to four-year colleges. Students who transfer with a grade point of average of 3.0 and pass the Preservice Academic Performance Assessment (PAPA) exams may be eligible to be admitted to an Education Program at a four- year institution, which could lead to PA certification to teach pre-kindergarten through fourth grade. The courses in this program include both general education courses as well as professional education courses related to the development and teaching of children through grade four. In the last semester of the program, students will student teach in an early childhood environment with an experienced teacher under the supervision of College faculty.

Program Outcomes

- Identify typical and atypical milestones in child development;
- Assess the appropriateness of early literacy opportunities in early childhood environments;
- Create curricula and environments that are cognitively, physically and social-emotionally appropriate for children's ages and needs;
- Communicate effectively with young children, their parents, and peers;
- Design activities that promote positive school-family-community relationships;
- Collaborate with teachers to create learning opportunities that meet the needs of all students.

Program Curriculum

ENG 101	English Composition I.....	3
MAT 103	Foundations of Mathematics I.....	3
HIS 203 or HIS 205	History of U.S. to 1877 or History of U.S. from 1877	3
PSY 101	Introduction to Psychology	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	Aesthetic Sensibility Elective***	3
MAT 104 or MAT 106	Foundations of Mathematics II or Mathematics Applications*	3
Elective	Scientific Reasoning Elective***	4

Major Requirements

EDU 100	Introduction to Education**	3
EDU 210	Teaching Young Children	3
EDU 213	Working with Children with Special Needs	3
EDU 225	Guiding Children's Reading	3
EDU 228	Literature in Early Childhood & Elementary Education	3
EDU 233	Early Childhood Curriculum	3
EDU 240	Teaching English Language Learners	3
EDU 245	Connecting Families, Schools and Communities	3
EDU 250	Student Teaching**	6
EDU Elective	EDU 121, EDU 226, EDU 227 or EDU 229.....	3
PSY 200	Child Psychology.....	3

TOTAL PROGRAM CREDITS: 61

EDUCATION IN THE MIDDLE YEARS (A.A.)

Purpose

The Education in the Middle Years: Fourth through Eighth Grade program is comparable to the first two years of a four year college or university program in Middle Years/Elementary education. The student takes several professional education courses and will need to decide on one or two areas of concentration, depending on transfer institution. They will select other courses based on that decision.

Program Outcomes

- Identify the roles, responsibilities, and characteristics of successful teachers;
- Determine his/her own motivations, desires, and interests pertaining to a teaching career in a middle school and explain why s/he has made the decision;
- Apply instructional strategies that effectively integrate technology use in the classroom;
- Identify the challenges that students from diverse communities and families may face and recognize the teacher's role in supporting all students in the classroom;
- Apply instructional strategies and identify ways to differentiate instruction for students that have special learning, physical or language differences.

Clearances for Education Courses

In order for you to participate in certain education courses and to observe classrooms, tutor students, etc., you will need to have background checks done. So that you have your clearances when classes begin, you should apply early for these screenings.

Program Curriculum

ENG 101	English Composition I.....	3
PSY 101	Introduction to Psychology	3
Elective	Diversity Elective**.....	3
ENG 102	English Composition II.....	3

Electives	Quantitative Reasoning Electives (choose two - student may not take ACC 110 to fulfill this requirement)*	6 - 8
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

EDU 100	Introduction to Education***.....	3
EDU 120	Teaching with Technology in Middle Years and Secondary Education	3
EDU 213	Working with Children with Special Needs	3
EDU 240	Teaching English Language Learners	3
PSY 204	Adolescent Psychology	3
PSY 210	Educational Psychology	3

Electives

Electives*	Electives*	15
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TOTAL PROGRAM CREDITS: 61-63

SECONDARY EDUCATION (A.A.)

Earn transferable credits toward a teaching degree

The Secondary Education Associate’s degree program places you one step closer to a gratifying career as a middle or high school teacher. Our Associate of Arts degree equips you with the knowledge and transferable credits needed to pursue a bachelor’s degree in education at a four-year institution. Concentrating on grades 7-12, our program fulfills general education requirements and offers education courses, while helping you narrow down your academic area of focus. Montco’s academic advisors, along with instructors, work with you to ensure that your classes align with your transfer school’s requirements. Once you receive your associate’s degree, you are on the path to obtaining your Pennsylvania Department of Education teaching certification.

Program Outcomes

- Integrate the roles, responsibilities and characteristics of successful teachers into a personal educational philosophy;
- Apply instructional strategies that effectively integrate technology use in the classroom;
- Determine the challenges that students from diverse communities and families may face and the teacher’s role in supporting all students in the classroom;
- Differentiate instruction for students that have special learning, physical or language differences.

Clearances for Education Courses

In order for you to participate in certain education courses and to observe classrooms, tutor students, etc., you will need to have background checks done. So that you have your clearances when classes begin, you should apply early for these screenings.

Program Curriculum

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
HIS 203 or HIS 205	History of the U.S. to 1877 or History of the U.S. from 1877	3

Electives	Quantitative Reasoning Electives (choose two - student may not take ACC 110, MAT 103 or MAT 104 to fulfill this requirement)	6
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
PSY 101	Introduction to Psychology	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

EDU 100	Introduction to Education**	3
EDU 120	Teaching with Technology in Middle Years and Secondary Education	3
EDU 213	Working with Children with Special Needs	3
EDU 240	Teaching English Language Learners	3
PSY 204	Adolescent Psychology	3
PSY 210	Educational Psychology	3

Electives

Electives*	Electives*	15
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TOTAL PROGRAM CREDITS: 61-63

ENGINEERING AND TECHNOLOGY PROGRAMS

CLLOUD COMPUTING (CERTIFICATE)

Purpose

This certificate will introduce students to the various components of cloud computing. It will include Computer Networking, Data Storage and Storage Area Networks, Windows Server and Hyper V, Cloud essentials and services. Advanced virtualization technologies to include Citrix and VMware will also be covered. The Certificate will prepare students for careers in the rapidly growing Cloud Computing segment, and also prepare them for higher level specializations in this field. The Certificate will cover the objectives of the following industry certification examinations: Microsoft Windows Server and Hyper-V, CompTIA Cloud Essentials, Storage+ and Cloud+, EMC Proven Professional Information Storage Associate (EMCISA), VMware vSphere, Citrix XEN Desktop and Citrix XEN App, and Cisco Certified Entry Network Technician (CCENT).

Cloud Computing. It's the latest form of Internet-based computing and next wave of information technology jobs. Montco's Cloud Computing Certificate prepares you to enter the workforce confident that you have both the training and understanding to succeed in one of the hottest IT fields. Through hands-on instruction, you will practice skills in state-of-the-art computer labs.

Program Outcomes

- Design and configure local and wide area networks;
- Explain the concepts, components and deployment of cloud computing and provisioning;
- Explain concepts and components of Data Storage and storage design;
- Configure and deploy Microsoft Windows and Linux operating systems;
- Configure and deploy virtualization technologies;
- Develop a plan with strategies to pass the certifying exams.

Graduates are prepared to take appropriate certification exams, including:

- Microsoft Windows Server and Hyper-V;
- CompTIA Cloud Essentials;
- Storage+ and Cloud+;
- EMC Proven Professional Information Storage Associate (EMCISA);
- VMware vSphere;
- Citrix XEN Desktop and Citrix XEN App;
- Cisco Certified Entry Network Technician (CCENT).

Program Curriculum

CIS 141	Introduction to Linux.....	3
CIS 155	PC Applications on Networks*	3
CIS 158	Windows Server Administration and Support.....	3
CIS 166	Introduction to Cloud Computing.....	3
CIS 167	Introduction to Data Storage and Storage Area Networks.....	3

CIS 168	Data Centers and Cloud Storage	3
CIS 170	Introduction to Networks.....	3
CIS 171	Routing and Switching Essentials	3
CIS 203	VMware vSphere.....	3
CIS 204	Citrix XEN Desktop and XEN App.....	3
CIS 205	Windows Server Hyper V.....	3
CIS 206	Cloud Services.....	3
CIS 258	Advanced Windows Server Administration and Support	3

TOTAL PROGRAM CREDITS: 39

COMPUTER NETWORKING (CERTIFICATE)

Purpose

Prepares graduates with knowledge and skills in the areas of networking, computer support and data communications. Graduates are eligible to take appropriate certification exams (such as A+, Network+, Cisco CCENT and Microsoft MTA). Graduates can expect to work as entry-level network engineers, administrators, or computer support technicians (although many employers require an associate's degree). This program involves extensive.

Program Outcomes

- Analyze and solve computer hardware and software problems;
- Apply critical thinking, team building, and problem-solving skills to design and implement a local area network configuration;
- Describe OSI layers, their functionality, and maintain a LAN;
- Program and configure Cisco switches;
- Program and configure Cisco routers;
- Design, implement, evaluate and maintain a WAN.

Graduates are prepared to take appropriate certification exams, including:

- A+
- Network+
- Microsoft MTA
- CISCO CCENT

With Montco's Computer Networking Certificate, you are on your way to a career in networking. You also can continue your education and earn an Associate of Applied Science degree in Computer Networking-Network Administration at Montco.

Program Curriculum

CIS 113	PC Maintenance and Support.....	3
CIS 141	Introduction to Linux.....	3
CIS 142 or CIS 172B	Linux Administration or Connecting Networks	3
CIS 155, CIS 1101 or CIS 111	PC Applications on Networks, Programming for Everyone or Computer Science I: Programming and Concepts	3
CIS 158	Windows Server Administration and Support.....	3
CIS 170	Introduction to Networks.....	3
CIS 171	Routing and Switching Essentials.....	3
CIS 172	Scaling Networks	3
CIS 257	Network Planning, Project Management and Implementation.....	3

CIS 258	Advanced Windows Server Administration and Support	3
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TOTAL PROGRAM CREDITS: 30

**COMPUTER NETWORKING –
CYBER SECURITY (A.A.S.)**

Purpose

The Cyber Security Certificate prepares graduates with knowledge and skills in computer and network security, ethical hacking, computer forensics, data networking and computer hardware and support. Graduates are eligible and prepared to take appropriate certification exams (such as A+, Network+, Microsoft MTA, Security+, Cisco CCENT, CCNA Security and EC-CEH) and can expect to work as entry-level network security technicians and engineers or computer support technicians. This program requires extensive hands-on work in computer labs featuring state-of-the-art equipment.

Program Outcomes

- Analyze and solve computer hardware and software problems;
- Apply critical thinking, team building and problem-solving skills to design, implement and maintain a local area network configuration;
- Describe the principles and components of cyber security;
- Use computer forensics to investigate cyberattacks;
- Implement ethical hacking to assess cyber security postures and vulnerabilities;
- Design and implement secure networks.

Graduates are prepared to take appropriate certification exams, including:

- A+
- Network+
- Microsoft MTA
- Security+
- CISCO CCENT, CCNA Security
- EC-CEH

With Montco's Associate of Applied Science degree in Computer Networking-Cyber Security, you have the knowledge and skills needed to protect and organization's network, computers and data.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
ENG 117 or ENG 115	Writing for Business and Industry or Writing for Technical Communication	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Scientific Reasoning Elective	3 - 4
Elective	Oral Communication Elective	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

CIS 1101 or CIS 111	Programming for Everyone or Computer Science I: Programming and Concepts	3
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CIS 113	PC Maintenance and Support	3
CIS 141	Introduction to Linux	3
CIS 155	PC Applications on Networks	3
CIS 158	Windows Server Administration and Support	3
CIS 170	Introduction to Networks	3
CIS 171	Routing and Switching Essentials	3
CIS 207	Introduction to Computer Forensics	3
CIS 208	Implementing Network Security	3
CIS 209	Ethical Hacking	3
CIS 245, CIS 166 or CIS 167	Database Management Systems/SQL, Introduction to Cloud Computing or Introduction to Data Storage	3
CIS 257	Network Planning, Project Management and Implementation	3
CIS 275	Network Security Fundamentals	3

TOTAL PROGRAM CREDITS: 60-62

**COMPUTER NETWORKING –
NETWORK ADMINISTRATION – (A.A.S.)**

Purpose

The Network Administration Concentration of the Computer Networking AAS program prepares graduates with knowledge and skills in networking, computer support, and data communications. Graduates are prepared and eligible to take appropriate certification exams (such as A+, Network+, Microsoft MTA, Security+ and Cisco CCENT /CCNA) and can expect to work as entry-level network engineers, administrators, or computer support technicians. This program requires extensive hands-onwork in computer labs featuring state-of-the-art equipment.

Program Outcomes

- Analyze and solve computer hardware and software problems;
- Apply critical thinking, team building, and problem solving skills to design, implement, and maintain a local area network configuration;
- Program and configure Cisco switches and routers;
- Design, implement, and maintain a WAN.

Upon successfully completing the program, you will receive an associate degree. You also will leave Montco prepared to work as an entry-level network engineer, administrator or support technician.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
Elective	Quantitative Reasoning Course	3
Elective	Scientific Reasoning Course	3 - 4
Elective	Oral Communication Course	3
Elective	Cultural Awareness and Diversity Course	3
Elective	Aesthetic Sensibility Course	3

Major Requirements

CIS 113	PC Maintenance and Support	3
CIS 155	PC Applications on Networks	3
CIS 170	Introduction to Networks	3
CIS 171	Routing and Switching Essentials	3

CIS 1101 or CIS 111	Programming for Everyone or Computer Science I: Programming and Concepts.....	3
CIS 158	Windows Server Administration and Support.....	3
CIS 141	Introduction to Linux.....	3
CIS 258	Advanced Windows Server Administration and Support	3
CIS 172	Scaling Networks	3
CIS 172B	Connecting Networks	3
CIS 257	Network Planning, Project Management and Implementation.....	3
CIS 142	Linux Administration	3
CIS 245, CIS 166, CIS 275 or MGT 111	Database Management Systems/SQL, Introduction to Cloud Computing, Network Security Fundamentals or Principles of Management	3

TOTAL PROGRAM CREDITS: 60-62

COMPUTER SCIENCE (A.S.)

Purpose

The Computer Science program is designed primarily for those students who plan to transfer to a four-year institution and major in computer science.

Program Outcomes

- Design solutions to quantitative problems by applying algorithm design;
- Design solutions to quantitative problems using programming support tools;
- Exhibit an ability to communicate effectively in a professional technical environment;
- Demonstrate an understanding of professional, ethical, legal, and security issues for programming professionals;
- Demonstrate knowledge of mathematical principles required for work in computer science;
- Construct program solutions using various data structures and testing techniques complete with supporting documentation and testing plans;
- Construct program solutions that include testing techniques, testing plans, and supporting documentation.

Our Associate of Science program provides an economical yet academically rigorous start to your bachelor's degree. It allows you to transfer seamlessly to schools in the Pennsylvania State System of Higher Education (PASSHE). It likewise meets the requirements of the Pennsylvania Department of Education's Transfer Agreement Oversight Committee (TAOC).

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
BIO 121, CHE 121 or PHY 121	General Biology I, General Chemistry - Inorganic or General Physics I.....	4
BIO 122, CHE 122 or PHY 122	General Biology II, General Chemistry - Organic or General Physics II.....	4

Elective	Choose one of the following: ART 101, ART 102, ART 103, ART 111, ART 121, DAN 101, DAN 102, DAN 103, DAN 110, DAN 121, DAN 123, DAN 131, DAN 134, DAN 251, MUS 110, MUS 112, MUS 113, MUS 114, THA 105	3
Elective - 200	Level LIT Course Choose one of the following: ENG 201, ENG 202, ENG 211, ENG 212, ENG 221, ENG 222, ENG 235, ENG 236, ENG 237, ENG 238, ENG 245, ENG 246, ENG 248, ENG 255, ENG 256, ENG 257, ENG 265, ENG 266, ENG 275 or ENG 285	3
PSY 101 or SOC 101	Introduction to Psychology or Introduction to Sociology...	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	ANT 104, HIS 101, HIS 102, HIS 203 or HIS 205	3

Major Requirements

CIS 110 or CIS 155	Computer Information Systems for Management or PC Application on Networks	3
CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
CIS 112	Computer Science III: Data Structures and Algorithms...	3
CIS 126	Computer Architecture and Organization	3
CIS 245	Database Management Systems/SQL.....	3
MAT 125	Discrete Mathematics	3
MAT 130	Probability and Statistics	4
MAT 190	Calculus and Analytical Geometry I	4
Elective	CIS**.....	3

Electives

Electives*	Electives*	3
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TOTAL PROGRAM CREDITS: 61

*If necessary, Math pre-requisite (MAT 100, MAT 161 or MAT 162) recommended.
**CIS 151 Systems Analysis and Design recommended.

CYBER SECURITY (CERTIFICATE)

Purpose

The Cyber Security Certificate prepares graduates with knowledge and skills in computer and network security, ethical hacking, computer forensics, data networking and computer hardware and support. Graduates are eligible and prepared to take appropriate certification exams (such as A+, Network+, Microsoft MTA, Security+, Cisco CCENT, CCNA Security and EC-CEH) and can expect to work as entry-level network security technicians and engineers or computer support technicians. This program requires extensive hands-on work in computer labs featuring state-of-the-art equipment.

Program Outcomes

- Apply the principles and components of cyber security;
- Use computer forensics to investigate cyberattacks;
- Implement ethical hacking to assess cyber security postures and vulnerabilities;
- Design and implement secure networks;

- Design, implement and maintain a local area network;
- Analyze and solve computer hardware and software problems.

Graduates are prepared to take appropriate certification exams, including:

- A+
- Network+
- Microsoft MTA
- Security+
- CISCO CCENT, CCNA Security
- EC-CEH

With Montco's Cyber Security Certificate, you are on your way to begin a career in cyber security. You also can continue your education and earn an Associate of Applied Science degree in Computer Networking-Cyber Security at Montco..

Program Curriculum

CIS 113	PC Maintenance and Support	3
CIS 141	Introduction to Linux	3
CIS 155	PC Applications on Networks	3
CIS 158	Windows Server Administration and Support.....	3
CIS 170	Introduction to Networks	3
CIS 171	Routing and Switching Essentials	3
CIS 207	Introduction to Computer Forensics	3
CIS 208	Implementing Network Security	3
CIS 209	Ethical Hacking	3
CIS 275	Network Security Fundamentals	3

TOTAL PROGRAM CREDITS: 30

ELECTRICAL ENGINEERING SCIENCE (A.S.)

Purpose

The Engineering Science program is a rigorous program of study in freshman/sophomore Engineering designed to prepare students for transfer to four-year schools of Engineering. The curriculum prepares the student for advanced study in a variety of fields such as Electrical, Computer, Mechanical, Civil, Structural, and Architectural Engineering.

Program Outcomes

- Analyze and interpret fundamental engineering problems;
- Apply the scientific method to derive solutions to fundamental engineering problems;
- Derive models for solution based on learned methodologies and principles;
- Apply computer-based analysis and solution software to engineering situations;
- Show evidence of an ability to function effectively on teams;
- Show evidence of an ability to communicate effectively.

Montco has transfer agreements with many major universities. For example, Temple University allows you to seamlessly transfer as a junior into an electrical engineering major with an optional computer engineering concentration.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

CHE 151	Principles of Chemistry I.....	4
EGR 102	Introduction to Engineering.....	3
EGR 111	Engineering Computations.....	3
EGR 115	Engineering Graphics	3
EGR 210	Digital Systems	4
EGR 211	Linear Electrical Systems I	4
EGR 214	Linear Electrical Systems II	4
MAT 190	Calculus and Analytical Geometry I	4
MAT 201	Calculus and Analytical Geometry II	4
MAT 202	Calculus and Analytical Geometry III	4
MAT 223	Differential Equations	4
PHY 151	Principles of Physics I	4
PHY 152	Principles of Physics II	4

TOTAL PROGRAM CREDITS: 64

ENGINEERING TECHNOLOGY – ELECTRICAL (A.A.S.)

Purpose

The Engineering Technology - Electrical concentration is designed to prepare graduates for career positions as electrical engineering technicians in the advanced technology areas of electric circuits, instrumentation, and communications. The technician fills the role of applications-expert serving under engineers and technologists. A solid foundation in applied mathematics and physical science is necessary to enable the technician to communicate well in an engineering environment.

Program Outcomes

- Analyze a student-created engineering model using appropriate general calculations;
- Design, model and develop concepts in a 3D solid modeling environment to address the industrial demands of today's technology;
- Apply theoretical attributes of electrical components to systems design;
- Identify and describe component and system-level problems in engineering using state-of-the-art testing equipment;
- Design and present a final project using all of the above engineering skills including good oral communication and technical writing ability communication and technical writing ability.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
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ENG 115 or ENG 117	Writing for Technical Communication or Writing for Business and Industry	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

EGR 111	Engineering Computations.....	3
EGR 115	Engineering Graphics	3
EGT 190	Principles of Critical Thinking in Technology	3
EGT 210	Digital Circuits	4
EGT 211	AC/DC Circuits	4
EGT 230	Analog Circuits	4
EGT 235	Instrumentation and Control Systems	4
EGT 240	Communication Systems	4
MAT 161	Precalculus I	4
MAT 162	Precalculus II	4
PHY 121	General Physics I	4
PHY 122	General Physics II	4

TOTAL PROGRAM CREDITS: 60

GAME AND SIMULATION DESIGN (A.A.S.)

Purpose

Enter the exciting world of game and simulation design with an Interactive Media degree from Montco. In our program, you will build the skills needed to become an entry-level game designer, quality assurance tester, or level designer for the electronic game and simulation industry.

Program Outcomes

- Develop electronic games and simulations using industry standard software tools and game design principles;
- Produce working prototypes of electronic games and simulations.

After graduation our students frequently transfer to four-year institutions offering interactive media studies. These include such universities as Temple, Drexel, Pennsylvania College of Technology, DeVry and Walden, among others.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Cultural Awareness and Diversity Elective	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective*	3 - 4

Major Requirements

CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object-Oriented Programming	3

CIS 114	Web Design and Development.....	3
CIS 119	User Interface/Experience Design	3
CIS 140	Client Side Web Development	3
CIS 141	Introduction to Linux.....	3
CIS 176	Game Design Practice and Theory	3
CIS 177	Introduction to 3D Modeling.....	3
CIS 210	Applied Software Development.....	3
CIS 214	Advanced 3D Modeling.....	3
CIS 216	Interactive Media Capstone	3
CIS 245	Database Management Systems/SQL.....	3
CIS 276	Game and Simulation Programming Foundations.....	3
CIS/ART	Elective Any 3 credit CIS course (except CIS 110 or CIS 155) or ART 148 or ART 135.....	3

TOTAL PROGRAM CREDITS: 60-62

*PHY 121 General Physics I recommended.

GIS SYSTEMS OPERATIONS (CERTIFICATE)

Purpose

Fascinated by mapping and the capture, manipulation and analysis of geographic information, Consider earning a GIS Operations Certificate of Completion. In just three courses and nine credits you will learn how to operate geographic information systems (GIS) while using ESRI'scutting edge ArcGIS software.

Program Outcomes

- Articulate in writing Geographic Information System (GIS) concepts, components, and requirements; and spatial analytic processes, cartographic design processes, and their results;
- Evaluate in writing various data sources' resolution, timeliness, availability and utility, and various map projections, map symbols, and GIS map products;
- Geo-code street addresses and latitude/longitude coordinates, and demonstrate knowledge of other geo-coding systems including Universal Transverse Mercator, State Plane Coordinate Systems, U.S. Public Lands Survey, and image geo-referencing;
- Predict local risks and resources by conducting geographic analysis through selection by location, intersection and union overlays, cluster analysis, absolute and relative distance measures, and surface interpolation in GIS;
- Apply "best" design standards for a variety of map symbols, through the design, compilation, and production of thematic maps that are physiologically accessible and psychologically meaningful.

By the end of the program, you will not only have a certificate but also an electronic portfolio of your mastery of GIS.

Program Curriculum

GEO 210	Introduction to GIS	3
GEO 220	Map Design in GIS	3
GEO 230	GIS Applications Workshop	3

TOTAL PROGRAM CREDITS: 9

INFORMATION TECHNOLOGY (A.S.)

Purpose

The Information Technology program is designed primarily for those students who plan to transfer to a four-year college or university and major in information technology. This program provides a broad overview of programming, networking, web development and database design.

Program Outcomes

- Design solutions to quantitative problems by applying algorithm design using programming support tools;
- Exhibit an ability to communicate effectively in a professional technical environment;
- Examine professional, ethical, legal, and security issues for programming professionals;
- Create Web sites that incorporate the fundamental principles of visual design;
- Describe the Open Systems Interconnection Reference Model (OSI) layers and their functionality;
- Design and utilize databases.

After earning their associate degree, our students usually transfer to four-year colleges or universities to continue their studies in information technology.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Oral Communication Elective (CMS 110, CMS 120, or CMS 235).....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Mathematics Elective**	3
Elective	BIO 121, CHE 121 or PHY 121	4
MGT 111	Principles of Management	3
Elective	ACC, ECO, MGT, or MKT	3

Major Requirements

CIS 110 or CIS 155	Computer Information Systems for Management or PC Applications on Networks.....	3
CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
CIS 114	Web Design and Development.....	3
CIS 151	Systems Analysis and Design.....	3
CIS 170	Introduction to Networks.....	3
CIS 215	Decision Making Using Spreadsheets.....	3
CIS 244 or CIS 245	PC Database Management Systems or Database Management Systems/SQL	3
CIS Elective	CIS Elective***	3
CIS Elective	CIS Elective****	3

Electives

Electives*	Electives	3
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TOTAL PROGRAM CREDITS: 61-62

*See advisor for specific course information/recommendations.

**MAT 130 Probability and Statistics recommended

***CIS 231 Project Management recommended.

****Recommended CIS Electives include: CIS 112, CIS 166, CIS 241, or CIS 212.

MECHANICAL ENGINEERING SCIENCE (A.S.)

Want to start your mechanical engineering studies closer to home, with smaller class sizes, more individualized instruction and less costly tuition, If so, our Engineering Science-Mechanical program is perfect for you. Along with these benefits, it prepares you to transfer to a four-year college where you will complete your studies and earn a Bachelor of Science degree in mechanical engineering.

Program Outcomes

- Analyze and interpret fundamental engineering problems;
- Apply the scientific method to derive solutions to fundamental engineering problems;
- Derive models for solution based on learned methodologies and principles;
- Apply computer-based analysis and solution software to engineering situations;
- Show evidence of an ability to function effectively on teams;
- Show evidence of an ability to communicate effectively.

Montco has transfer agreements with many major universities. For example, Temple University allows you to transfer as a junior into a mechanical engineering or civil engineering major. How fantastic is that! Earn an associate degree in Science and then seamlessly transfer to Temple with only two years left for your bachelor's degree in engineering.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

CHE 151	Principles of Chemistry I.....	4
EGR 102	Introduction to Engineering.....	3
EGR 111	Engineering Computations.....	3
EGR 115	Engineering Graphics	3
EGR 203	Engineering Statics	3
EGR 204	Engineering Dynamics.....	3
EGR 211	Linear Electrical Systems I	4
EGR 213	Mechanics of Materials.....	3
MAT 190	Calculus I.....	4
MAT 201	Calculus II.....	4
MAT 202	Calculus III	4
MAT 223	Differential Equations	4
PHY 151	Principles of Physics I	4
PHY 152	Principles of Physics II	4

TOTAL PROGRAM CREDITS: 65

**MECHANICAL ENGINEERING
TECHNOLOGY (A.A.S.)**

With an associate degree in Engineering Technology-Mechanical from Montco, you can turn your interests in science, mechanics and hands-on work into a gratifying career. After graduating from our program, you may work alongside mechanical engineers and technologists in the field of mechanical structures and systems.

Program Outcomes

- Identify and describe component and system-level engineering problems using state-of-the-art testing equipment;
- Design and develop concepts in a 3D solid modeling environment to address the industrial demands of today's technology;
- Analyze student-created engineering models using appropriate general calculations;
- Apply theoretical attributes of mechanical components to systems design;
- Create and present a final project using all of the above skills plus good oral communication and technical writing.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 115 or ENG 117	Writing for Technical Communication or Writing for Business and Industry	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

EGR 111	Engineering Computations.....	3
EGR 115	Engineering Graphics.....	3
EGT 190	Principles of Critical Thinking in Technology	3
EGT 203	Applied Statics	4
EGT 204	Applied Dynamics.....	4
EGT 212	Applied Fluid Dynamics	4
EGT 213	Applied Strength of Materials.....	4
EGT 215	Applied Thermodynamics	4
MAT 161	Precalculus I	4
MAT 162	Precalculus II	4
PHY 121	General Physics I.....	4
PHY 122	General Physics II.....	4

TOTAL PROGRAM CREDITS: 60

MOBILE APPLICATIONS (A.A.S.)

Kick off a career in one of today's hottest technology fields with an Interactive Media-Mobile Applications degree from Montco. In our Mobile Applications Concentration you'll build the skills needed to become a mobile application developer, application analyst, mobile technology architect, and interface designer.

Program Outcomes

- Demonstrate use of programming languages for mobile application;
- Design mobile user interfaces and applications.

After graduation, our students frequently transfer to four-year institutions offering interactive media studies. These include such universities as Temple, Drexel, Pennsylvania College of Technology, DeVry and Walden, among others.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Cultural Awareness and Diversity Elective	3
Elective	Oral Communication Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective*	3 - 4

Major Requirements

CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
CIS 114	Web Design and Development.....	3
CIS 119	User Interface/Experience Design	3
CIS 140	Client-Side Web Development.....	3
CIS 141	Introduction to Linux.....	3
CIS 210	Applied Software Development.....	3
CIS 216	Interactive Media Capstone	3
CIS 238	iPhone OS App Development	3
CIS 240	Android App Development	3
CIS 245	Database Management Systems/SQL.....	3
CIS 251	Advanced Mobile Development.....	3
CIS/ART Elective	Any 3-credit CIS course (except CIS-110 and CIS-155) or ART-135 or ART-148.....	3
CIS/ART Elective	Any 3 credit CIS course (except CIS 110 and CIS 155) or ART 135 or ART 148.....	3

TOTAL PROGRAM CREDITS: 60-62

*PHY 121 General Physics I recommended.

**NANOFABRICATION ENGINEERING
TECHNOLOGY (A.A.S.)**

If you're fascinated by science and technology on an atomic level but you also like working with your hands, check out our associate degree in Engineering Technology-Nanofabrication. After graduating, you can work alongside engineers and technologists in the field of nanofabrication and design and manufacture tiny, nanometer-sized devices.

Program Outcomes

- Analyze a student-created engineering model using appropriate general calculations;
- Design, model and develop concepts in a 3D solids modeling environment to address the industrial demands of today's technology;

- Identify and describe the latest manufacturing technologies and processes encountered in the field of nanometer-level manufacturing;
- Identify and describe component and system-level problems in engineering using state-of-the-art testing equipment;
- Design and present a final project using all of the above engineering skills including good oral communication and technical writing ability.

Through our partnership with Penn State your final semester of classes on nanofabrication will be taught at the Penn State Center for Nanofabrication Education and Utilization.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 115 or ENG 117	Writing for Technical Communication or Writing for Business and Industry.....	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3

Major Requirements

CHE 121	General Chemistry - Inorganic.....	4
EGR 115	Engineering Graphics.....	3
EGR 111	Engineering Computations.....	3
EGT 190	Principles of Critical Thinking in Technology.....	3
EGT 230	Analog Circuits.....	4
ESC 211	Material, Safety and Equipment Nanotech for Nanofabrication.....	3
ESC 212	Basic Nanotechnology Processes.....	3
ESC 213	Materials in Nanotechnology.....	3
ESC 214	Patterning for Nanofabrication.....	3
ESC 215	Materials Modification in Nanofabrication.....	3
ESC 216	Characterization, Packaging, and Testing of Nanofabricated Structures.....	3
MAT 161	Precalculus I.....	4
MAT 162	Precalculus II.....	4
PHY 121	General Physics I.....	4
PHY 122	General Physics II.....	4

TOTAL PROGRAM CREDITS: 66

NETWORK ENGINEER (NON CREDIT DEGREE)

This program will train a student to design, deploy, configure, troubleshoot and manage medium sized enterprise networks with stress on network fundamentals, LAN switching technologies, IPv4 and IPv6 routing technologies, WAN technologies, infrastructure services, infrastructure security, and infrastructure management. The course will also prepare students to take the Cisco Certified Network Associate Routing & Switching (CCNA R&S) certification exam.

SOFTWARE ENGINEERING (CERTIFICATE)

Spend almost every waking moment on your computer, programming and checking out the latest software releases. Here's your chance to turn your enthusiasm for technology into a career with a Software Engineering Certificate from Montco.

Program Outcomes

- Demonstrate the skills necessary to be employed as a computer programmer/software engineer;
- Demonstrate the knowledge and skills needed for further education and career advancement;
- Provide the technical core which can be applied to the Associate in Science degree in Computer Science or Associate in Science in Information Technology degree.

Program Curriculum

CIS 111	Computer Science I: Programming and Concepts.....	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
CIS 112	Computer Science III: Data Structures and Algorithms.....	3
CIS 114	Web Design and Development.....	3
CIS 122	Visual Basic.....	3
CIS 126	Computer Architecture and Organization.....	3
CIS 151	Systems Analysis and Design.....	3
CIS 235	Object Oriented Programming in C++.....	3
CIS Electives	CIS Electives.....	6

TOTAL PROGRAM CREDITS: 30

WEB DESIGN (A.A.S.)

Enter one of the hottest fields in technology today with an Interactive Media-Web Design associate degree from Montco.

Program Outcomes

- Implement fundamental principles of typography, graphic and visual design;
- Use visual communication and imaging techniques for interactive web applications.

Classes take place in state-of-the-art computer labs at Central Campus in Blue Bell and/or West Campus in Pottstown. You can also take some classes online.

After graduation, our students frequently transfer to four-year institutions offering interactive media studies. These include such local or online universities as Temple, Drexel, Pennsylvania College of Technology, DeVry and Walden, among others.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Quantitative Reasoning Course.....	3 - 4
Elective	Cultural Awareness and Diversity Course.....	3
Elective	Oral Communication Course.....	3
Elective	Aesthetic Sensibility Course.....	3
Elective	Scientific Reasoning Course.....	3 - 4

Major Requirements

ART 135	Typography	3
ART 148	Graphic Design Applications	3
ART 231	Graphic Design I	3
ART 233	Visual Design for the Web	3
CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming	3
CIS 114	Web Design and Development	3
CIS 141	Introduction to Linux	3
CIS 119	User Interface/Experience Design	3
CIS 140	Client Side Web Development	3
CIS 210	Applied Software Development	3
CIS 216	Interactive Media Capstone	3
CIS 245	Database Management Systems/SQL	3
CIS/ART Elective	Any 3 credit CIS course (except CIS 110 and CIS 155) or ART 135 or ART 148	3

TOTAL PROGRAM CREDITS: 60-62

WEB DESIGN (CERTIFICATE)

Jump into a creative, innovative career in web design with our Web Design and Development Certificate program. In our Design Concentration, you will build the skills needed to become a website designer, information architect and user experience designer.

Program Outcomes

- Design and develop interactive and standards compliant websites that demonstrate modern web development and visual design techniques;
- Create websites that incorporate the fundamental principles of visual design;
- Plan and manage the administrative and business processes for software development;
- Display the foundational skills and professional practices necessary to succeed and grow in the web design and development field;
- Evaluate end-user needs and develop websites that adhere to usability and accessibility guidelines;
- Demonstrate the ability to work and communicate effectively with others in a team development environment.

Program Curriculum

ENG 101	English Composition I	3
Elective	Quantitative Reasoning Course	3 - 4
Elective	Cultural Awareness and Diversity Course	3
Elective	Oral Communication Course	3
Elective	Aesthetic Sensibility Course	3
Elective	Scientific Reasoning Course	3 - 4

Major Requirements

ART 130	Two-Dimensional Design Principles	3
ART 135	Typography	3
ART 138	Digital Art I	3
ART 148	Computer Graphics I	3
ART 149	Computer Graphics: Page Layout and Design	3
ART 233	Visual Design for the Internet	3

CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming	3
CIS 114	Web Design and Development	3
CIS 140	Client-Side Web Development	3

TOTAL PROGRAM CREDITS: 30

WEB DEVELOPMENT (A.A.S.)

Enter one of the hottest fields in technology today with an Interactive Media-Web Development associate degree from Montco. In our Web Development Concentration, you will build the skills needed to become a web developer and programmer.

Program Outcomes

- Develop secure, scalable, and standards compliant websites;
- Utilize databases to develop dynamic interactive websites and applications.

After graduation our students frequently transfer to four-year institutions offering interactive media studies. These include such local or online universities as Temple, Drexel, Pennsylvania College of Technology, DeVry and Walden, among others.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
Elective	Quantitative Reasoning Elective	3 - 4
Elective	Cultural Awareness and Diversity Elective	3
Elective	Oral Communication Elective	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective	3 - 4

Major Requirements

CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming	3
CIS 114	Web Design and Development	3
CIS 119	User Interface/Experience Design	3
CIS 140	Client Side Web Development	3
CIS 141	Introduction to Linux	3
CIS 210	Applied Software Development	3
CIS 212	Advanced HTML and CSS	3
CIS 213	Advanced JavaScript	3
CIS 216	Interactive Media Capstone	3
CIS 241	Server Side Web Development	3
CIS 245	Database Management Systems/SQL	3
CIS/ART Elective	Any 3-credit CIS course (except CIS 110 and CIS 155) or ART 135 or ART 148	3
CIS/ART Elective	Any 3 credit CIS course (except CIS 110 and CIS 155) or ART 135 or ART 148	3

TOTAL PROGRAM CREDITS: 60-62

WEB DEVELOPMENT (CERTIFICATE)

Bank on a future in web development with our Web Design and Development Certificate program. In our Development Concentration you'll build the skills needed to become a web developer and programmer.

Program Outcomes

- Design and develop secure, scalable, and standards compliant websites that demonstrate modern web development and software engineering techniques;
- Design and utilize databases to develop interactive websites and applications;
- Demonstrate the fundamental principles of system administration;
- Plan and manage the administrative and business processes for software development;
- Display the foundational skills and professional practices necessary to succeed and grow in the web design and development field;
- Evaluate end-user needs and develop websites that adhere to usability and accessibility guidelines;
- Demonstrate the ability to work and communicate effectively with others in a team development environment.

Program Curriculum

ART 148	Computer Graphics I	3
CIS 111	Computer Science I: Programming and Concepts	3
CIS 111B	Computer Science II: Object Oriented Programming	3
CIS 114	Web Design and Development.....	3
CIS 140	Client-Side Web Development	3
CIS 141 or CIS 158	Introduction to Linux or Windows Server Administration and Support	3
CIS 151	Systems Analysis and Design	3
CIS 155	PC Applications for Networks.....	3
CIS 241	Server-Side Web Development.....	3
CIS 245	Database Management Systems/SQL.....	3

TOTAL PROGRAM CREDITS: 30

HEALTH PROGRAMS

DENTAL HYGIENE (A.A.S.)

Purpose

The Dental Hygiene Program is designed to prepare graduates to become licensed dental hygienists capable of employment in private dental offices and alternative career settings to meet the preventive and therapeutic oral health care needs of the public. Students receive extensive clinical experience in the Central Campus' dental hygiene facility and participate in enrichment experiences at community based sites. Articulation agreements have been established with baccalaureate degree completion programs to maximize transfer of credits and simplify the admissions process.

Program Outcomes

- Demonstrate basic knowledge of legal responsibilities and ethical considerations and apply those to dental hygiene care.
- Demonstrate the knowledge and skills needed to provide dental hygiene care which meet professional standards and licensing examination eligibility.
- Promote optimal oral health and disease prevention as related to general health and wellness for all patients.
- Contribute as an integral member of the healthcare team and assess, plan, implement and evaluate oral health programs for diverse population groups while promoting access to care.
- Value life-long learning and commitment to professional development.

Accreditation

The program in dental hygiene is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of "approval without reporting requirements." The Commission is a specialized accrediting body recognized by the United States Department of Education.

Commission on Dental Accreditation (CODA)
211 East Chicago Avenue
Chicago, Illinois 60611
phone: 312-440-2718
website: ada.org/en/coda

Mission Statement

The mission of the Dental Hygiene Program is to develop ethical and competent dental hygiene practitioners capable of integrating the varied roles of the dental hygiene profession. The program will strive to provide high quality, affordable and accessible educational opportunities to meet the educational needs of its students, while serving the community.

Special Admission Requirements

All applicants seeking admission to the clinical component of the Dental Hygiene Program are required to submit a completed Petition for Dental Hygiene Program Admission to the Office of Admissions, Records and Registration.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
Elective	Choose from: ENG 201, ENG 202, ENG 211, ENG 212, ENG 221 or ENG 222	3
PSY 101	Introduction to Psychology	3
CMS 110	Speech Communication.....	3
SOC 101	Introduction to Sociology	3
ESW 206	Basic Nutrition.....	3

Major Requirements

BIO 131	Human Anatomy and Physiology I	4
BIO 132	Human Anatomy and Physiology II	4
BIO 140	Microbiology and Immunology	4
DHG 100	Theory and Practice of Dental Hygiene I.....	4
DHG 111	Dental Anatomy	2
DHG 155	Dental Radiology.....	2
DHG 158	Theory and Practice of Dental Hygiene II.....	5
DHG 159	Histology and Pathology of Oral Tissues.....	3

DHG 161	Periodontics I	2
DHG 224	Materials in Dentistry.....	2
DHG 226	Dental Pain Control	2
DHG 228	Theory and Practice of Dental Hygiene III.....	8
DHG 253	Community Dentistry	2
DHG 258	Theory and Practice of Dental Hygiene IV	6
DHG 261	Periodontics II	2

TOTAL PROGRAM CREDITS: 70

EXERCISE SCIENCE AND WELLNESS (A.S.)

Purpose

The Exercise Science and Wellness program provides students with a comprehensive program of study for transfer to a four-year college or university. Students will be able to turn their passion for human performance, fitness, rehabilitation, injury prevention, motor development, athletics, recreation, nutrition, and wellness into a meaningful career in the field. The Exercise Science and Wellness curriculum is a blend of general education and specific ESW courses. The program prepares students for advanced studies in the areas of exercise science, exercise physiology, kinesiology, pre-physical therapy, pre-occupational therapy, health and physical education, athletic training, and sport, fitness and recreational management.

Program Outcomes

- Demonstrate proficiency in communicating health and wellness concepts;
- Apply knowledge of human anatomy and physiology, kinesiology, and exercise science to the field of health and wellness;
- Formulate a professional philosophy focused on a specific area within Exercise Science and Wellness;
- Prepare a plan for continuing education within Exercise Science and Wellness.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
MAT 106 or MAT 130	Mathematics Applications or Probability and Statistics	3 - 4
BIO 121, BIO 151, CHE 121, CHE 151, PHY 115, or PHY 151	General Biology I, Principles of Biology I, General Chemistry - Inorganic, Principles of Chemistry I, Technical Physics, or Principles of Physics I ¹	4
Elective	Cultural Awareness and Diversity Elective ¹	3
Elective	Aesthetic Sensibility Elective	3
PSY 101, PSY 136, PSY 137, PSY 206, PSY 210, or PSY 215	Introduction to Psychology, Personality, Introduction to Organizational Psychology, Human Development/ LifeSpan, Educational Psychology, or Abnormal Psychology ¹	3
CMS 110, CMS 120 or THA 105	Speech Communication, Public Speaking or Introduction to Acting I ¹	3

Major Requirements

BIO 129 or BIO 132	Functional Human Anatomy and Physiology (Grade of "C" or better) or Human Anatomy and Physiology II ¹	4
ESW 102	Introduction to Exercise Science, Wellness and Sport Studies.....	3
ESW 206	Basic Nutrition.....	3
ESW 222	Applied Kinesiology (offered fall only).....	3
ESW 224	Exercise Physiology with Lab (offered fall only)	4
ESW 228	Trends in Exercise Science and Wellness (offered spring only)	2
ESW 245	Safety and First Aid	3
ESW Elective	ESW Elective ¹	2 - 3
Electives		
Elective	Elective ^{1&2}	12 -14

TOTAL PROGRAM CREDITS: 61

HEALTH AND FITNESS PROFESSIONAL (A.A.S.)

Purpose

The Health and Fitness Professional program provides a comprehensive curriculum and educational experience for students who wish to enter the health and fitness field. The program provides the educational and experiential learning required to complete the American College of Sports Medicine (ACSM) Certified Personal Trainer Examination. During the final semester of the program, students will study for and take the ACSM Certified Personal Trainer Examination. Each student will earn and must maintain the American Heart Association certification in First Aid and Adult Cardio Pulmonary Resuscitation. In addition to these certifications, the program provides the student with a strong theoretical base as well as practical experience via service learning and an experiential practicum in an educational fitness setting.

Program Outcomes

- Assess physical fitness, including cardiorespiratory fitness, muscular strength, muscular endurance, flexibility and anthropometric measures in order to set goals and establish a baseline for program development.
- Educate clients using scientifically sound health and fitness information and resources to enhance client's knowledge base, program enjoyment, adherence and overall awareness of health and fitness related information.
- Apply behavior change theories to individuals across populations and across the lifespan.
- Design fitness plans based on client interview, risk stratification, and physical fitness assessments.
- Demonstrate proficiency in communicating health and wellness concepts.

During your final semester, you will complete an internship to gain practical knowledge and potential employment. You will also take the American College of Sports Medicine (ACSM) Certified Personal Trainer Examination to receive certification. After graduating, you can expect to find entry-level work in the fitness/health industry and in allied fields such as personal trainer, corporate wellness, YMCA, commercial recreation

and fitness centers, recreational therapy and retirement homes and communities. You can also continue your education at a four-year institution.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102, ENG 115 or ENG 117		
	English Composition II, Writing for Technical Communication or Writing for Business and Industry.....	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3
MAT 106 or MAT 130		
	Mathematics Applications or Probability and Statistics	3 - 4
Elective	Oral Communication Elective.....	3

Major Requirements

BIO 129	Functional Human Anatomy and Physiology (Grade of "C" or better).....	4
ESW 102	Introduction to Exercise Science, Wellness, and Sport Studies.....	3
ESW 146	Conditioning, Weight Training, and Weight Management.....	2
ESW 151	Fundamentals of Functional Training	2
ESW 206	Basic Nutrition.....	3
ESW 215	Prevention and Care of Athletic Injury.....	3
ESW 222	Applied Kinesiology (offered fall only)	3
ESW 224	Exercise Physiology with Lab (offered fall only)	4
ESW 226	Assessment of Human Fitness (offered fall only)	3
ESW 227	Exercise Programming for Healthy and Special Populations (offered spring only).....	3
ESW 236	Personal Health and Wellness	3
ESW 245	Safety and First Aid	3
ESW 296	Practicum in Exercise Science and Wellness (offered spring only)	4

Electives

Elective	Elective	2 - 3
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TOTAL PROGRAM CREDITS: 60-62

HEALTH SERVICES MANAGEMENT (A.A.S.)

Purpose

The Health Services Management Associates in Applied Science (A.A.S.) degree provides the student with a broad, solid foundation for attaining an entry level clinical management position in a variety of health settings, including private and public practitioners' offices, hospitals, holistic health practices, long-term care facilities, and health and wellness centers. The student is prepared to use critical thinking in making relevant management decisions in today's dynamic and expanding health services environment.

Program Outcomes

- Demonstrate effective written communication skills appropriate to the health services management environment;
- Utilize critical thinking skills and ethical principles in managing business office situations including customer and personnel relationships;
- Apply business management principles and techniques to the dynamic and expanding health services environment.

After graduation, you can look forward to beginning entry-level, clinical management positions at hospitals, physicians' offices, long-term care facilities, health and wellness centers and holistic health practices. You can also use your degree as a stepping-stone to further education.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120		
	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 102, ENG 115 or ENG 117		
	English Composition II, Writing for Technical Communication or Writing for Business and Industry....	3
OFM 101	Business Software Essentials.....	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

ACC 110	Business Mathematics.....	3
BIO 103 or BIO 130		
	Introduction to Human Anatomy and Physiology or Introductory Anatomy and Physiology	3-4
ESW 210 or ESW 236		
	Holistic Health: Complementary and Alternative Health Practices or Personal Health and Wellness Education	3
HCP 114, HCP 120 or MGT 210		
	Medical Law and Ethics for Health Care Professionals, Ethical Issues Affecting Consumers and the Health Care Professions or Ethical Decision Making in Business	3
HCP 224	Medical Terminology.....	3
HCP 225	Health Insurance and Professional Billing	3
HCP 228	Electronic Medical Records Management	3
MGT 111	Principles of Management	3
MGT 131	Human Resources Management.....	3
MGT 160	Customer Relationship Management	3
MGT 221	Supervision	3
PSY 137	Introduction to Organizational Psychology	3

Electives

Electives ¹	Electives	9
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TOTAL PROGRAM CREDITS: 60-62

LIFE SCIENCE (A.S.)

Purpose

The Life Sciences (AS) program is designed to prepare students for transfer to a variety of programs at a four-year college or university. The curriculum prepares the student for future study in a variety of fields on the Traditional Life Science Concentration, such as general biology, microbiology, organismal biology, molecular biology, biochemistry, neuroscience, environmental science, agriculture, biology education, etc., and on the Biomedical Science Concentration such as cytotechnology, medical laboratory science, nuclear medicine, physical therapy, occupational therapy, etc.

Program Outcomes

- Explain basic biological and chemical concepts;
- Evaluate issues in the life sciences that are of importance to organisms and/or the biosphere;
- Apply the scientific method to a range of life sciences;
- Utilize appropriate scientific techniques and technology for experimentation and data collection;
- Collect, analyze, and report scientific data in an ethical manner.

Upon graduating from the Life Sciences program, our students transfer to such four-year institutions as Thomas Jefferson and Penn State University. We make transferring as seamless as possible and encourage you to speak to your advisor or a college counselor about this process.

Program Curriculum

General Education Requirements

Program effective Fall 2018

ENG 101	English Composition I.....	3
CMS 120	Public Speaking	3
Elective	Cultural Awareness and Diversity Elective	3
Elective	Aesthetic Sensibility Elective	3
Elective	Technological Fluency Elective	3
Elective	Ethical Perspectives Elective.....	3

Major Requirements

BIO 151	Principles of Biology I.....	4
BIO 152	Principles of Biology II.....	4
CHE 151	Principles of Chemistry I.....	4
CHE 152	Principles of Chemistry II.....	4
Elective	Biology Lab Science (BIO 131, BIO 140, BIO 256 or BIO 260) - select two courses 8	
Elective	Lab Science (CHE 261, PHY 151, GLG 151, or BIT) - select two courses.....	8
MAT 130	Probability and Statistics	4
MAT 190	Calculus and Analytical Geometry I	4

Electives

Elective	General Elective or Science Elective	3 - 4
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TOTAL PROGRAM CREDITS: 61-62

MEDICAL ASSISTING (CERTIFICATE)

Purpose

The Medical Assisting Certificate Program is designed to prepare graduates who are proficient in all administrative and clinical competencies necessary to perform numerous jobs in physicians' offices, hospitals, or other health care facilities. The program integrates theory, laboratory simulations and a clinical practicum experience offered in a variety of community locations. The Medical Assisting Certificate Program is offered as a 3 continuous semester program. Students have three years from the date of initial enrollment in the program in which to complete all certificate requirements. Graduates of the certificate program are highly valued members of the health care delivery team who are qualified to complete the American Association of Medical Assistants (AAMA) certification examination for Certified Medical Assistants (CMA) and/or the American Medical Technologists (AMT) certification examination for Registered Medical Assistants (RMA).

The Medical Assisting Certificate Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assisting Education Review Board (MAERB). Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 North, Suite 158 • Clearwater, FL 33763
(727)210-2350 • www.caahep.org

Program Outcomes

- Demonstrate the knowledge base (cognitive), skills (psychomotor), behavior (affective), values, and competencies necessary to function as entry level Medical Assisting practitioners in accordance with nationally accepted standards of roles and functions;
- Utilize problem solving methods, critical thinking skills and interpersonal communication techniques as means of achieving personal and professional growth.

Additional information on advanced placement, student employment, transfer credits and credit for life experience, withdrawals and refunds can be obtained by contacting Kathleen Schreiner, Medical Assisting Program Director at 610-718-1812 or kschreiner@mc3.edu.

Program Curriculum

BIO 103	Introduction to Human Anatomy and Physiology	3
HCP 224	Medical Terminology.....	3
OFM 101	Business Software Essentials.....	3
HCP 114	Medical Law and Ethics for Health Care Professionals	3
MAS 113	Clinical Assisting Procedures I.....	3
MAS 121	Laboratory Procedures for Medical Assistants.....	3
MAS 117	Medical Office Administration	4
MAS 118	Professional Essentials for the Medical Office.....	3
MAS 123	Clinical Assisting Procedures II.....	3
MAS 130	Medical Assisting Practicum	6

TOTAL PROGRAM CREDITS: 34

MEDICAL CODING (CERTIFICATE)

Purpose

This 18-credit Certificate of Completion provides students with the opportunity to concentrate study in Medical Coding and health services administrative practices and procedures. The student will develop the necessary job skills to attain success in an entry level coding position. Successful completion of the Medical Coding Certificate of Completion provides eligibility for the American Academy of Professional Coder's Certified Professional Coder (CPC) examination, and/or additional coding professional certifications (Certified Coding Associate (CCA®)/ Certified Coding Specialist (CCS®) based on the individual student's previous qualifications and background.

Program Outcomes

- Use coding and classification systems in order to assign valid diagnostic and/or procedure codes for medical billing and reimbursement required by the Health Insurance Portability and Accountability Act (HIPAA) including the validation of coded clinical information;
- Apply coded data and health information in reimbursement and payment systems appropriate to manage care and all healthcare settings in accordance with relevant legal and compliance issues;
- Create, use, and maintain the Electronic Health Record (EHR) management systems.

Upon receiving the Medical Coding Certificate, you are eligible to take the American Academy of Professional Coder's Certified Professional Coder (CPC) exam. You may also pursue additional coding certificates. Before entering the program, you must complete college placement tests in English, Mathematics and Reading and place above the developmental level in English and reading and at or above MAT 011.

Program Curriculum

BIO 103	Introduction to Anatomy and Physiology	3
HCP 224	Medical Terminology.....	3
HCP 226	Medical Coding I	3
HCP 227	Medical Coding II	3
HCP 228	Electronic Health Records Management	3
HCP 230	CPT Coding and Reimbursement Methods.....	3

TOTAL PROGRAM CREDITS: 18

MEDICAL LABORATORY TECHNICIAN (A.A.S.)

Purpose

The nationally accredited* Medical Laboratory Technician program is designed to prepare graduates for employment in hospitals, commercial laboratories, physician office laboratories, and pharmaceutical companies. Upon program completion, students are eligible to take national certification examinations. Medical laboratory technicians follow specific procedures to perform a variety of routine diagnostic tests on blood and other body fluids in chemistry, hematology, urinalysis, immunohematology, microbiology, and immunology. Thus, MLTs, in cooperation with other laboratory personnel, provide physicians with valuable information needed to care for patients.

The curriculum combines traditional college courses in the humanities and sciences with clinical courses. Campus facilities and area hospital and commercial laboratories provide an authentic environment where students practice basic procedures, learn interpersonal skills, study diseases, and relate laboratory medicine to other aspects of health care.

Program Outcomes

- Collect and prepare clinical specimens for analysis;
- Operate laboratory instruments;
- Perform a variety of diagnostic analyses according to prescribed methodology;
- Monitor and assess the quality of data generated;
- Recognize problems which may occur during testing;
- Describe principles, reactions and reagents for each method studied;
- Relate test results to other patient information to the extent required for understanding the analyses;
- Demonstrate behavior and attitudes consistent with those of laboratory professionals.

Accreditation

The Medical Laboratory Technician Program is accredited by NAACLS, The National Accrediting Agency for Clinical Laboratory Sciences.
5600 N. River Rd.
Suite 720
Rosemont, IL 60018
phone: 733-714-8880
website: www.naacls.org

Mission Statement

It is the mission of the MLT program to respond to the needs of the community by educating students to perform a wide variety of clinical laboratory procedures and prepare these students to perform competently as Medical Laboratory Technicians upon graduation.

Special Admission Requirements

All applicants seeking admission to the Medical Laboratory Technician Program (MLT) are required to submit a completed online Petition for Admission to the Medical Laboratory Technician Program.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
Elective	Aesthetic Sensibility Elective	3
SOC 101	Introduction to Sociology	3
HCP 120	Ethical Issues Affecting Consumers and the Health Care Professions.....	3

Major Requirements

BIO 130	Introductory Anatomy and Physiology	4
BIO 141	Clinical Microbiology I	4
BIO 241	Clinical Microbiology II	4
BIT 124	Molecular Techniques	2
CHE 131	Chemistry for the Technologies I.....	4
CHE 132	Chemistry for the Technologies II.....	4
MLT 110	Introduction for the MLT.....	4
MLT 123	Immunohematology Lecture.....	2
MLT 124	Immunohematology Lab	1

MLT 125	Hematology Lecture	2
MLT 126	Hematology Lab	1
MLT 233	Clinical Chemistry Lecture	3
MLT 234	Clinical Chemistry Lab	2
MLT 235	Clinical Practicum in MLT 1	3
MLT 244	Professional Issues in MLT	2
MLT 245	Clinical Practicum in MLT II	6
MLT 246	MLT Seminar	1

TOTAL PROGRAM CREDITS: 64

MEDICAL OFFICE ASSISTANT (CERTIFICATE)

Purpose

The two-semester, 19-credit Medical Office Assistant Certificate of Completion provides students with the opportunity to build a comprehensive foundation in administrative medical office assistant skills. Students will develop competency in the performance of medical office administrative procedures and develop the critical thinking skills required to seek employment and work effectively in the medical office environment. Successful completion of the Medical Office Assistant Certificate of Completion provides eligibility to complete a national Medical Office Assistant certification examination.

Program Outcomes

- Manage all aspects of electronic health records including insurance, managed care and finance;
- Develop critical thinking skills and use them to evaluate legal and ethical issues in health care and its work environment;
- Perform the administrative duties of a medical office.

Upon receiving the Medical Office Assistant Certificate of Completion, you may take the national Medical Office Assistant certification exam. This certificate can also be applied to the Health Services Management Degree.

Before entering the program, you must complete college placement tests in English, Mathematics and Reading and place above the developmental level in English and reading and at or above MAT 011.

Program Curriculum

HCP 224	Medical Terminology	3
HCP 114	Medical Law and Ethics	3
OFM 101	Business Software Essentials	3
HCP 117	Medical Office Administration	4
HCP 118	Professional Essentials for the Medical Office	4
HCP 228	Electronic Health Records Management	3

TOTAL PROGRAM CREDITS: 19

NURSING (A.A.S.)

Purpose

The Nursing Program is committed to the preparation of caring professional nurses who employ critical thinking skills and the nursing process in meeting the human needs of clients in a variety of healthcare settings. Students develop competence in the art and

science of nursing within an integrated curriculum which incorporates seminar, classroom, the simulation and skills suite, and clinical experiences. Graduates of this Accreditation Commission for Education in Nursing (ACEN), accredited Nursing Program are prepared to complete the National Council Licensing Examination - Registered Nurse (NCLEXRN). In addition to practicing as a Registered Nurse, graduates may also transfer credits to degree programs beyond the Associate in Applied Science (A.A.S.) degree in Nursing.

Program Outcomes

- Integrate critical thinking when incorporating knowledge from the sciences and humanities in the delivery of nursing to clients;
- Utilize the nursing process in meeting the health care needs of individuals of diverse sociocultural identities across the lifespan;
- Implement the roles of the associate degree nurse in a variety of healthcare delivery systems;
- Demonstrate behaviors that reflect the values of nursing as a caring profession.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
ENG 102	English Composition II	3
MAT 106	Mathematics Applications*	3
PSY 101	Introduction to Psychology	3
PSY 206	Human Development - A Life Span Approach	3
SOC 101	Introduction to Sociology	3
Elective	Aesthetic Sensibility Elective***	3

Major Requirements

BIO 131	Human Anatomy & Physiology I (minimum grade of "C" required)	4
BIO 132	Human Anatomy & Physiology II (minimum grade of "C" required)	4
BIO 140	Microbiology and Immunology	4
NUR 050	Nursing Role Transition (grade of "Pass" required receive credit for NUR 110; this course does not yield credits toward the degree)	3
NUR 106	Concepts of Nursing (minimum grade of "C" required)**	3
NUR 110	Introduction to Nursing (minimum grade of "C" required)**	8
NUR 112	Nursing Care of Clients with Uncomplicated Health Care Needs (minimum grade of "C" required)***	8
NUR 211	Nursing Care of Clients with Complex Health Care Needs (minimum grade of "C" required)	8
NUR 212	Nurse Management of Client Care (minimum grade of "C" required)	8
NUR 213	Professional Issues in Nursing (minimum grade of "C" required)	2

TOTAL PROGRAM CREDITS: 70

*If a student tests out of MAT-106, it is strongly suggested that student takes MAT-131, Introduction to Stat I.

PERSONAL TRAINING (CERTIFICATE)

Purpose

The Personal Training Certificate program provides a comprehensive curriculum and educational experience for students who wish to enter the personal training field. The program provides the educational and experiential learning required to complete the American College of Sports Medicine (ACSM) Personal Trainer Examination. During the final semester of the program, students will sit for the ACSM Personal Trainer Examination. The program provides the student with a strong theoretical base as well as practical experience and a practicum in an educational fitness setting. Graduates of the Personal Training Certificate program will have the competencies and experience expected for employment in an entry-level personal training position. Upon successful completion of the Personal Training Certificate program, students also have the option to continue their education in this field.

Thinking about a career as a personal trainer? In our Personal Training Certificate program you'll receive hands-on instruction as well as traditional classroom education in personal training. Whether you enroll full- or part-time, you'll take classes at Central Campus' new, state-of-the-art Health Sciences Center. There you will learn to:

- assess physical fitness, including cardiorespiratory and muscular fitness, and set baselines for exercise programs;
- design fitness plans based upon client interviews, risks and physical fitness assessments;
- apply behavior change theories across populations and lifespans;
- educate clients with scientifically based information to enhance their knowledge, program enjoyment, adherence to and overall awareness of health and fitness.

After completing the program, you will sit for the American College of Sports Medicine's (ACSM) Personal Trainer exam. Once you pass this exam, you will be a certified personal trainer. After this you may work in the field or continue on with your studies. Note that your certificate credits can be applied to our A.A.S. in Health and Fitness Professional or A.S. in Exercise Science and Wellness degree programs.

Program Curriculum

BIO 129*	Functional Human Anatomy and Physiology (grade of "C" or better)*	4
ESW 146	Weight Training, Conditioning, and Weight Control ...	2
ESW 206	Basic Nutrition	3
ESW 222	Applied Kinesiology (offered Fall only)	3
ESW 224	Exercise Physiology with Lab (offered Fall only)	4
ESW 226	Assessment of Human Fitness (offered Fall only)	3
ESW 151	Fundamentals of Functional Training	2
ESW 227	Exercise Programming for Healthy and Special Populations (offered spring only)	3
ESW 236	Personal Health and Wellness	3
ESW 296	Practicum in Exercise Science and Wellness (offered spring only)	4

TOTAL PROGRAM CREDITS: 31

PHLEBOTOMY (CERTIFICATE)

Purpose

The one semester Phlebotomy Certificate of Completion program is designed to give the student instruction in the field of Phlebotomy. Phlebotomy technicians, who are members of the clinical laboratory team, are responsible for obtaining quality specimens for diagnostic laboratory testing. The specimens are analyzed which in turn aids the physician in the diagnosis, monitoring and treatment of the patient. Therefore, this makes the phlebotomist an important part of the healthcare team. Additionally, students are trained in adult Cardiopulmonary Resuscitation (CPR). The Phlebotomy program is approved by the National Accrediting Agency for Clinical Laboratory Sciences.* Persons successfully completing this course are eligible to sit for the Phlebotomy Technician (PBT) examination given by the American Society for Clinical Pathology.

Program Outcomes

- Learn the technical skills needed to competently and safely collect and handle blood specimens from a variety of patients;
- Develop good interpersonal skills and learn how to work well with others;
- Gain the knowledge needed to pass national certification exams.

Program Curriculum

MLT 106	Phlebotomy	4
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TOTAL PROGRAM CREDITS: 4

PHYSICAL THERAPIST ASSISTANT (A.A.S.)

Purpose

The Physical Therapist Assistant Program provides a quality, comprehensive program of study that prepares ethical, competent entry-level physical therapist assistants (PTAs), who provide evidence-based interventions. This is accomplished through a supportive learning environment that integrates sequential instruction and full-time practical clinical experiences. Graduates are prepared to take the Physical Therapist Assistant National Physical Therapy Examination for State certification / licensure and to demonstrate values-based behavior while effectively and efficiently assisting physical therapists serving the diverse population of Montgomery County and surrounding communities. PTAs work under the direction and supervision of a physical therapist and are employed in such settings as hospitals, nursing homes, home health agencies, rehabilitation centers, school systems, sports medicine facilities, and private practices.

Program Outcomes

- Demonstrate proficient entry-level knowledge and skills in safely, effectively and efficiently implementing a physical therapist established comprehensive plan of care;
- Adhere to the legal, ethical and professional regulations and standards that determine the scope of practice of physical therapy and perform physical therapy duties within the PTA scope of practice;
- Communicate effectively with sensitivity and awareness of individual differences with patients, families, colleagues, and other healthcare providers;

- Exhibit observable behaviors that indicate a commitment to PTA values-based behaviors.

At the end of the program you will be prepared to take the Physical Therapist Assistant National Physical Therapy Examination for state certification/licensure. You will also be able to demonstrate values-based behavior while effectively and efficiently assisting physical therapists who serve the diverse population of Montgomery County and surrounding communities. PTAs work under the direction and supervision of physical therapists. They are employed in such settings as hospitals, nursing homes, home health agencies, rehabilitation centers, school systems, sports medicine facilities and private practices.

Pre-Accreditation Status

Effective October 25, 2017, the Montgomery County Community College’s Physical Therapist Assistant Program has been granted Candidate for Accreditation status by the Commission on Accreditation in Physical Therapy Education (1111 North Fairfax Street, Alexandria, VA, 22314; phone: 703-706-3245; email: [HYPERLINK “mailto:accreditation@apta.org”](mailto:HYPERLINKmailto:accreditation@apta.org) accreditation@apta.org). If needing to contact the program/institution directly, please call 215-619-7361 or email [HYPERLINK “mailto:rcullen@mc3.edu”](mailto:HYPERLINKmailto:rcullen@mc3.edu) rcullen@mc3.edu.

Candidate for Accreditation is a pre-accreditation status of affiliation with the Commission on Accreditation in Physical Therapy Education that indicates the program is progressing toward accreditation and may matriculate students in technical courses. Candidate for Accreditation is not an accreditation status nor does it assure eventual accreditation.

Program Curriculum

Pre-Technical Phase

First Semester (summer or before)

BIO-131	Human Anatomy & Physiology I (1st 6 weeks)	4
ESW-151	Fundamentals of Functional Training (1st 6 weeks)...	2
BIO-132	Human Anatomy & Physiology II (2nd 6 weeks)	4
MAT-106	Math Applications (2nd 6 weeks)	3

Second Semester (fall or before)

ENG-101	English Composition I	3
ESW-222	Applied Kinesiology (offered fall only)	3
ESW-224	Exercise Physiology (offered fall only)	4
PHY-115	Technical Physics	4

Third Semester (spring or before)

CMS-120	Public Speaking	3
Elective	Aesthetic Sensibility Elective*	3
HCP-224	Medical Terminology	3
PSY-206	Human Development – A Life-Span Approach	3

* Recommend DAN-102 Fundamentals of Modern Dance I

Technical Phase (Petition for Admission and program acceptance required)

Fourth Semester (summer)

PTA-100	Fundamentals of Physical Therapist Assisting and Data Collection (1st 7 week session)...	3
PTA-110	Therapeutic Modalities in Physical Therapy (1st 7 week session)	3

PTA-200	Pathology & Rehabilitation of Orthopedic Conditions Across the Lifespan and Continuum of Care (2nd 7-week session)	5
PTA-201	Physical Therapist Assistant Roles, Relationships and Responsibilities Seminar I (2nd 7-week session) ...	2
Fifth Semester (fall)		
PTA-221	Clinical Education I (1st 7-week session)	2
PTA-202	Physical Therapist Assistant Roles, Relationships and Responsibilities Seminar II (1st 7-week session)	1
PTA-210	Pathology & Rehabilitation of Neurological Conditions Across the Lifespan and Continuum of Care (2nd 7-week session)	5
PTA-220	Pathology & Rehabilitation of Special Populations & Conditions Across the Lifespan and Continuum of Care (2nd 7-week session)	4
Sixth Semester (spring)		
PTA-222	Clinical Education I (1st 7 week session)	2
PTA-203	Physical Therapist Assistant Roles, Relationships and Responsibilities Seminar III (1st 7 week session)...	1
PTA-223	Clinical Education III (2nd 7-week session)	2
PTA-204	Physical Therapist Assistant Roles, Relationships and Responsibilities Seminar IV (2nd 7-week session)...	1

Courses in the Physical Therapist Assistant Program Pre-Technical Phase and Technical Phase are listed in sequential order. All Pre-Technical courses must be completed before enrollment into the Technical Phase courses. The Pre-Technical courses BIO 131, BIO 132, PHY 115, ESW 222 and ESW 224 must be completed within five years before enrollment into the Technical Phase courses. The PTA Technical Phase is a twelve month, continuous phase consisting of three sequential semesters. Students are admitted to the Technical Phase Physical Therapist Assistant Program for the summer each year.

TOTAL PROGRAM CREDITS: 70

PUBLIC HEALTH (A.S.)

Purpose

This transfer program is designed to prepare students with the solid foundation necessary for successful advancement of study in public health particularly as it relates to the roles of health educator and health administrator. Applying population perspectives, students examine social, environmental, and behavioral determinants of health in the prevention and control of disease.

Program Outcomes

- Apply public health principles to public health related issues;
- Analyze how the perspectives and values held by diverse individuals, communities, and cultures impact health behaviors, health decisions, and health practices;
- Analyze the ethical problems, ambiguities, controversies, and assumptions in public health practices, systems, and policies;
- Prepare a plan for continuing education within Public Health.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
MAT 106	Mathematics Applications.....	3
Elective	Technological Fluency Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3

Major Requirements

BIO 115	Environmental Biology.....	3
BIO 121	General Biology I.....	4
ESW 206	Basic Nutrition.....	3
ESW 236	Personal Health and Wellness.....	3
MAT 131	Introduction to Statistics I.....	3
PBH 101	Introduction to Public Health.....	3
PBH 102	Communication in Public Health.....	3
PBH 200	Public Health Education.....	3
PBH 201	Public Health Administration and U.S. Healthcare System.....	3
PBH 202	Environmental Health3	
SOC 101	Introduction to Sociology.....	3
SOC 103	Social Problems.....	3

Electives

Electives*	Electives.....	6
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TOTAL PROGRAM CREDITS: 61

RADIOGRAPHY (A.A.S.)

Purpose

The Radiography Program provides a comprehensive curriculum and educational experiences for students who wish to become integral members of the health care team. The program affords each student with educational opportunities that develop competence in critical thinking, technical skills and interpersonal communication necessary for the practice of diagnostic radiography. Competence is achieved through the integrated use of lecture, laboratory activities, small group presentations, research, and clinical education experiences. Students gain proficiency in the safe application of the principles of ionizing radiation in both diagnostic and fluoroscopic procedures. The Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60602, accredits this program. Graduates are eligible to take the national certifying examination administered by the American Registry of Radiologic Technologists (ARRT).

Program Outcomes

- Participate in lecture, laboratory activities, small group presentations, research, and clinical education experiences;
- Develop the critical thinking, technical and interpersonal communication skills needed for the practice of diagnostic radiography;
- Learn how to safely apply the principles of ionizing radiation in both diagnostic and fluoroscopic procedures.

Although more than 60 percent of all radiography jobs are in hospitals, you can also work in physician’s offices, medical and diagnostic laboratories, including diagnostic imaging centers, and outpatient care centers. Employment of radiologic technologists is expected to increase 15 percent in the next decade—faster than average for all occupations. Additional information on advanced placement, tuition and fees, student employment, transfer credits and credit for life experience, withdrawals and refunds can be obtained by contacting the Student Success Center at studentsuccess@mc3.edu. Check the academic calendar for program dates.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 115	Writing for Technical Communication.....	3
Elective	Quantitative Reasoning Elective: MAT 100, MAT 106, or higher.....	3
Elective	Cultural Awareness and Diversity Elective choose one: SOC 103, SOC 244, HIS 101, HIS 102 or PHI 120.....	3
PSY 101	Introduction to Psychology.....	3

Major Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 115	Writing for Technical Communication.....	3
Elective	Quantitative Reasoning Elective: MAT 100, MAT 106, or higher.....	3
Elective	Cultural Awareness and Diversity Elective choose one: SOC 103, SOC 244, HIS 101, HIS 102 or PHI 120.....	3
PSY 101	Introduction to Psychology.....	3

Major Requirements

BIO 131	Anatomy and Physiology I.....	4
BIO 132	Anatomy and Physiology II.....	4
RAD 100	Introduction to Radiography.....	3
RAD 102	Radiographic Exposure and Technique I.....	3
RAD 103	Radiation Protection and Biology.....	3
RAD 104	Clinical Education I.....	3
RAD 105	Radiation Physics.....	2
RAD 111	Radiographic Procedures I.....	3
RAD 113	Principles of Digital Imaging.....	3
RAD 114	Clinical Education II.....	3
RAD 121	Radiographic Procedures II.....	3
RAD 124	Clinical Education III.....	4
RAD 214	Clinical Education IV.....	4
RAD 221	Radiographic Procedures III.....	3
RAD 224	Clinical Education V.....	4
RAD 230	Radiographic Pathology.....	2
RAD 250	Professional Issues in Radiography.....	1

TOTAL PROGRAM CREDITS: 70

Accreditation

The Radiography Associate of Applied Science degree program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT)

20 North Wacker Drive, Suite 2850
 Chicago, IL 60606-3182
 (312) 704-5300
 email: mail@jrcert.org
 website: jrcert.org

Current Accreditation Standards for Radiography Programs (PDF)
 Graduates are eligible to take the national certifying examination administered by the American Registry of Radiologic Technologists (ARRT).

Special Admission Requirements

Students wishing to participate in the Radiography Program must present the required credentials, and are required to meet with an academic advisor prior to enrolling in RAD 100.

Mission & Goals

The Associate in Applied Science degree in Radiography has a mission consistent with the mission of Montgomery County Community College. The program recognizes that students differ in their needs, interests, and aspirations. As a result, the program is organized to assist and prepare students for the level of technical competence required to become highly qualified and successful radiographers. The program will provide students with meaningful educational experiences.

The goals of this program are to:

1. Prepare students to function as competent, entry-level Radiographers who meet the healthcare needs of the community.
 - Students will be able to adequately perform procedures at entry level competence
 - Students will select appropriate technical factors for quality patient exams
 - Students will demonstrate proper radiation protection practices
2. Prepare students and graduates who demonstrate appropriate, professional communication skills.
 - Students will use appropriate vocabulary and language to orally convey information, concepts and ideas
 - Students will use a systematic approach to locate and use information to plan and write professional papers
3. Prepare students and graduates who develop and practice effective problem solving skills and critical thinking skills.
 - Students will demonstrate the ability to alter technical factors in response to various changes in the clinical setting
 - Students will produce solutions to real-world clinical problems.
 - Students will evaluate radiographic images for appropriate positioning and image quality
4. Prepare students and graduates who conduct him/ herself in a professional manner.
 - Students will recognize acceptable professional behaviors
 - Students will practice appropriate professional behaviors
 - Graduates will demonstrate an overall professional demeanor in the workplace

- Students will discuss the importance of professional development or career advancement

5. Continuously monitor program satisfaction, ARRT exam pass rates, job placement and student completion rates in compliance with JRCERT accreditation.
 - Graduates will pass the ARRT national certification on 1st attempt within 6 months post-graduation
 - Of those pursuing employment, graduates will be gainfully employed within 12 months post-graduation.
 - Students will complete the program within 24 months
 - Graduates will be satisfied with their education.
 - Employers will be satisfied with the graduate's performance

The Program assesses these 5 goals and their specific student learning outcomes on an annual basis. This ongoing assessment plan is housed online for all program officials to access and may be viewed at any time at the request of a student.

SURGICAL TECHNOLOGY (A.A.S.)

Purpose

The Surgical Technology AAS Program is designed to prepare graduates who function as a healthcare team member under the supervision of registered professional nurses or licensed physicians. Students learn to prepare the operating room, instruments, equipment and the patient for surgical intervention as well as acquire surgical technology operating room skills essential to maintain optimal sterile technique. The Program integrates theory, laboratory simulations and clinical experiences to guide students in achieving surgical technology competence. Surgical Technology students are competitive within the job market through completion of the national certifying examination administered by The National Board of Surgical Technology and Surgical Assisting (NBSTSA) prior to graduation. Graduates seek employment in hospital operating rooms, Physician office procedure rooms, freestanding ambulatory units, delivery rooms, sterile processing areas, and acute critical care facilities. Many surgical technologists are directly employed by surgeons and may choose to specialize in certain types of surgery. Others become sales representatives for companies and manufacturers of surgical equipment and supplies. The Surgical Technology Program is fully accredited by The Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Additional information regarding CAAHEP can be obtained by contacting the organization directly at 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, telephone 727-210-2350, www.caahep.org.

Program Outcomes

- Employ appropriate ethical and professional values when providing surgical technology services to diverse populations;
- Perform necessary activities to prepare patients for surgery utilizing the principles of aseptic technique, critical thinking, and problem solving in order to adapt to the changing surgical environment;
- Demonstrate the ability to prioritize and organize the surgical field, while considering the physiology and urgency of the patient care needs;

- Incorporate technical skills to assemble and operate instruments, equipment, and supplies for the delivery of patient care during all specialties of surgery;
- Integrate knowledge from the required courses within this program to the role of the surgical technologist in caring for diverse clients;
- Communicate clearly and effectively utilizing the most current research tools;
- Express a commitment to lifelong learning and continued professional development;
- Meet the minimum eligibility requirements for the national certifying examination administered by the NBSTSA.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102, ENG 115, or ENG 117	English Composition II, Writing for Technical Communication, or Writing for Business and Industry.....	3
Elective	Oral Communication Course.....	3
Elective	Aesthetic Sensibility Course.....	3
Elective	Cultural Awareness and Diversity Course.....	3
SOC 244	Sociology of Death and Dying.....	3

Major Requirements

BIO 131	Anatomy and Physiology I.....	4
BIO 132	Anatomy and Physiology II.....	4
BIO 140	Microbiology and Immunology.....	4
SUR 105	Surgical Technology I.....	7
SUR 106	Surgical Technology II.....	8
SUR 205	Surgical Technology III.....	10
SUR 206	Surgical Technology IV.....	7

TOTAL PROGRAM CREDITS: 62

Accreditation

The Surgical Technology Program is fully accredited by The Commission on Accreditation of Allied Health Education Programs (CAAHEP). Additional information regarding CAAHEP can be obtained by contacting the organization directly.

The Commission on Accreditation of Allied Health Education Programs
25400 U.S. Highway 19 North
Suite 158
Clearwater, FL 33763
phone:727-210-2350
website: caahep.org

Special Admission Requirements

All applicants seeking admission to the Surgical Technology Program are required to present specific credentials matching programs admission guidelines.

The Surgical Technology Program is a year-round, 16-month, continuous program consisting of four sequential semesters. Students are admitted to the Program in the fall each year.

Program Mission

The mission of the Surgical Technology Program is congruent with the Mission and Philosophy statement of Montgomery County

Community College. The Surgical Technology program is designed to prepare a competent entry-level surgical technologist in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. Recognizing student varying educational and career goals, the Surgical Technology curriculum offers an Associate in Applied Science degree through courses that are sequentially structured to provide a logical, progressive pedagogical approach to the didactic and clinical study of surgical technology.

2017 Data: 5 students taking Exam / 4 students passing Exam / 1 students failing Exam / 80% pass rate.

LIBERAL STUDIES PROGRAMS

HISTORY (A.A.)

Purpose

The College's History AA degree curriculum integrates a broad spectrum of courses in the social sciences and related disciplines to prepare students who wish to transfer to four-year colleges or universities to Continue their study of history. The program is ideal for students who wish to pursue careers in education, law, Foreign Service, research, communication and information management, as well as for jobs in the Federal, state and local government and at historical sites. The program meets the competencies and requirements specified by the Pennsylvania Department of Education's Transfer Agreement Oversight Committee (TAOC) for seamless transfer to schools in the Pennsylvania State System of Higher Education (PASSHE). The College offers History courses at both its Central Campus in Blue Bell, West Campus in Pottstown, as well as online through its Virtual Campus.

Program Outcomes

- Engage in historical inquiry, research and analysis;
- Craft historical narrative and argument through the use of primary and secondary historical evidence;
- Analyze historical topics, trends and issues;
- Apply historical knowledge to analyze contemporary geopolitical and social trends.

Upon earning your associate degree, you can work in federal, state and local government or at historical sites. You can also transfer to a four-year college to pursue such majors as education, history, social or library sciences, law, foreign service, journalism and information management. The program meets the requirements mandated by the Pennsylvania Department of Education's Transfer Agreement Oversight Committee (TAOC) for a seamless transfer to schools in the Pennsylvania State Systems of Higher Education (PASSHE).

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
PSY 101	Introduction to Psychology.....	3

Elective	MAT 103, MAT 106, MAT 140 or MAT 190	3
Electives	Foreign Language	6
ANT 101 or SOC 101		
	Introduction to Anthropology or Introduction to Sociology	3
ENG 102	English Composition II	3
CMS 120	Public Speaking	3
Elective	BIO 121, CHE 121 or PHY 121	4
Elective	BIO 122, CHE 122 or PHY 122	4
Elective	Technological Fluency Elective	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

Elective	GEO 110, GEO 130 or GEO 135	3
Electives	History Electives	6
HIS 101	History of Western Civilization I	3
HIS 102 or HIS 122		
	History of Western Civilization II or World Civilizations II: From 1500	3
HIS 203 H	History of the U.S. to 1877	3
HIS 205	History of the U.S. from 1877	3
POL 101 or POL 124		
	Introduction to Political Science or American National Government	3

TOTAL PROGRAM CREDITS: 62

LIBERAL STUDIES (A.A.)

Purpose

The Liberal Studies program is designed primarily for those students who plan to transfer to a four-year institution but who remain undecided about a major.

Program Outcomes

- Demonstrate written and spoken communication skills;
- Use mathematical concepts to solve problems and make decisions;
- Demonstrate technology skills essential for working and living in today's society;
- Demonstrate general knowledge across the broad categories of intellectual heritage, artistic expression, the natural and physical world, human behavior;
- Explain diverse perspectives, cultures and values;
- Use ethical perspectives to inform decisions.

An ideal transfer degree, the Associate of Arts in Liberal Studies is the most popular degree program at Montco. After completing the Liberal Studies program, our students usually transfer to a four-year institution. Entering as juniors, they go on to finish their studies in a variety of majors. Be sure to speak with Program Curriculum.

General Education/Major Requirements

ENG 101	English Composition I	3
ENG 102	English Composition II	3
Elective	Oral Communication Elective: choose from CMS 110, CMS 113, CMS 120, CMS 230 or THA 105	3
Elective ¹	Quantitative Reasoning Elective ¹	3
Elective	Technological Fluency Elective	3
Elective ²	Social Sciences Elective: choose from ECO 121,	

	ECO 122, ESW 207, GEO 110, GEO 130, POL 101, POL 124, PSY 101, PSY 137 or SOC 101	3
HIS Elective	Western Civilization or U.S. History HIS 101, HIS 102. HIS 203 or HIS 2053	3
Elective	Physical or Life Sciences Elective ⁴	4
Elective	Aesthetic Sensibility Elective ⁶	3
Elective	Diversity Elective ⁹	3
Elective	Ethical Perspectives Elective ⁶	3

Electives

Electives	Electives ⁵	26 - 27
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TOTAL PROGRAM CREDITS: 60-61

PSYCHOLOGY (A.S.)

Purpose

The Psychology A.S. program is designed to prepare students for transfer to a four-year college or university as a psychology major. By integrating a broad spectrum of courses in psychology and other disciplines, the curriculum prepares students for continued study in preparation for advanced degrees and a variety of careers.

Program Outcomes

- Evaluate research methods and conclusions derived from that research;
- Apply psychological knowledge (concepts, theories, and research) to self-understanding and problem-solving;
- Differentiate the contributions of culture, individual experience, physiology, and development that may influence human behavior and experience;
- Apply the key assumptions of the major theoretical frameworks in psychology to the understanding of human behavior.

Montco's range of classes in psychology, social sciences and the liberal arts enables you to transfer seamlessly to a four-year institution. With a foundation in psychology you can pursue an array of advanced degrees and careers. Talk to an advisor to learn more about careers in psychology.

To accommodate our students' schedules, we offer this program's coursework at Montco's Central and West campuses as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I	3
ENG 102	English Composition II	3
HIS 101	History of Western Civilization I	3
HIS 102	History of Western Civilization II	3
MAT 106	Mathematics Applications	3
Elective	Technological Fluency Elective	3
SOC 101 or ANT 104		
	Introduction to Sociology or Cultural Anthropology	3
CMS 110 or CMS 120		
	Speech Communication or Public Speaking	3

BIO 120 or BIO 121	Concepts of Biology or General Biology I.....	4
Elective	Foreign Language Elective ¹	3
Elective	Aesthetic Sensibility Elective.....	3

Major Requirements

Electives	PSY Electives	9
MAT 130	Probability and Statistics	4
POL 124	American National Government.....	3
PSY 101	Introduction to Psychology	3
PSY 206	Human Development.....	3
PSY 215	Abnormal Psychology.....	3
PSY 231	Research Methods in Psychology.....	3

TOTAL PROGRAM CREDITS: 63

PUBLIC AND SOCIAL SERVICES PROGRAMS

ADDICTIONS (A.A.S.)

Program Outcomes

- Demonstrate the knowledge and skills needed to work in direct service delivery in human service agencies and programs;
- Illustrate a clear understanding of human behavior in all age groups;
- Explain and apply appropriate skills necessary for a micro/macro perspective in human service delivery systems;
- Assess and summarize concepts of psychological and sociological theories necessary for intervention techniques.

Accreditation

Our Human Services A.A.S. program is accredited by the Council for Standards in Human Service Education effective May 2013 through May 2018. For further information view our student achievement indicators and the roles and responsibilities of our administration and faculty.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Quantitative Reasoning Elective	3
Elective	Aesthetic Sensibility Elective.....	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

HSW 101	Introduction to Human Services.....	3
HSW 102	Theories of Group Counseling.....	3
HSW 105/SOC 105		

	Social Policy and Ethics in Human Services	3
HSW 130 or HSW 155	Introduction to Youth and Family or Introduction to Aging..	3
HSW 160	The Middle Years	3
HSW 202	Theories of Individual Counseling.....	3
HSW 203/PSY 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 210	Professional Development in Human Services.....	3
HSW 211	Human Services Practicum II.....	6
HSW 220, HSW 250 or HSW 219	Introduction to Adjunctive Therapies, Psychology of Aging or Drug and Alcohol Treatment Process	3
PSY 101	Introduction to Psychology	3
PSY 215	Abnormal Psychology.....	3
PSY 217	Drugs - Their Use and Abuse.....	3
SOC 101	Introduction to Sociology	3

TOTAL PROGRAM CREDITS: 64

ADDICTIONS (CERTIFICATE)

Purpose

The Drug and Alcohol Studies Certificate is designed for students who may not wish to pursue an associate degree in Human Services at this time, for students who have previously earned college degrees in other disciplines who may be contemplating a change of career or career focus, and for those working toward their CAC which is awarded by the Pennsylvania Certification Board (PCB)*.

This program is designed with enough flexibility to meet the needs of beginning students as well as those with more experience in the substance abuse field.

Program Outcomes

- Understand human behavior across age groups;
- Select and apply psychological and sociological theories in intervention techniques;
- Explain and execute a micro/macro approach to the treatment and prevention of drug/alcohol abuse and addictions;
- Have the knowledge and skills needed to work in direct service at human service agencies.

During our two-semester program you will study social policies, theories of counseling and assessment techniques. You will also learn about drug and alcohol treatment plans and adjunctive therapies. Your coursework will prepare you for a human services practicum where you receive hands-on training at a community agency.

Program Curriculum

ENG 101	English Composition I	3
HSW 101	Introduction to Human Services and Helping Profession	3
HSW 102 or HSW 202	Theories of Counseling or Theories of Individual Counseling	3
HSW 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 210	Professional Development in Human Services.....	3

HSW 211	Human Services Practicum.....	3
HSW 219	The Drug and Alcohol Treatment Process	3
HSW 220	Introduction to Adjunctive Therapies	3
PSY 217	Drugs - Their Use and Abuse.....	3
SOC 105	Social Policy and Ethics in Human Services	3

Please note that you may have to take placement tests prior to enrolling in certain courses.

The Human Services Program is transferrable to a number of area colleges. Substitutions must be approved by the Program Coordinator.

* The Pennsylvania Certification Board (PCB) certifies both addiction counselors and prevention specialists. Course work from the program may fulfill a portion of those PCB requirements. The PCB requires Certified Addictions Counselors to complete additional hours of continuing education and training for recertification. Selected courses from this HSW program may be used for part of this requirement. For further information regarding education requirements for recertification, contact PCB at 717-540-4455.

TOTAL PROGRAM CREDITS: 36

CHILD, YOUTH AND FAMILY SERVICES (A.A.S.)

Program Outcomes

- Demonstrate the knowledge and skills needed to work in direct service delivery in human service agencies and programs;
- Illustrate a clear understanding of human behavior in all age groups;
- Explain and apply appropriate skills necessary for a micro/macro perspective in human service delivery systems;
- Assess and summarize concepts of psychological and sociological theories necessary for intervention techniques.

Accreditation

Our Human Services A.A.S. program is accredited by the Council for Standards in Human Service Education effective May 2013 through May 2018.

View our student achievement indicators and the roles and responsibilities of our administration and faculty.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Quantitative Reasoning Elective	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

CJS 235	The Juvenile Justice System	3
HSW 101	Introduction to Human Services	3
HSW 102	Theories of Group Counseling	3
HSW 105/SOC 105	Social Policy and Ethics in Human Services	3

HSW 130 or HSW 155	Introduction to Youth and Family or Introduction to Aging	3
HSW 202	Theories of Individual Counseling.....	3
HSW 203/PSY 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 210	Professional Development in Human Services	3
HSW 211	Human Services Practicum II.....	6
HSW 216/PSY 216	Assessment Techniques for Child/Youth	3
HSW 220	Introduction to Adjunctive Therapies	3
PSY 101	Introduction to Psychology	3
PSY 215	Abnormal Psychology.....	3
SOC 101	Introduction to Sociology	3

TOTAL PROGRAM CREDITS: 64

CRIMINAL JUSTICE (A.S.)

Purpose

The Criminal Justice Studies A.S. Program is a theory and knowledge based curriculum that offers comprehensive preparation for transfer to a four-year baccalaureate program in Criminal Justice, as well as a wide range of career options in the criminal justice system.

Many of our students either go on to, or come to us from, Act 120 municipal police training or Act 2 deputy sheriffs' training. Our graduates pursue careers in local law enforcement, the federal services, corrections, adult and juvenile probation and parole, court administration, and the private security sector.

Many of our graduates go on to attain four-year degrees in criminal justice or allied fields of study. Some pursue pre-law, law school, and eventual careers in the prosecutorial or criminal defense bars. A four-course, twelve-credit Certificate of Completion in Homeland Security is available in conjunction with the A.S. degree in Criminal Justice. Interested students should contact the Program Director. The Criminal Justice AS curriculum introduces students to the rewards of public service and to the personal satisfaction and honor that a career in public service can offer.

The curriculum also offers in-service professionals already in the field, an opportunity for further educational and professional growth.

Program Outcomes

- Demonstrate an appreciation of and sensitivity toward the ethnic, racial and gender diversity of American society, and an understanding of how these values can be reflected and projected by the criminal justice system;
- Demonstrate a thorough understanding of the functions and roles of all major aspects of the United States criminal justice system in society;
- Demonstrate an appreciation of the cardinal concept of "due process of law" which constitutes the basic standards of fairness and decency that are necessary for the maintenance of free society and an understanding of the constitutional underpinnings, theory and structure of our body of criminal law, procedure, and the rules of evidence;
- Demonstrate a firm grasp of the constitutional constraints under which police and prosecutors must operate in a free society, and the reasoning behind these limitations;

- Identify and analyze the ethical issues that arise in each component of the criminal justice system.

After earning your associate degree, you can enter the workforce, earn a related certificate or choose to pursue a four-year-degree. For information about our 12-credit Homeland Security Certificate of Completion, please contact the program director.

Because Montco meets the requirements of the Pennsylvania Department of Education's Transfer Agreement Oversight Committee (TAOC), you can seamlessly transfer your credits to schools in the Pennsylvania State System of Higher Education (PASSHE). We will work with you to ensure success in whatever path you choose.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 115 or ENG 102	Writing for Technical Communication or English	
Composition II	3
MAT 106	Mathematics Applications.....	3
Elective	Aesthetic Sensibility Elective.....	3
Elective	Scientific Reasoning Elective: AST-120/GLG-121/PHY-120, BIO-121, CHE-121, CHE-151, PHY-21 or PHY-151.....	4

Major Requirements

CJS 100	Introduction to Criminal Justice.....	3
CJS 105	Criminal Law.....	3
CJS 107	Criminal Procedure and Rules of Evidence.....	3
CJS 205	Ethics and the American Criminal Justice System.....	3
CJS 220	Criminology.....	3
CJS 235	Introduction to Juvenile Justice System.....	3
CJS 240	The Correctional Process.....	3
CJS Elective	CJS Elective.....	3
ESW 245	Safety and First Aid.....	3
HIS 203	History of the U.S. to 1877.....	3
HIS 205	History of the U.S. from 1877.....	3
POL 124	American National Government.....	3
SOC 101	Introduction to Sociology.....	3

Electives

Elective	Elective.....	6
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TOTAL PROGRAM CREDITS: 64

EMERGENCY MANAGEMENT AND PLANNING (A.A.S.)

Purpose

The Emergency Management & Planning AAS degree prepares students for technical, managerial, and 'command' careers in emergency management and planning, disaster preparedness, and homeland security.

The curriculum focuses on the over-arching administrative, managerial, and planning skill-sets necessary for inter-agency and intergovernmental preparation and response.

Our graduates pursue and attain professional careers with:

- Local, state, and federal emergency planning agencies including municipal and county departments of public safety, the Pennsylvania Emergency Management Agency (PEMA), and the Federal Emergency Management Agency (FEMA).
- Agencies and companies operating in all sectors of emergency services delivery, including fire departments, police departments, hospitals, EMS services, and ambulance companies
- Private-sector companies and non-profit organizations fulfilling significant internal and public disaster preparedness and response roles, including companies such as Boeing, Lockheed-Martin, Merck, Sun Energy, American Red Cross, and others.

The Emergency Management & Planning Program, is designed for those who are interested in pursuing careers in emergency services and emergency preparedness. It is also designed to foster a higher level of knowledge and competency for persons already engaged in these who want to advance their professional careers. The Program also aims to facilitate transfer to the growing number of 4-year baccalaureate programs in Emergency Management that are available in our region and across the nation. Within the framework of the Emergency Management & Planning AAS, a formal concentration is available in Homeland Security.

Program Outcomes

- Explain the difference between "emergency planning" and "emergency management.";
- Describe the regulatory and intergovernmental framework of emergency management and planning;
- Perform a variety of different roles and employ teamwork, team-building, and leadership skills in the context of incident management and planning exercises.
- Explain how planning affects and facilitates preparedness;
- Design an interactive planning process for companies and municipalities;
- Explain and differentiate between the principles of "Incident Command" and "Unified Command";
- Identify, evaluate, and respond to a range of specific hazardous conditions and scenarios in both individual and group exercises;
- Design a safety plan;
- Apply "all-hazards" planning methodology in preparing for mass casualty events, including acts of terrorism.

Our associate degree program complements degree and certificate programs in Criminal Justice, Municipal Police Training, Homeland Security, and Fire Science. It is accredited by the International Fire Service Accreditation Congress (IFSAC) and suited to current and would-be emergency services professionals.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102 or ENG 115	English Composition II or Writing for Technical	
	Communication.....	3

MAT 160, MAT 130 or ACC 110	Mathematics Applications, Probability and Statistics or Business Mathematics.....	3 - 4
HIS 102 or HIS 205	History of Western Civilization or History of U.S. from 1877	3 - 4
Elective	Scientific Reasoning Elective.....	3
Elective	Aesthetic Sensibility Elective	3
Elective	Oral Communication Elective.....	3

Major Requirements

CJS 250	Terrorism and Counterterrorism	3
EMP 100	Emergency Planning	3
EMP 110	Incident Management	3
EMP 120	Search and Rescue	3
EMP 200	Seminar in Emergency Management	1
EMP 210	Leadership and Influence in Emergency Response ...	3
EMP 265	Public Safety Technology.....	3
ESW 245	Safety and First Aid	3
FSC 100	Introduction to Fire Science	3
FSC 102	Hazardous Materials	3
FSC 103 or CJS 270	Fire Department Organization and Management or Police Department Organization and Management...	3
POL 124	American National Government	3
POL 125 or POL 231	State and Local Government or Public Policy Management	3

Electives

Elective	Elective	3
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TOTAL PROGRAM CREDITS: 61-63

EMERGENCY MANAGEMENT AND PLANNING (CERTIFICATE)

Purpose

The EMP Certificate is designed to prepare students for entry-level technical or administrative careers in the emergency response services that do not require a degree.

The EMP Certificate is also designed as a dual or second credential for Criminal Justice (CJS), Fire Science (FSC), and Emergency Medical Technology (EMT) majors, who aspire to senior administrative, Management, or command roles. It is designed to provide them with the necessary knowledge of the technical subject field, professional skills, and state-of-the-art techniques necessary to manage, coordinate, and plan for emergency response in both the public and private sectors.

Program Outcomes

- Emergency planning, incident management and public policy;
- Safety and first aid; search and rescue;
- Hazardous materials handling.

The certificate program complements Montco’s degree programs in Criminal Justice, Fire Science and Emergency Medical Technology. It also provides the technical knowledge and techniques needed to coordinate, plan and manage emergency responses in the private and public sectors.

Program Curriculum

EMP 100	Emergency Planning	3
EMP 110	Incident Management	3
EMP 120	Search and Rescue	3
EMP 200	Seminar in Emergency Management	1
EMP 210	Leadership and Influence in Emergency Response ...	3
EMP 250	Terrorism and Counterterrorism	3
EMP 265	Public Safety Technology.....	3
ESW 245	Safety and First Aid	3
FSC 100	Introduction to Fire Science	3
FSC 102	Hazardous Materials	3
POL 125 or POL 231	State and Local Government or Public Policy Management	3

TOTAL PROGRAM CREDITS: 31

FIRE SCIENCE (A.A.S.)

Purpose

The Fire Science AAS degree is designed to prepare students for technical, managerial, and ‘command’ careers in the public fire service and the private sector.

The curriculum focuses on the over-arching administrative, managerial, and planning skill-sets necessary for inter-agency and intergovernmental preparation and response.

Our graduates pursue and attain professional careers in:

- The public fire service;
- Heavy industrial fire brigades;
- Fire control and suppression systems engineering and sales;
- Fire equipment sales and service;
- Civilian and military safety, rescue, and crash response teams;
- Local, state and federal public safety, emergency preparedness, and disaster recovery agencies.

While the public fire service in Pennsylvania has historically been volunteer-based, our larger cities have maintained professional, salaried departments for many decades. Many suburban departments and companies are also transitioning to salaried or ‘combination’ arrangements. The public fire service is steadily professionalizing, and new career paths are opening up all the time.

In the private sector, large industrial and manufacturing companies in our region – such as Sun Energy, Merck, Boeing, and Lockheed-Martin – retain their own, onsite industrial fire brigades. In addition to nationally-recognized certifications, a formal academic credential in Fire Science offers a significant competitive edge toward hiring or promotion. Montgomery County Community College’s AAS degree in Fire Science is accredited by IFSAC – the International Fire Service Accreditation Congress.

Program Outcomes

- Demonstrate a thorough understanding of the field of fire science in both the public and private sectors;
- Demonstrate the necessary skills to effectively and efficiently work within the organizational structure of the fire science field;
- Demonstrate a working knowledge of the basic field strategy and tactics that relate to various kinds of specific fire situations;

- Be able to identify, classify, and respond to the various kinds of hazardous materials events;
- Demonstrate a thorough understanding of the laws and ordinances related to fire prevention, protection and mitigation, and alarm systems.
- Demonstrate a thorough understanding of fire prevention and suppression techniques;
- Demonstrate an understanding of the causes, motives, and methods of arson, and the tools and methodologies available in fire and arson investigation.

After graduation you can work as a firefighter, safety engineering technician, property damage appraiser, property claims investigator or building codes inspector, among others. Should you decide to pursue a bachelor's degree, you can transfer to a four-year college. Talk to the Fire Science program director to find out how.

A Fire Science degree from Montgomery County Community College is built on a solid liberal arts foundation, and offers students a working base of knowledge in one of the most important public policy areas in our country today. Nationwide, fire suppression and emergency response is a labor intensive growth industry. Careers in fire science and allied fields continue to show strong growth.

Our Fire Science A.A.S program offers a solid liberal arts foundation and is accredited by the International Fire Service Accreditation Congress (IFSAC). Additional information can be obtained by contacting the organization directly at 1700 West Tyler, Oklahoma State University, Stillwater, OK 74078-8075 | 405-744-8303 | <https://ifsac.org/> | admin@ifsac.org

Program Curriculum

General Education Requirements

CMS 110	Speech Communication.....	3
ENG 101	English Composition I.....	3
ENG 102 or ENG 115	English Composition II or Writing for Technical Communication.....	3
Elective	Technological Fluency Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3
MAT 106, MAT 130, or ACC 110	Math Applications, Probability and Statistics or Business Math.....	3 – 4

Major Requirements

CHE 121	General Chemistry	4
ESW 245	Safety and First Aid.....	3
FSC 100	Introduction to Fire Science.....	3
FSC 101	Management of Emergency Services.....	3
FSC 102	Hazardous Materials	3
FSC 103	Fire Department Organization and Administration	3
FSC 104	Building Construction	3
FSC 105	Fire Prevention and Code Enforcement	3
FSC 106	Fire Investigation.....	3
FSC 108	Fire Protection Systems	3
FSC 265	Public Safety Technology.....	3
POL 124	American National Government.....	3
POL 125	American State and Local Government.....	3

Electives

Elective	Elective	3
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TOTAL PROGRAM CREDITS: 61-62

*See advisor for specific course information/recommendations.

FIRE SCIENCE (CERTIFICATE)

Purpose

The Fire Science Certificate is designed to prepare students for entry level technical or administrative careers in the emergency response services that do not require a degree.

The Fire Science Certificate is also designed as a dual or second credential for Emergency Management & Planning (EMP) majors who aspire to senior administrative, management, or command roles. It is designed to provide them with the necessary knowledge of the technical subject field, professional skills, and state-of-the-art techniques necessary to manage, coordinate, and plan for emergency response in the fire services in both the public and private sectors.

Program Outcomes

- Demonstrate the knowledge and skills necessary to obtain or maintain entry-level employment in the public or private fire services.

The certificate program complements Montco's degree programs in Criminal Justice, Fire Science and Emergency Medical Technology. It also provides the technical knowledge and techniques needed to coordinate, plan and manage emergency responses in the private and public sectors.

Gainful Employment Information

Program Curriculum

ENG 101	English Composition I.....	3
ESW 245	Safety and First Aid.....	3
FSC 100	Introduction to Fire Science.....	3
FSC 101	Emergency Scene Management	3
FSC 102	Hazardous Materials	3
FSC 104	Building Construction for Fire Science	3
FSC 265	Public Safety Technology.....	3
Elective	Speech, Computer Science, Math or Science	3 - 4
Elective	FSC 103, FSC 105, FSC 106 or FSC 108	3
Elective	Social Science (not Fire Science).....	3

TOTAL PROGRAM CREDITS: 30-31

GERONTOLOGY (CERTIFICATE)

Purpose

The Gerontology Certificate program is designed to prepare graduates for human services careers in programs, facilities, and agencies for the older adult. These include: administrator, activities director, adult day care provider, adult education teacher, case worker, consumer advocate, counselor, estate financial planner, family service consultant, geriatric mental health worker, gerontological social worker, human resource specialist, industrial gerontologist, insurance specialist, retirement home director, program planner, researcher,

senior center manager, senior employment specialist, social service consultant, social security specialist, and volunteer coordinator.

Program Outcomes

- Demonstrate all of the skills and knowledge needed to obtain entry level employment in an agency or facility for the older adult.

The certificate program complements Montco's degree programs in Criminal Justice, Fire Science and Emergency Medical Technology. It also provides the technical knowledge and techniques needed to coordinate, plan and manage emergency responses in the private and public sectors.

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.mc3.edu/gainfulemployment.

Program Curriculum

ENG 101	English Composition I.....	3
HSW 101	Introduction to Human Services and Helping Profession	3
HSW 155	Introduction to Aging	3
HSW 203 or PSY 203	Assessment and Documentation in Human Services.....	3
HSW 205	Volunteer Administration.....	3
HSW 206	Hospice: Concepts and Skills	3
HSW 210	Professional Development in Human Services	3
HSW 211	Human Services Practicum.....	6
HSW 250	Psychology of Aging	3
HSW 254	Aging in American Society	3
SOC 105	Social Policy and Ethics in Human Services	3

TOTAL PROGRAM CREDITS: 36

HUMAN SERVICES – GERONTOLOGY (A.A.S.)

Program Outcomes

- Demonstrate the knowledge and skills needed to work in direct service delivery in human service agencies and programs;
- Illustrate a clear understanding of human behavior in all age groups;
- Explain and apply appropriate skills necessary for a micro/macro perspective in human service delivery systems;
- Assess and summarize concepts of psychological and sociological theories necessary for intervention techniques.

Accreditation

Our Human Services A.A.S. program is accredited by the Council for Standards in Human Service Education effective May 2013 through May 2018.

For further information, view our student achievement indicators and the roles and responsibilities of our administration and faculty.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Quantitative Reasoning Elective	3

Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

HSW 101	Introduction to Human Services.....	3
HSW 102	Theories of Group Counseling	3
HSW 105 or SOC 105	Social Policy and Ethics in Human Services	3
HSW 155	Introduction to Aging	3
HSW 160, PSY 217, HSW 216 or HSW 254	The Middle Years, Drug Use and Abuse, Assessment Techniques for Child/Youth or Aging in the U.S.	3
HSW 202	Theories of Individual Counseling.....	3
HSW 203 or PSY 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 206	Hospice: Concepts and Skills	3
HSW 210	Professional Development in Human Services	3
HSW 211	Human Services Practicum.....	6
HSW 250 or PSY 250	Psychology of Aging: Helping Skills	3
PSY 101	Introduction to Psychology	3
PSY 215	Abnormal Psychology.....	3
SOC 101	Introduction to Sociology	3

TOTAL PROGRAM CREDITS: 64

GIS OPERATIONS (CERTIFICATE)

Program Outcomes

- Articulate in writing Geographic Information System (GIS) concepts, components, and requirements; and spatial analytic processes, cartographic design processes, and their results;
- Evaluate in writing various data sources' resolution, timeliness, availability and utility, and various map projections, map symbols, and GIS map products;
- Geo-code street addresses and latitude/longitude coordinates, and demonstrate knowledge of other geo-coding systems including Universal Transverse Mercator, State Plane Coordinate Systems, U.S. Public Lands Survey, and image geo-referencing;
- Predict local risks and resources by conducting geographic analysis through selection by location, intersection and union overlays, cluster analysis, absolute and relative distance measures, and surface interpolation in GIS;
- Apply "best" design standards for a variety of map symbols, through the design, compilation, and production of thematic maps that are physiologically accessible and psychologically meaningful.

By the end of the program, you will not only have a certificate but also an electronic portfolio of your mastery of GIS.

Program Curriculum

GEO 210	Introduction to GIS	3
GEO 220	Map Design in GIS	3
GEO 230	GIS Applications Workshop	3

TOTAL PROGRAM CREDITS: 9

HOMELAND SECURITY (CERTIFICATE)

Purpose

Homeland Security is a rapidly-growing area of employment opportunity. In order to facilitate an entrée toward a formal academic credential in the field, the College offers a four-course, twelve-credit Certificate of Completion that will, by itself, have job and career value. This introductory program in Homeland Security is specially designed for students who may be seeking additional training to facilitate a career change. It may also appeal to students who are already working in the field, but who have no or limited prior college experience, and who are interested in enhancing their career advancement prospects.

Program Outcomes

- Classify the 'All-Hazards' roles, functions, and relationships among local, federal and international law enforcement, intelligence, and security agencies in fulfilling diverse homeland security missions;
- Apply an operational knowledge of intelligence-gathering and analysis pertinent to homeland security and other threats facing government and the private sector;
- Construct an in-depth case study analysis of an individual contemporary terrorist group or movement using open-source intelligence covering: history, geography, and culture; ideology and political or social objectives; leadership, organizational structure, and finances; major actions, alliances, and proxies; and national and international suppression efforts;
- Create effective strategies for local, state, national and international law enforcement agencies, aimed protecting transportation systems, passengers and cargos, and international border crossing points.

Credits from this certificate of completion program can be used toward an associate degree in this or a related field. Talk to an advisor to learn more.

Program Curriculum

CJS 250	Terrorism and Counterterrorism	3
CJS 251	Introduction to Homeland Security	3
CJS 252	Intelligence Analysis and Security Management	3
CJS 253	Transportation and Border Security	3

TOTAL PROGRAM CREDITS: 12

HUMAN SERVICES (A.A.S.)

Purpose

The Associate of Applied Science Degree in Human Services is designed to prepare graduates for careers as human service professionals in mental health agencies, developmental disability programs, addictions programs, public and private schools for the disabled, and programs for the aging.

Employment opportunities include case management, youth and family support professional, social services coordinator, residential counselor, behavioral management aid, addictions specialist, child advocate, juvenile court liaison, domestic violence liaison, home health aide, group home professional, crisis intervention specialist, community education coordinator, program coordinator, adult day care assistant or coordinator, life skills instructor, consumer advocate, social service aide, therapeutic recreation assistant, intake interviewer, community

outreach worker, social work assistant, community action professional, halfway house coordinator, rehabilitation case professional, residential manager, and volunteer coordinator.

Program Outcomes

- Demonstrate the knowledge and skills needed to work in direct service delivery in human service agencies and programs;
- Illustrate a clear understanding of human behavior in all age groups;
- Explain and apply appropriate skills necessary for a micro/macro perspective in human service delivery systems;
- Assess and summarize concepts of psychological and sociological theories necessary for intervention techniques.
- Depending upon your interests, you may pursue a concentration in Addictions, Gerontology or Children, Youth and Family Services.
- Human Services courses are offered through accelerated, online, hybrid and traditional classroom formats. The Human Services Program is a career program designed for easy transfer to local colleges and universities for bachelor's and/or master's degree programs.

Accreditation

Our Human Services A.A.S. program is accredited by the Council for Standards in Human Service Education effective May 2013 through May 2018.

For additional information, view our student achievement indicators and the roles and responsibilities of our administration and faculty.

Program Curriculum

Program effective Fall 2018

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective	Quantitative Reasoning Elective	3
Elective	Aesthetic Sensibility Elective	3
Elective	Scientific Reasoning Elective.....	4

Major Requirements

HSW 101	Introduction to Human Services	3
HSW 102	Theories of Group Counseling	3
HSW 105 or SOC 105	Social Policy and Ethics in Human Services	3
HSW 130 or HSW 155	Introduction to Youth and Family or Introduction to Aging	3
HSW 160, PSY 217, HSW 216 or HSW 254	The Middle Years, Drug Use and Abuse, Assessment Techniques for Child/Youth or Aging in the U.S.	3
HSW 202	Theories of Individual Counseling	3
HSW 203 or PSY 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 206, HSW 220, PSY 217 or PSY 206	Hospice, Introduction to Adjunctive Therapies, Drug Use and Abuse or Lifespan Development	3
HSW 210	Professional Development in Human Services	3
HSW 211	Human Services Practicum II.....	6

HSW 220, HSW 250 or HSW 219	Introduction to Adjunctive Therapies, Psychology of Aging or Drug and Alcohol Treatment Process	3
PSY 101	Introduction to Psychology	3
PSY 215	Abnormal Psychology	3
SOC 101	Introduction to Sociology	3

TOTAL PROGRAM CREDITS: 64

HUMAN SERVICES (CERTIFICATE)

Purpose

The Certificate in Human Services is designed to prepare graduates for entry-level human services careers in a variety of community settings.

The certificate provides sufficient flexibility to meet the needs of beginning students as well as those working in the human services field.

Program Outcomes

- Demonstrate the knowledge and skills needed to work in direct service delivery in human service agencies and programs;
- Illustrate a clear understanding of human behavior in all age groups;
- Explain and apply appropriate skills necessary for a micro/macro perspective in human service delivery systems;
- Assess and summarize concepts of psychological and sociological theories necessary for intervention techniques.

Our program is set up to educate both new students and those already working in the human services field. Note that you may have to take a placement test before enrolling in some courses. Please see the college catalog for placement testing guidelines.

Gainful Employment Information

Program Curriculum

ENG 101	English Composition I.....	3
HSW 101	Introduction to Human Services and Helping Profession	3
HSW 102 or HSW 202	Theories of Group Counseling or Theories of Individual Counseling	3
HSW 203 or PSY 203	Assessment and Documentation in Human Services ...	3
HSW 205	Volunteer Administration.....	3
HSW 210	Professional Development in Human Services	3
HSW 211	Human Services Practicum.....	6
PSY 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3
SOC 105	Social Policy and Ethics in Human Services	3

TOTAL PROGRAM CREDITS: 36

Note: Students may have to take placement tests prior to enrolling in some of the courses above. Please see College Catalog for placement testing guidelines.

PSYCHOLOGY (A.S.)

Purpose

The Psychology A.S. program is designed to prepare students for transfer to a four-year college or university as a psychology major. By integrating a broad spectrum of courses in psychology and other disciplines, the curriculum prepares students for continued study in preparation for advanced degrees and a variety of careers.

Program Outcomes

- Evaluate research methods and conclusions derived from that research;
- Apply psychological knowledge (concepts, theories, and research) to self-understanding and problem-solving;
- Differentiate the contributions of culture, individual experience, physiology, and development that may influence human behavior and experience;
- Apply the key assumptions of the major theoretical frameworks in psychology to the understanding of human behavior.

Montco's range of classes in psychology, social sciences and the liberal arts enables you to transfer seamlessly to a four-year institution. With a foundation in psychology you can pursue an array of advanced degrees and careers. Talk to an advisor to learn more about careers in psychology.

To accommodate our students' schedules, we offer this program's coursework at Montco's Central and West campuses as well as online.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
HIS 101	History of Western Civilization I	3
HIS 102	History of Western Civilization II	3
MAT 106	Mathematics Applications	3
Elective	Technological Fluency Elective	3
SOC 101 or ANT 104	Introduction to Sociology or Cultural Anthropology.....	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
BIO 120 or BIO 121	Concepts of Biology or General Biology I.....	4
Elective	Foreign Language Elective ¹	3
Elective	Aesthetic Sensibility Elective	3

Major Requirements

Electives	PSY Electives	9
MAT 130	Probability and Statistics	4
POL 124	American National Government	3
PSY 101	Introduction to Psychology	3
PSY 206	Human Development.....	3
PSY 215	Abnormal Psychology.....	3
PSY 231	Research Methods in Psychology.....	3

TOTAL PROGRAM CREDITS: 63

PUBLIC HEALTH (A.S.)

Purpose

This transfer program is designed to prepare students with the solid foundation necessary for successful advancement of study in public health particularly as it relates to the roles of health educator and health administrator. Applying population perspectives, students examine social, environmental, and behavioral determinants of health in the prevention and control of disease.

Program Outcomes

- Apply public health principles to public health related issues;
- Analyze how the perspectives and values held by diverse individuals, communities, and cultures impact health behaviors, health decisions, and health practices;
- Analyze the ethical problems, ambiguities, controversies, and assumptions in public health practices, systems, and policies;
- Prepare a plan for continuing education within Public Health.

Program Curriculum

General Education Requirements

CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
MAT 106	Mathematics Applications.....	3
Elective	Technological Fluency Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3

Major Requirements

BIO 115	Environmental Biology.....	3
BIO 121	General Biology I.....	4
ESW 206	Basic Nutrition.....	3
ESW 236	Personal Health and Wellness.....	3
MAT 131	Introduction to Statistics I.....	3
PBH 101	Introduction to Public Health.....	3
PBH 102	Communication in Public Health.....	3
PBH 200	Public Health Education.....	3
PBH 201	Public Health Administration and U.S. Healthcare System.....	3
PBH 202	Environmental Health.....	3
SOC 101	Introduction to Sociology.....	3
SOC 103	Social Problems.....	3

Electives

Electives*	Elective.....	6
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TOTAL PROGRAM CREDITS: 61

SCIENCE AND
MATH PROGRAMS

BIOTECHNOLOGY (A.A.S.)

Purpose

The program is designed to prepare students through rigorous study for employment in entry-level positions available at biotechnology and pharmaceutical companies, as well as research and quality control laboratories. The areas for career opportunities include but are not limited to basic research in a drug discovery or an academic environment, manufacturing, and clinical development. The program is intended to build upon basic principles of biology and chemistry acquired at the high school and early college level. Graduates are prepared for positions as biotechnology, laboratory or biomanufacturing technicians. With advising, graduates may also transfer into 4-year Biotechnology, Biochemistry or Biomedical programs.

Program Outcomes

- Demonstrate a theoretical and practical (i.e., hands-on) knowledge of state-of-the-art tools used in biotechnology laboratories, including molecular and cellular biological techniques and use of various laboratory instrumentation;
- Demonstrate an understanding of the biotechnology process, from identification of a molecule involved in a disease process to the end-stage marketing of a product;
- Demonstrate thorough knowledge of the biotechnology manufacturing process;
- Demonstrate potential for teamwork, and good oral and written communication skills;
- Demonstrate familiarity with the types of career opportunities available in the biotechnology industry.

Program Curriculum

Transfer Pathway

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
MAT 161	Pre Calculus I.....	4
CMS 120	Public Speaking.....	3

MAT 130 or MAT 131

	Probability and Statistics or Introduction to Statistics I.....	3 - 4
Elective	Aesthetic Sensibility Elective.....	3
Elective	Cultural Diversity and Awareness Elective.....	3

Major Requirements

BIO 151	Principles of Biology I.....	4
BIO 152	Principles of Biology II.....	4
BIT 120	Introduction to Biotechnology.....	4
BIT 123	Techniques and Instrumentation for Biotechnology ...	4
BIT 220	Biotechnology Research.....	4
BIT 232	Biomanufacturing.....	4
CHE 151	Principles of Chemistry I.....	4
CHE 152	Principles of Chemistry II.....	4
CHE 261	Organic Chemistry I.....	4
CHE 262	Organic Chemistry II or Lab Science Elective.....	4

TOTAL PROGRAM CREDITS: 64

CAREER PATHWAY FOR BIOTECHNOLOGY (A.A.S.)

Program Curriculum

Career Pathway

ENG 101	English Composition I.....	3
ENG 115	Writing for Technical Communications	3
MAT 100	Intermediate Algebra	3
CMS 120	Public Speaking.....	3
MAT 130 or MAT 131	Probability and Statistics or Introduction to Statistics I.....	3-4
Elective	Aesthetic Sensibility Elective.....	3
Elective	Cultural Diversity and Awareness Elective.....	3

Major Requirements

BIO 121	General Biology I.....	4
BIO 140	Microbiology and Immunology	4
BIT 120	Introduction to Biotechnology.....	4
BIT 123	Techniques and Instrumentation for Biotechnology....	4
BIT 220	Biotechnology Research.....	4
BIT 232	Biomanufacturing.....	4
CHE 131	Chemistry for Technology I	4
CHE 132	Chemistry for Technology II	4

Electives

Elective	Biotechnology Internship or Laboratory Science Elective*	4-6
Elective	Laboratory Science Elective**.....	4

TOTAL PROGRAM CREDITS: 66

BIOTECHNOLOGY AND BIOMANUFACTURING (CERTIFICATE)

Program Outcomes

- Demonstrate a theoretical and practical (i.e., hands-on) knowledge of state-of-the-art techniques and biotechnology and biomanufacturing processes used in laboratories, including use of various laboratory instrumentation used in research and discovery and biopharmaceutical process development and manufacturing;
- Explain the biotechnology process and design an experiment based on scientific literature that supports the steps of the biopharmaceutical development and manufacture process from identification of a molecule involved in a disease process to the end-stage marketing of a product;
- Evaluate manufacturing practices for compliances with current Good Manufacturing Practices and good Laboratory Practices industry standards;
- Compare and contrast the different operational units that make up a biotechnology company and the career opportunities available within these units.

After successfully finishing this two-semester program, you'll receive a Certificate of Completion and be ready to apply for employment. If you want to learn new, in-demand lab skills or update your current skills for a career in biotechnology, our Biotechnology and Biomanufacturing program is an economical alternative to a master's degree. Recent graduates are

employed in local companies and academic research labs in jobs such as Research Assistant, Senior Scientist, Research Technician, QA Associate, Scientific Writer and Lab Automation Scientist.

Program Curriculum

BIT 120, BIO 121 or CHE 131	Introduction to Biotechnology, General Biology I, or Chemistry for Technology I	4
BIT 123	Techniques and Instrumentation for Biotechnology ...	4
BIT 220	Biotechnology Research.....	4
BIT 232	Biomanufacturing	4

TOTAL PROGRAM CREDITS: 16

ENVIRONMENTAL STUDIES (A.S.)

Purpose

The Environmental Studies A.S. program is designed to prepare students for transfer to a four-year college or university. By integrating a broad spectrum of natural science and social science courses, the curriculum prepares students for advanced study and a variety of careers.

Program Outcomes

- Use established scientific standards and methods to install, calibrate, and manipulate basic laboratory and field equipment;
- Use established scientific standards and methods to collect, analyze, and interpret environmental data;
- Use established scientific standards and methods to hypothesize, communicate, and critique environmental forecasts;
- Analyze the sustainability of systems within an ecosystem.

At the end of the program you can easily transfer to a four-year institution and continue your environmental studies. You will also be prepared to major in such fields as environmental engineering, habitat biology, public policy or GIS.

Program Curriculum

General Education Requirements

Program effective Fall 2018		
ENG 101	English Composition I.....	3
ENG 102, ENG 115 or GLG 151***	English Composition II, Writing for Technical Communication or Physical Geology.....	3 - 4
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	Aesthetic Sensibility Elective	3
ESW 245	Safety and First Aid.....	3

Major Requirements

BIO 115	Environmental Biology.....	3
BIO 121 or BIO 151*	General Biology I or Principles of Biology I	4
BIO 122 or BIO 152*	General Biology II or Principles of Biology II	4
BIO 256	Ecology.....	4
CHE 121 or CHE 151*	General Chemistry I or Principles of Chemistry I.....	4

CHE 122 or CHE 152*	General Chemistry II or Principles of Chemistry II.....4
ECO 117 or GEO 130	Environmental Economics or Cultural Geography3
GEO 210 or GEO 220	Introduction to GIS or Map Design in GIS3
GEO 235 or GLG 125	Sustainable Communities or Climate Change 3 - 4
GLG 115	Environmental Geology4
MAT 130	Probability and Statistics4
MAT 162 or MAT 170**	Precalculus II or Algebra and Trigonometry.....4

Elective

Elective	Elective.....3
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TOTAL PROGRAM CREDITS: 62-64

LIFE SCIENCES (A.S.)

Purpose

The Life Sciences (AS) program is designed to prepare students for transfer to a variety of programs at a four-year college or university. The curriculum prepares the student for future study in a variety of fields such as general biology, microbiology, organismal biology, molecular biology, biochemistry, neuroscience, environmental science, agriculture and biology education.

Program Outcomes

- Explain basic biological and chemical concepts;
- Evaluate issues in the life sciences that are of importance to organisms and/or the biosphere;
- Apply the scientific method to a range of life sciences;
- Utilize appropriate scientific techniques and technology for experimentation and data collection;
- Collect, analyze, and report scientific data in an ethical manner.

Upon graduating from the Life Sciences program, our students transfer to such four-year institutions as Thomas Jefferson and Penn State University. We make transferring as seamless as possible and encourage you to speak to your advisor or a college counselor about this process.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....3
CMS 120	Public Speaking3
Elective	Cultural Awareness and Diversity Elective3
Elective	Aesthetic Sensibility Elective3
Elective	Technological Fluency Elective3
Elective	Ethical Perspectives Elective.....3

Major Requirements

BIO 151	Principles of Biology I.....4
BIO 152	Principles of Biology II.....4
CHE 151	Principles of Chemistry I.....4
CHE 152	Principles of Chemistry II.....4

Elective	Biology Lab Science (BIO 131, BIO 140, BIO 256 or BIO 260) - select two courses8
Elective	Lab Science (CHE 261, PHY 151, GLG 151, or BIT) - select two courses.....8
MAT 130	Probability and Statistics4
MAT 190	Calculus and Analytical Geometry I4

Electives

Elective	General Elective or Science Elective3 – 4
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TOTAL PROGRAM CREDITS: 61-62

BIOMEDICAL SCIENCE Concentration

The Life Science A.S. Biomedical Concentration program is designed to prepare students for transfer for a variety of programs in fields such as cytotechnology, medical laboratory science, nuclear medicine, physical therapy, occupational therapy, etc.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....3
CMS 120	Public Speaking.....3
Elective	Cultural Awareness and Diversity Elective.....3
Elective	Aesthetic Sensibility Elective.....3
Elective	Technological Fluency Elective.....3
Elective	Ethical Perspectives Elective.....3

Major Requirements

BIO 121 or BIO 151	General Biology I or Principles of Biology I4
BIO 131	Anatomy and Physiology I4
BIO 132	Anatomy and Physiology II4
BIO 140	Microbiology and Immunology4
CHE 121 or CHE 151	General Chemistry Inorganic or Principles of Chemistry I.....4
CHE 122 or CHE 152	General Chemistry II or Principles of Chemistry II 4
	Elective Lab Science (CHE 261, BIO 152, PHY 121, PHY 151 or BIT).4
Elective Lab Science	(CHE 261, CHE 262, BIO 152, PHY 121, PHY 122, PHY 151, PHY 152 or BIT).....4
MAT 130	Probability and Statistics.4

Electives

Elective	General Elective or Science Elective.....6-8
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TOTAL PROGRAM CREDITS: 60-62

MATHEMATICS (A.A.)

Purpose

The Mathematics Program is designed to meet the transfer

requirements of four-year colleges and universities for the many disciplines that require a strong Mathematics background. These disciplines include: Computer and Information Science; Business and Economics; Science and Engineering; Statistics, Actuarial Science and Operations Research; Mathematics and Education; Medicine and Law.

Program Outcomes

- Differentiate algebraic and trigonometric functions;
- Integrate exponential, logarithmic, inverse trigonometric and hyperbolic functions;
- Differentiate vector valued functions;
- Use mathematical modeling;
- Find a matrix P that will orthogonally diagonalizable a symmetric matrix A (MAT-220); or solve a nonhomogeneous linear differential equation by the method of variation of parameters (MAT 223).

After graduating, our students often transfer to four-year institutions to major in such fields as computer and information science, engineering, statistics, actuarial science, business, economics and mathematics. Thanks to Montco’s compliance with the Pennsylvania Department of Education’s Transfer Agreement Oversight Committee (TAOC), you can easily transfer to schools in the Pennsylvania State System of Higher Education (PASSHE).

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
CMS 110 or CMS 120	Speech Communication or Public Speaking.....	3
Elective	ANT 104, HIS 101, HIS 102, HIS 203, HIS 205, POL 124 or SOC 101.....	3
ENG 102	English Composition II.....	3
Electives	Aesthetic Sensibility Electives (choose two)**.....	6
ECO 121 or ECO 122	Macroeconomics or Microeconomics.....	3

Major Requirements

CIS 111	Computer Science I: Programming and Concepts.....	3
CIS 111B	Computer Science II: Object Oriented Programming.....	3
MAT 190	Calculus and Analytical Geometry I.....	4
MAT 201	Calculus and Analytical Geometry II.....	4
MAT 202	Calculus and Analytical Geometry III.....	4
MAT 211	Foundations of Mathematical Proof.....	3
MAT 220 or MAT 223	Linear Algebra or Differential Equations.....	4
PHY 151	Principles of Physics I.....	4
PHY 152	Principles of Physics II.....	4

Electives

Electives	Electives.....	6 – 7
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TOTAL PROGRAM CREDITS: 60-61

PHYSICAL SCIENCES (A.S.)

Purpose

The Physical Sciences program provides a strong mathematics and

science background for transfer to a four-year college or university. The curriculum prepares students for study leading to a bachelor’s degree in a variety of fields, including chemistry, geology, and physics. It is also a first step toward a graduate degree in medical sciences

Program Outcomes

- Prepare for and conduct scientific experiments;
- Use and understand basic instrumentation;
- Analyze and interpret scientific data;
- Demonstrate an extensive problem-solving capability.

Our Physical Sciences curriculum prepares you to transfer to a four-year institution and major in such fields as chemistry or physics. It also provides a solid foundation for future studies in health sciences, medicine and chemical engineering.

Program Curriculum

General Education Requirements

ENG 101	English Composition I.....	3
ENG 102	English Composition II.....	3
Elective ¹	Technological Fluency Elective.....	3
Elective	Ethical Perspectives Elective.....	3
Elective	Aesthetic Sensibility Elective.....	3
Elective	Oral Communication Elective.....	3
Elective	Cultural Awareness and Diversity Elective.....	3

Major Requirements

CHE 151 or PHY 151	Principles of Chemistry I or Principles of Physics I....	4
CHE 152 or PHY 152	Principles of Chemistry II or Principles of Physics II....	4
CHE 261 or Science Elective ⁴	Organic Chemistry I or AST, BIO, CHE, GLG, MAT, or PHY Course.....	4
CHE 262 or Science Elective ⁴	Organic Chemistry II or Science Elective.....	4
MAT 1902	Calculus and Analytical Geometry I.....	4
MAT 2013	Calculus and Analytical Geometry II.....	4

Electives

Electives ^{5/6}	Electives.....	11 – 12
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TOTAL PROGRAM CREDITS: 60-61

¹ A programming course is recommended; check with your advisor or transfer institution.

² MAT 190 is a co-requisite for PHY 151

³ MAT 201 is a co-requisite for PHY 152.

⁴ Chemistry majors should take CHE 151, CHE 152, CHE 261, CHE 262, PHY 151 and PHY 152. Physics majors should take PHY 151, PHY 152, CHE 151 and CHE 152.

⁵ For Chemistry and Physics majors, MAT 202 Calculus III is recommended, but students should confer with their advisor to determine the math requirement at the transfer institution.

⁶ MAT 220 Linear Algebra or MAT 223 Differential Equations are recommended; students should work with their advisor to determine the math requirements at the transfer institution. Other suggested electives include BIO and GLG.

COURSE DESCRIPTIONS

Insofar as possible, all courses offered by the College during the 2016-17 semesters are described on the following pages. However, since the College is responsive to the actual needs of its students, some listed courses may not be offered if there is insufficient enrollment; others may be added at the discretion of the Vice-President of Academic Affairs and Provost if requested by a sufficient number of students. Courses are listed by code and number under departmental headings; courses under 100 are developmental courses, and course hours are not credited toward a degree. In some instances, students will be advised to enroll in such fundamental courses. Students are cautioned to pay particular attention to the pre-requisites needed for enrollment in certain advanced courses. Unless the Pre-requisite(s) for these courses have been fulfilled, students will not be permitted to register for the courses. The following letter code, along with a number, is used by the College to designate course descriptions.

ACC - ACCOUNTING
ANT - ANTHROPOLOGY
ARA - ARABIC
ART - ART/COMPUTER GRAPHICS
ASL - AMERICAN SIGN LANGUAGE
AST - ASTRONOMY
BIO - BIOLOGY
BIT - BIOTECHNOLOGY
BPA - BAKING AND PASTRY ARTS
CHE - CHEMISTRY
CHI - CHINESE
CIS - COMPUTER AND INFORMATION SYSTEMS
CJS - CRIMINAL JUSTICE
CMS - COMMUNICATION STUDIES
COU - COUNSELING
CUL - CULINARY ARTS
DAN - DANCE
DHG - DENTAL HYGIENE
ECO - ECONOMICS AND FINANCE
EDU - EDUCATION
EGR - ENGINEERING SCIENCES
EGT - ENGINEERING TECHNOLOGY
EMP - EMERGENCY MANAGEMENT AND PLANNING
ENG - ENGLISH
ETP - ENTREPRENEURSHIP
ESC - NANOFABRICATION
ESL - ENGLISH AS A SECOND LANGUAGE
ESW - EXERCISE SCIENCE AND WELLNESS
FRE - FRENCH
FSC - FIRE SCIENCE
GLG - GEOLOGY
GEO - GEOGRAPHY
GER - GERMAN
HCP - HEALTH CARE PROFESSIONS
HIS - HISTORY
HON - HONORS
HOS - HOSPITALITY MANAGEMENT
HSW - HUMAN SERVICES
IDS - INTERDISCIPLINARY STUDIES

ITA - ITALIAN
JPN - JAPANESE
MAS - MEDICAL ASSISTING
MAT - MATHEMATICS
MGT - MANAGEMENT
MKT - MARKETING
MLT - MEDICAL LABORATORY TECHNICIAN
MSP - MASS MEDIA STUDIES AND PRODUCTION
MUS - MUSIC
NUR - NURSING
OFM - OFFICE MANAGEMENT
PBH - PUBLIC HEALTH
PHI - PHILOSOPHY
PHY - PHYSICS
POL - POLITICAL SCIENCE
PSY - PSYCHOLOGY
PTA - PHYSICAL THERAPY
RAD - RADIOGRAPHY
REA - READING/STUDY SKILLS
SCS - STRATEGIES FOR COLLEGE SUCCESS
SOC - SOCIOLOGY
SPA - SPANISH
SRT - SOUND RECORDING AND MUSIC TECHNOLOGY
SUR - SURGICAL TECHNOLOGY
THA - THEATRE

PREREQUISITES*

A Prerequisite is a condition or requirement which must be met before enrolling in a course. Students are not permitted to enroll in a course without first satisfying the Prerequisite(s). Courses requiring Prerequisite(s) are so noted in the College Catalog and course schedules. Requests for the waiver of Prerequisites are considered by Division Deans

* While the College ensures that all students registering for courses satisfy Prerequisites, it is the student's ultimate responsibility to ensure Prerequisites are met. The College reserves the right to de-register students that are inappropriately registered for courses in which Prerequisites are not met. All students are therefore encouraged to speak with an advisor prior to registration.

CO-REQUISITES**

A Co-requisite is a condition or requirement—usually another College course—which must be prior to or while enrolling in a course.

** The registration system does not monitor whether students enroll for Co-requisites. It is the responsibility of the student to be aware of any Co-requisite coursework, and register accordingly.

CONCURRENT**

A concurrent course is a condition or requirement—usually another College course—which must be taken while enrolled in a course.

** The registration system does not monitor whether students enroll for concurrent requirements. It is the responsibility of the student to be aware of any concurrent coursework, and register accordingly.

COURSE CREDIT NUMBERING

The three numbers following (to the right) of the course titles indicate: (a) the credit hours for the course, (b) the hours per week the class meets, and (c) the number of laboratory hours per week. For example, CHE 121 General Chemistry I, 4-3-3 has four hours credit, three hours of lecture and three hours of laboratory per week during a semester.

ACCOUNTING

ACC 105 SURVEY OF ACCOUNTING3-3-0

Students will develop an understanding of the basic concepts and processes of financial and managerial accounting. Students will learn to interpret accounting information and reports from the perspective of managers, investors, and other business stakeholders.

(Business majors planning to transfer may not substitute this course for ACC 115 or ACC 116.)

Prerequisite(s): REA 017 or REA 011

ACC 110 BUSINESS MATHEMATICS.....3-3-0

This course is designed for business non-transfer students. Students will expand literacy and skills in business mathematical topics such as bank reconciliations, equations, trade and cash discounts, simple and compound interest, present value, mortgages, stocks, and business statistics.

Prerequisite(s): MAT 011 with a minimum grade of C

ACC 115 FINANCIAL ACCOUNTING.....4-4-0

Students will develop literacy and skills in the application of the basic principles of financial accounting including accounting principles and practices, accounting journals and ledgers for recording business transactions, and application of the accounting cycle for service and merchandising enterprises from analysis of business transactions through preparation and evaluation of the income statement, balance sheet and statement of cash flows.

Prerequisite(s): Any developmental courses

ACC 116 MANAGERIAL ACCOUNTING3-3-0

Students will develop literacy and skills in the application of the basic principles of managerial accounting including the preparation of manufacturing financial statements. Students will apply various costing systems including job order, process, activity based and variable costing, cost-volume-profit analysis, budgeting, and management decision making.

Prerequisite(s): ACC 115 with a minimum grade of "C"

ACC 117 PAYROLL ACCOUNTING3-3-0

Students will develop literacy and skills in the application of the principles of payroll accounting including the calculation of salaries and wages, federal, state, Social Security, Medicare and unemployment taxes including matching employer taxes. Students will prepare the necessary payroll entries and produce quarterly and year-end tax returns. This course is designed to prepare students to pass the national certification exam and to obtain the American Payroll Association's (APA) Fundamental Payroll Certification (FPC) designation.

Prerequisite(s): ACC 115 with a grade of "C" or higher

ACC 118 PROFESSIONAL BOOKKEEPING.....3-3-0

Students will expand literacy and skills in the application of the basic principles covered in Financial Accounting (ACC115) using accounting software technology. Course topics include and emphasis is placed on the specialized applications of the principles of financial accounting including adjusting journal entries, depreciation, inventory cost flow methods, correction of accounting errors, internal controls and fraud prevention. This course is designed to prepare students to pass a national certification exam to obtain a certified bookkeeper designation.

Prerequisite(s): ACC 115 - Financial Accounting or both ACC 111 - Accounting Principles I and ACC 112 - Accounting Principles II, with a minimum grade of C

Co-requisite: ACC117

ACC 120 FORENSIC ACCOUNTING.....3-3-0

Forensic Accounting is the application of accounting methods and

financial techniques to assist in the adjudication of legal disputes and the solving of financial crimes. The course includes the discussion of criminal statutes relating to financial crimes, fraud detection, investigation, and prevention, techniques used in solving financial crimes, interviewing, rules of evidence, sources of information, forensic accounting procedures, money laundering, embezzlement, bankruptcy fraud and criminal conspiracy. (Also offered as CJS 120)

Prerequisite(s): ACC 115 with a minimum grade of C

ACC 150 THE LEGAL ENVIRONMENT OF BUSINESS3-3-0

Students study the regulatory environment in which business operates and the political, social, and economic forces behind and evolution of the forms and types of law that govern disputes and transactions between individuals (including business organizations). The Constitutional foundation of law and the role played by administrative agencies in regulating business activity are studied including remedies in and out of court. Issues of crimes, torts, contracts, property, business organizations, consumer rights, employment, intellectual property rights, and international transactions will be discussed.

ACC 198 CO-OP INTERNSHIP IN ACCOUNTING I..... 3-0-15

This course consists of employment in a college-approved organization to enable the student to gain insight into an accounting organization. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance.

Prerequisite(s): ACC 116

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ACC 211 INTERMEDIATE ACCOUNTING I3-3-0

Students will learn Generally Accepted Accounting Principles as applied to current and non-current assets, fixed assets (property, plant & equipment), intangible assets, and related income statement accounts (i.e. bad debt expense, cost of sale, depreciation expense, and amortization expense) and the time value of money.

Prerequisite(s): ACC 116* with a minimum grade of C

*ACC 112 with a minimum grade of C may be substituted

ACC 221 ACCOUNTING INFORMATION SYSTEMS.....3-3-0

Students learn the principles of accounting information systems. Students will document business processes, reviewing source documents, information processing, and reports generated. The principles of internal control will be applied to business systems and information technology. In a hands-on environment, students will learn the design and function of a computerized accounting information system. Using QuickBooks accounting software, students will create a company file, enter transaction data, generate management reports and financial statements, and complete the year-end closing process. This course is designed to prepare students to pass the Intuit QuickBooks Certified User exam.

Prerequisite(s): ACC 116* with a minimum grade of C and CIS 110

*ACC 112 with a minimum grade of C may be substituted

ACC 230 COST ACCOUNTING3-3-0

Students study cost management systems including job costing, process costing and activity based costing. Students learn to use these systems to manage the cost of customers, suppliers, capacity, quality, and the allocation of service department and joint costs. Students study management control systems including performance measurement, transfer pricing, and variance analysis. These analyses are applied to support the overall business strategy.

Prerequisite(s): ACC 116 with a minimum grade of "C" (ACC 112 with a minimum grade of "C" may be substituted)

ACC 241 TAX ACCOUNTING3-3-0

Students learn the laws, regulations, and accounting practices pertaining to individual Federal taxes. Students will analyze gross income, exclusions, business expenses, depreciation, itemized deductions, capital gains, sales of personal residences, exemptions, and filing status. Relevant forms will be discussed.

Prerequisite(s): ACC 116 with a minimum grade of "C" (ACC 112 with a minimum grade of "C" may be substituted)

ACC 242 FEDERAL CORPORATE TAXATION3-3-0

Students study the laws and regulations relating to federal taxation of corporations and other entities including an analysis of corporate distributions, S corporations, partnerships, estates, trusts, and retirement plans.

Prerequisite(s): ACC 241

ACC 261 ADVANCED ACCOUNTING I3-3-0

Students will learn how to record and report transactions for corporations with separate divisions or subsidiaries, or for inter-company transactions, and then how to consolidate these separate entities into one set of financial statements. Also, students will record and report international transactions (including hedge accounting), and then consolidate the international subsidiaries with the parent firm's financial statements. Students will apply the financial reporting requirements of the Securities and Exchange Commission and the FASB's requirements for interim and segment reporting.

Prerequisite(s): ACC 212 with a minimum grade of C

ACC 262 ADVANCED ACCOUNTING II3-3-0

Students will learn to account for partnerships, state and local governments, private "not-for-profit" organizations, legal reorganizations, and estates and trusts.

Prerequisite(s): ACC 261 with a minimum grade of C

AMERICAN SIGN LANGUAGE

ASL 101 INTRODUCTION TO AMERICAN SIGN LANGUAGE.....3-3-0

In this introductory course of American Sign Language, students will develop a fundamental vocabulary and knowledge of grammar structures needed to help them communicate effectively. This course will also introduce students to deaf culture in the United States.

ASL 102 AMERICAN SIGN LANGUAGE II3-3-0

In this American Sign Language course students will build on the fundamental vocabulary and knowledge of grammar structures studied in ASL 101. Students will further develop gestural expressive skills needed to help them communicate effectively. This course will also further explore the deaf culture in the United States.

Prerequisite(s): ASL 101 with a minimum grade of "C"

ANTHROPOLOGY

ANT 100 INTRODUCTION TO PHYSICAL ANTHROPOLOGY3-3-0

This course explores the evolutionary emergence of man, and the implications and characteristics of human physical diversity as a basis for an understanding of man as a physical organism.

ANT 101 INTRODUCTION TO ARCHEOLOGY3-3-0

This course examines the theory and history of archaeological methods in the field of professional archaeology. A primary objective of the course is to foster an understanding of humanity's common cultural heritage and the shared responsibility people all have in understanding and preserving this cultural heritage. Students will investigate the advent of agriculture and the formation of cities and states and explore a comprehensive overview of prehistoric societies from Asia to the Americas.

Prerequisite(s): ENG 010A, ESL 011 or ENG 011, and ESL/REA 017 or REA 011 with a grade of "C" or better.

ANT 104 INTRODUCTION TO CULTURAL ANTHROPOLOGY ...3-3-0

This course examines the unique nature of culture and its role in the determination of human behavior. It also explores the relationship of kinship, political, economic, religious, and other institutions within cultural systems, with a particular emphasis upon the operation of these institutions in non-Western societies.

This course has an honors version, ANT104H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

ANT 120 ARCHAEOLOGY FIELD SCHOOL3-0-8

In this course students will participate in an archaeological research project. They will gain hands-on experience in archaeological methods, learn about research design, and develop their analytical skills through the collection, recording, and interpretation of diverse kinds of data. Civic engagement is an important aspect of this course as it involves partnerships with local organizations and community members. Students will be interpreting their findings and sharing them with members of the research team and the general public. There will be additional optional opportunities for field trips and special lectures.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ANT 121 ARCHAEOLOGY FIELD SCHOOL II3-0-8

This course is a continuation of ANT 120 Archaeology Field School. In this course students will participate in an archaeological research project. They will gain hands-on experience in archaeological methods and apply research and analytical skills through the collection, recording, and interpretation of diverse kinds of data. Emphasis will be placed on processing, curating, and analyzing archaeological data. Civic engagement is an important aspect of this course as it involves partnerships with local organizations and community members. Students will be interpreting their findings and sharing them with members of the research team and the general public. There will be additional optional opportunities for field trips and special lectures.

Prerequisite(s): ANT 120

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ANT 204 MAGIC, RELIGION AND WITCHCRAFT3-3-0

This course is a cross-cultural survey of religious beliefs and practices. The course will examine a broad range of religious activities, rituals, and behaviors from an anthropological perspective. Students will apply this perspective in independent analyses of religious rituals in a community or culture other than that which they are familiar. The course is comparative in nature and will focus on the practice of religious activities rather than specific religious dogma.

Prerequisite(s): ENG 011

ANT 205 ENVIRONMENTAL ANTHROPOLOGY3-3-0

Environmental anthropology explores human cultures and societies as they both adapt to their environment as well as transform it. This course studies the history and theoretical underpinnings of environmental anthropology as a sub-field within the discipline of anthropology. Students will apply the concepts of ecosystem sustainability and indigenous knowledge as a component of society. Students will also personally engage with environmental problems through independent research, field trips, and/or service learning.

Prerequisite(s): ENG 011

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

ART 107 NON-WESTERN ART3-3-0

This course is a survey of the artistic styles of Non-Western Art. Painting, sculpture and architecture are studied as individual works and in historical, social, geographical and religious contexts in which they were created including Buddhist and Hindu Art from China, India, Java, Japan and Korea, and the Arts of the Islamic World, Africa and the Americas.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

ART 108 HISTORY OF PHOTOGRAPHY3-3-0

This course is an introduction to the history of photography. The course will cover the technical beginnings of Photography through its maturity into a medium of artistic and personal expression. Photography's transformation into a digital medium will also be presented. Key historical movements and aesthetic theories will be presented and discussed using key works from photographers active in each time period. Students will also research and present papers exploring key historical concepts and individual photographers. Lecture, class discussion, and technical demonstrations.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

ART 111 DRAWING I3-2-2

An introduction to drawing in a variety of media including charcoal, conté crayon, pencil, and ink. Students will draw a variety of subjects including still life, landscapes and life models. Emphasis will be placed on developing an understanding of developing line and tone, composition, gesture, anatomy, basic perspective, and other perceptual concepts. Studio work will be augmented by critiques, discussions, and demonstrations.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 112 DRAWING II3-2-2

A study of drawing in different media stressing draftsmanship and creative interpretation. Special emphasis will be placed on understanding the figure. In addition to studio work, group discussions and critiques will be provided.

Prerequisite(s): ART 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 121 PAINTING I3-2-2

An introduction to painting. Students will paint a variety of subjects utilizing representation and abstraction. Emphasis will be placed on developing an understanding of the physical properties of paint and its mediums, application techniques, and color mixing. Students will develop an understanding of line and tone, composition, perspective, and other perceptual concepts. Studio work will be augmented by critiques, discussions, and demonstrations.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 122 PAINTING II3-2-2

An intensive study of the use of oil and/or acrylics in painting from still life, landscape and figure. In addition to studio work there will be demonstrations, group discussions and critiques.

Prerequisite(s): ART 121

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 130 TWO-DIMENSIONAL DESIGN3-2-2

An introduction to a wide range of artistic concepts and the efficient and practical use of materials. The course is intended to develop

ART

ART 101 ART HISTORY I

(CAVE PAINTING TO RENAISSANCE)3-3-0

A survey of Western visual arts and architecture from the earliest examples of cave painting and sculpture to the beginning of the Renaissance in Europe in the 15th century. Masterworks in painting, sculpture and architecture are examined as individual aesthetic works and in relationship to their historical and social contexts. Comparative study of diverse civilizations will be explored through the works of great visual artists and architects offering students a broader perspective of human experience throughout the historical periods covered.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

ART 102 ART HISTORY II

(RENAISSANCE TO POST IMPRESSIONISM)3-3-0

A survey of Western visual arts and architecture from Renaissance to the industrial Revolution. Significant individual artists will be studied and their works will be examined both aesthetically and in relationship to the historical and social contexts in which they were created. Comparative study of diverse cultural and societal conditions will be examined through the works of great visual artists and architects offering students a broader perspective of human experience throughout the historical periods covered.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

ART 103 ART HISTORY III (MODERN ART)3-3-0

An investigation of modern change and diversity as reflected in the art and architecture of Europe and America from the Industrial Revolution to the present. The response of artists to new technologies and the advancement of mass media will be examined both aesthetically and in relationship to the historical, social, and technological contexts in which they were created. Post-Impressionism, Fauvism, Cubism, Constructivism, Dada, Surrealism, Abstract Expressionism, Pot Part, Minimalism, and Neo-Expressionism are among the styles addressed in the course. Comparative study of evolving social contexts will be examined through individual works and artists offering student a broader perspective of human experience throughout Industrial, Post-Industrial and Information Ages.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

ART 104 HISTORY OF GRAPHIC DESIGN3-3-0

A survey of visual communication from the earliest written language through contemporary graphic design. Emphasis will be placed on the developments in design from the Industrial Revolution to the present. Modern graphic design in mass communication will be examined in relation to the broader cultural, social, and technological contexts in which they were created. The Arts and Crafts movement, Are Nouveau, Bauhaus, deStijl and Constructivism, Art Deco, and Post-Modernism will be covered. Comparative study of graphic design in relation to the arts and other manifestations of human intellectual achievement in the rapidly changing social and technological landscape of the twentieth century will be examined.

practical patterns for solving two-dimensional problems. Lectures, demonstrations, and studio work.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 131 COLOR THEORY3-2-2

This course is an exploration of the physical and psychological properties of color. Students will develop a foundation for working with color as a means of expression. Students will build a color vocabulary and investigate the use of color as a visual element of communication. Creative problem-solving through conceptualization, research, technical execution and presentation will be emphasized.
Prerequisite(s): ART 130, ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 135 TYPOGRAPHY3-2-2

A study of the fine art and craft of typography. Students will explore the history and evolution of type, noted typographers, the shape and function of letterforms, and letters, words and sentences as an integral element of communication and graphic design problem solving.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

ART 138 DIGITAL ART I3-2-2

This course serves as an introduction to digital imaging techniques intended for Fine Art majors providing a means for them to expand the scope of their work. Students will become familiar with a range of software applications and techniques. The fundamentals of computer-based imaging will be introduced while challenging the students' imagination and expanding their creative skills. Students who successfully complete this course will develop a portfolio of work demonstrating a working knowledge of the perceptual skills and techniques addressed in the studio.
Prerequisite(s): ART 111, ART 130
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 139 DIGITAL IMAGING II.....3-2-2

This course serves as an advanced course in digital imaging for fine artists. Students will work on creating digital images for both print and electronic media. Emphasis will be placed on creating high-end Giclée prints using a variety of professional output options and media. Students who complete this course will develop a portfolio of work demonstrating a working knowledge of the perceptual skills and techniques addressed in the studio.
Prerequisite(s): ART 138
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 140 3-D DESIGN PRINCIPLES3-2-2

A continuation of the study of design principles with emphasis given to three dimensional forms and structures. The course is intended to develop the skills and knowledge necessary to produce creative and practical solutions used in resolving sculptural, architectural, and other three dimensional problems through lectures, demonstrations, and studio work.
Prerequisite(s): ART 130
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 148 INTRODUCTION TO VISUAL COMMUNICATION3-2-2

Course covers the fundamental principles of design and how these are applied in effective communication. It explores the media and tools used in imaging and graphic design, and how these tools are integrated into the design process. Topics include conceptual design, symbols, critical thinking, practical design and how design relates to industry, human

perception and the visual process, and the history of visual communication from the symbols of the prehistoric man to contemporary design. This course is subject to a course fee.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 151 PHOTOGRAPHY I3-2-2

This is a basic course in black and white still photography. The photographic process, from exposing and developing film to making and mounting the print for presentation, will be taught. The camera will be used to explore and discover the visual world; with the goal of using the photographic image as a means of expression. Information obtained in this course can be applied to all branches of photography. Students must supply their own adjustable camera and lens, film, photographic paper and some miscellaneous items.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 152 PHOTOGRAPHY II3-2-2

This course emphasizes the development of a "critical eye" and the use of photography as a form of self-expression. Advanced camera, darkroom, and editing techniques will be explored. Individual projects will be pursued to develop a cohesive visual idea.
Prerequisite(s): ART 151
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 155 DIGITAL PHOTOGRAPHY I3-2-2

An introduction to digital photography and the techniques of computer-based photographic manipulation. This studio course will stress the relationship between traditional photography and darkroom techniques, and the use of imaging software and development of animation and multimedia techniques while also incorporating work in traditional media. Advanced computer-based imaging will be explored while challenging the students' imagination and expanding their creative skills.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 156 DIGITAL PHOTOGRAPHY II3-2-2

Students create new photographic works in a digital environment, developing effective and nondestructive workflows for image editing, sorting, and organizing. Students will learn advanced digital retouching techniques and explore the capabilities of the electronic darkroom. Investigating creative and technical skills such as Camera RAW processing, students will acquire skills in advanced tonal and color correcting, and local image adjustments using selection and masking techniques. Studio lighting for portraits and commercial product photography will also be addressed.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 158 DIGITAL PHOTOGRAPHY: STUDIO LIGHTING3-2-2

This foundation course presents a systematic exploration of lighting techniques for students who want to concentrate on understanding and applying principles of lighting to improve their photography. Students are introduced to the fundamentals of lighting and provided an overview of techniques for lighting a variety of situations. Through demonstrations, lighting exercises and assignments, students learn the essential characteristics of hot lights, flash, natural light, appropriate camera settings, and the use of light modifiers and reflectors. This is a participatory class in which students are encouraged to photograph

extensively and enter into a discourse of discovery.

Prerequisite(s): ART 155

ART 161 CERAMICS I3-2-2

An introduction to the historical, cultural, scientific, creative, and expressive basis of ceramics. Students will learn various construction and decorative techniques used in the hand forming of stoneware clay through a series of assignments and exercises designed to develop each student's potential for personal expression and creativity.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 171 PRINTMAKING I3-2-2

An introduction to relief and intaglio printmaking techniques. Studio work and instruction in a variety of techniques with an emphasis on developing an understanding of plate making and fine art printing. Studio work will be augmented by critiques, discussions, and demonstrations.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 201 ILLUSTRATION I3-2-2

A special study in illustration techniques intended to develop both the drawing and design skills needed to work in commercial art. Students will become familiar with a wide range of materials and techniques. The fundamentals of illustration will be explored while challenging the students' imagination and expanding their creative skills.

Prerequisite(s): ART 111 or ART 130

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 202 ILLUSTRATION II3-2-2

A special study in advanced illustration techniques intended to develop both the drawing and design skills necessary to compete in this highly competitive field. Students will become familiar with a wide range of materials and techniques used by professional illustrators. The many dimensions of illustration will be explored while challenging the imagination and creative skills of the student. Primary emphasis will be placed on the development of a unique personal style.

Prerequisite(s): ART 201

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 211 DRAWING III3-2-2

A comprehensive study in the art of color drawing. A variety of media will be used to explore color in various drawing situations, including figure drawing, portraiture, still life, landscape and non-figurative works.

Prerequisite(s): ART 111 and ART 112

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 213 PASTELS3-2-2

This course is designed to introduce students to the medium of pastel with a strong focus on color theory. There will be demonstrations on techniques and discussions on various types of pastels and pastel papers that can be employed by the artist in realizing his/her vision. This course will concentrate on the fundamentals of art, such as composition, with an emphasis on self-expression. Students who complete this course will develop a portfolio of work demonstrating a working knowledge of the perceptual skills and techniques addressed in the studio..

Prerequisite(s): ART 112

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 221 PAINTING III3-2-2

A continuation of Painting II emphasizing creativity and experimentation in solving a variety of advanced problems. Extensive studio work.

Prerequisite(s): ART 122

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 222 WATERCOLOR PAINTING3-2-2

An introduction to Watercolor, this course has been designed to focus on the basic technical aspects of Watercolor, including the study of color as it applies to this medium. Course work will include exercises in color layering, and the various techniques of application. Once a solid foundation of skills is established, students will work from still life setups and landscape subjects. Emphasis will be placed on composition as well as individual expression.

Prerequisite(s): ART 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 224 PAINTING IN THE LANDSCAPE.....3-2-2

A course designed to provide the student with the opportunity to experience the joy of plein air painting, whether it is urban, suburban or rural landscape. Working directly with the instructor, the student will learn to enjoy the sights, sounds and smells that contribute to the overall appreciation of the subject landscape.

Prerequisite(s): ART 121

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 231 GRAPHIC DESIGN I3-2-2

Explorations in the art of visual communication. Students will learn to communicate effectively and creatively using type and image to solve real-world communications problems. This class will use the latest versions of graphic design software applications and incoming students are expected to have a working knowledge of these programs.

Prerequisite(s): ART 135 and ART 148

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 232 GRAPHIC DESIGN II3-2-2

Advanced problems in Graphic Design with an emphasis placed on developing an understanding of the production process. Projects will include developing corporate and product identity, packaging poster design and book design.

Prerequisite(s): ART 231

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 237 PORTFOLIO WORKSHOP...3-2-2

A "capstone" course for Fine Art majors in which the student prepares for entry into the job market or for continuing their education. Emphasis will be placed on creating digital portfolios for different devices and the web. Students will also learn traditional portfolio presentation techniques, self-promotion and marketing, and the standards and practices of professional artists.

Prerequisite(s): Any 200-level ART course

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 238 ANIMATION I3-2-2

This course is an introduction to the fundamental principles of animation. Conceptual skills related to timing, rhythm and motion are developed through exercises in drawn animation, with a progression to the introduction of basic digital animation tools. An emphasis will be placed on the development of personal style and solid craftsmanship

in execution. An overview of the history of animation and professional working methods will be introduced. Screenings of complete shorts and/or excerpts of feature-length commercial and independent animation will be presented for evaluation and discussion.

Prerequisite(s): ART 111, and ART 130

Corequisite(s): ART 112 and ART 131

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 240 ANIMATION II3-2-2

This course is a continuation of studies in drawn and digitally produced animation introduced in Animation I. Concepts and skills related to timing, rhythm and motion are further developed through projects designed to build proficiency in technical aspects of animation while challenging students' imagination in the development of a personal aesthetic. An emphasis will be placed on narrative and/or conceptual content and solid craftsmanship in execution. Topics in animation history and professional working methods will be explored, with relevant screenings of complete shorts and/or excerpts of feature-length commercial and independent animation presented for evaluation and discussion.

Prerequisite(s): ART 238

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 245 SCULPTURE: CLAY MODELING3-2-2

Beginning modeling in clay where studies are made from three-dimensional objects and skills are developed to render them realistically in clay. The student is also introduced to the process of abstraction.

ART 247 SCULPTURE II3-2-2

Advanced problems in sculpture with emphasis on sophisticated conceptual investigation where specialization in ideas, directions and techniques is encouraged. Selected areas including modeling, foundry, welding, carving, and other forms of fabrication may be developed in depth.

Prerequisite(s): Any 3D course

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 261 CERAMICS II3-2-2

A course intended to develop and extend clay-forming skills introduced in Ceramics I through conceptual assignments. Handforming techniques will be explored singly and in conjunction with one another. Also an introduction to glaze chemistry will be made to initiate experimental testing on glaze bodies.

Prerequisite(s): ART 161

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 262 CERAMICS III3-2-2

A course intended to develop and extend clay-forming skills introduced in Ceramics I through various assignments. Hand forming techniques will be explored singly and in conjunction with one another. Also an introduction to glaze chemistry will be made to initiate experimental testing on glaze bodies.

Prerequisite(s): ART 261

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 265 SALT-GLAZED POTTERY.....3-2-2

This course will explore the historical development as well as the contemporary techniques in salt glazing stoneware pottery. Assignments will involve students in the various approaches to this ceramic technique, from slip glaze application to fuming the kiln.

Prerequisite(s): ART 161

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 266 RAKU POTTERY3-2-2

Although the historical context of Raku pottery will be explained, the contemporary approach to the medium will be pursued. Slip glaze techniques and glaze application will be explored as well as the effects of pre- and post-reduction firing of the Raku vessels. Clay and glaze making will be covered and the design and construction of a Raku kiln.

Prerequisite(s): ART 161

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 271 PRINTMAKING II3-2-2

A continuation of ART 171 with an emphasis placed on the further development of skills learned in the introductory class. New media to be covered will include color intaglio, calligraphy, and lithography. Studio work and instruction.

Prerequisite(s): ART 171

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ART 272 PRINTMAKING III3-2-2

This course is designed to continue the exploration of skills involved in the art of developing fine prints. The course will include demonstrations of techniques and lectures on concepts inherent in the graphic arts.

Prerequisite(s): ART 271

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ASTRONOMY

AST 120 INTRODUCTION TO ASTRONOMY.....4-3-3

Introduction to Astronomy is a one-semester college-level course in basic astronomy. The course may be used as a laboratory science elective with basic algebraic applications. The course explores a broad range of astronomical concepts and principles in ten major areas: understanding the sky, apparent motions of the planets and the sun, telescopes and accompanying technology, basic structure and behavior of atoms, origin and analysis of light, origin of the solar system, internal structure and behavior of the sun, lifecycle of all stellar classes, origin and structure of galaxies and cosmology. Throughout the course, emphasis is placed on the implementation of the scientific method, the evidence that astronomers use to support their conclusions, and the importance of astronomy. (Night-time observing is required). (Also offered as GLG 121 and PHY 120)

Prerequisite(s): A minimum grade of "C" or better within 5 years in both MAT 011 and ESL 011 or ENG 010A, or ENG 011.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

AST 121 ASTROBIOLOGY.....4-3-3

Astrobiology uses a multidisciplinary and scientific approach to analyze and assess the theories regarding the evolution of life elsewhere in the universe. While strong emphasis is placed on the astronomical/astrophysical aspects of astrobiology, the course introduces, discusses, and integrates aspects from multiple disciplines (chemistry, biology, geology, and earth sciences) to achieve an overall understanding of the definition of life and evolution. A secondary focus of the course is to develop a firm understanding of the scientific method such that students who complete the course can appreciate the scientific process, build scientific reasoning skills that are

applicable beyond this course, and develop basic laboratory skills.
 Prerequisite(s): A minimum grade of "C" or better within 5 years in both MAT 011 and ESL 011 or ENG 011.
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

AST 130 ASTRONOMICAL RESEARCH TECHNIQUES3-2-2
 Research in Astronomy is a one-semester online college-level course concerned with a study of the techniques required in making and reducing astronomical observations. This course will focus on methods of modern data collection, reduction, and analysis using a telescope, CCD detector, and filter system. The students will be required to carry out individual as well as group observing projects on a specialized topic in astronomy using a remote robotic telescope located in Utah.
 Prerequisite(s): A minimum grade of "C" or better within 5 years in AST 120 / GLG 121 / PHY 120.

BAKING AND PASTRY ARTS

BPA 120 INTRODUCTION TO BAKING AND PASTRY3-1-4
 This course presents the basic principles of baking for foodservice establishments. This is a foundations course which includes terms, equipment and an introduction to the basic mechanics of the pastry kitchen. Topics covered include the identification, production, and evaluation of yeast leavened products, quick breads, pies, tarts, cookies, and basic cakes. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 124 INTRODUCTION TO CAKES3-1-4
 This course provides an introduction to the fundamentals of cake production, assembly, and basic finishing techniques. Topics covered include cake layers, fillings, buttercreams & icings, as well as basic decorating techniques. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies. This course is subject to a course fee.
 Prerequisite(s): BPA 220
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 131 BREADS AND ROLLS3-1-4
 This course provides an introduction to the skills and techniques of bread production. Products covered include yeasted breads, rolls and Viennoiserie. Properties and characteristics of ingredients, the baker's percentage system and scaling methods are covered as well as proper mixing techniques and controlled fermentation. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 Prerequisite(s): BPA 120
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 198 BAKING AND PASTRY PRACTICUM I1-0-2
 This course is the introductory component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site, perform 30 hours of practical learning and provide

documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 This course is crosslisted as CUL 198.
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 220 ADVANCED BAKING AND PASTRY3-1-4
 This course provides an introduction to advanced baking & pastry techniques and builds upon basic baking techniques from Intro to Baking & Pastry. Topics covered include petit fours, gateau and tortes, chocolate tempering and basic chocolate decorations. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 Prerequisite(s): BPA 120
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 233 CHOCOLATES AND CONFECTIONS3-1-4
 This course presents the principles of chocolates and confections. Topics covered include the identification, proper usage of chocolate, tempering, and evaluation of chocolates and confections using both hand dipped and molded techniques. Students will also learn the basics of chocolate showpiece techniques. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 Prerequisite(s): BPA 120
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 240 RETAIL BAKERY OPERATIONS.....4-2-8
 In this live learning lab students execute fundamental baking skills learned in previous classes. In an on-campus retail bakery café environment, students practice the skills of controlling inventory, analyzing sales, and operating a complete bakery. Students prepare, display, and present savory items, pastry products, and signature baked goods according to Montgomery County Health Codes, and all rules will be adhered to per compliance. In this working lab students will experience the realities of producing various quantities, customer demands, and front of the house operations of an actual bakery café. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 Prerequisite(s): CUL 102; CUL 114; BPA 131; Current ServSafe Certificate Required
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 253 PLATED DESSERTS & MODERN TRENDS3-1-4
 This course provides an introduction to the art of plated desserts and nutritional needs. Students will prepare the different categories of plated desserts including hot, cold, chocolate, fruit, nut, custard and frozen. Students will also prepare various sauces, garnishes and be introduced to modern techniques and trends. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.
 Prerequisite(s): BPA 233
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 254 TIERED CAKES & SUGAR ARTISTY3-1-4

This course covers the advanced preparation and decoration of themed & tiered celebration cakes and showpieces. Students will use various mediums such as rolled fondant, gum paste, pastillage, and cooked sugar. Students will learn how to design and construct tiered cakes and showpieces. Students will learn the importance of time management and proper costing of items. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA 220

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 263 BAKERY PRODUCTION3-1-4

This course provides an introduction to large volume production and plated desserts. Students will learn proper and efficient production of various baked goods based on large batch production. Students will also be introduced to plated desserts and various plating techniques. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA 131

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 298A CULINARY & BAKING AND PASTRY PRACTICUM II.... 2-0-4

This course is the second component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site or remain at their previously designated site, and perform 60 hours minimum of practical learning and provide documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA/CUL 198

This course is crosslisted as CUL298A.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BPA 298B CULINARY & BAKING AND PASTRY PRACTICUM III... 2-0-4

This course is the final component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site or remain at their previously designated site, and perform 60 hours minimum of practical learning and provide documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA/CUL 298A

This course is crosslisted as CUL298B.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIOLOGY

BIO 103 INTRODUCTION TO HUMAN

ANATOMY AND PHYSIOLOGY3-3-0

This course is a non-laboratory descriptive study of the structure and function of the human body, while using a systems approach.

Students must have successfully completed or tested out of ESL 011, ENG 011, MAT 010, and REA 011 or REA 017.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 115 ENVIRONMENTAL BIOLOGY3-3-0

This course is designed to explore three aspects of the environment: the interacting components of the environment apart from man; the impact of man and contemporary cultures on the environment; and local pollution problems and possible solutions.

This course has an honors version, BIO 115H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading or original data analysis; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

BIO 120 CONCEPTS OF BIOLOGY4-3-3

This course is a terminal lab-science for non-science majors who desire only one-semester of Biology. Topics include a discussion of the fundamental and contemporary issues regarding biological chemistry, cell biology, genetics and the different forms of life. The material is discussed in the context of the principles of evolution and the biology of ecosystems.

This course does NOT satisfy the Prerequisites for BIO 131.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

This course has an honors version, BIO 120H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no predetermined conclusion, but with real-world application.

BIO 121 GENERAL BIOLOGY I4-3-3

A study of the unifying principles which govern the operation of all living things; including biological chemistry, energy, metabolism, cell biology and genetics. This course is designed for allied health science majors, biotechnology A.A.S. majors and other students desiring or requiring this course, a BIO 121/122 sequence or progression to BIO 151. Students taking this course anticipate going on to: BIO 122, 131, 140 and/or 151. Please see the MCCC catalogue for descriptions of the above continuing courses.

Prerequisite(s): Students must have successfully completed or tested out of ENG 011, MAT 011, and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 122 GENERAL BIOLOGY II4-3-3

An emphasis is placed on evolution as it applies to the development, adaptation and taxonomy of organisms. The five kingdoms of organisms are discussed in terms of their structure, function, reproduction and adaptation. Laboratory experiences will include observation of organismal anatomy.

Prerequisite(s): BIO 121.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 129 FUNCTIONAL HUMAN ANATOMY AND PHYSIOLOGY ... 4-3-3

This course provides a background in human anatomy and physiology, with emphasis being placed on the skeletal, muscular, cardiovascular, and respiratory systems. This course is oriented towards students in Exercise Science and Wellness degree programs. Dissection of preserved animal tissue is required.

Prerequisite(s): ESL 011, ENG010A, or ENG 011; MAT 011, and REA 011 or REA 017
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 130 INTRODUCTORY ANATOMY AND PHYSIOLOGY4-3-3

A one-semester course in which the structure and function of the eleven basic human systems is studied, with more emphasis placed on the circulatory, urinary, endocrine, and respiratory systems. Oriented toward students in the MLT curriculum. Dissection of preserved material is required.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 131 HUMAN ANATOMY AND PHYSIOLOGY I4-3-3

A course employing a systems approach to the structure and function of the human body. Emphasis will be placed on biological chemistry, the cell, the skeletal, muscular, nervous and integument systems. Appropriate, relevant laboratory experiences will be employed to supplement and/or reinforce the lecture material. Dissection of preserved animal material is required.

Prerequisite(s): Successful completion of High School Chemistry taken within the last five years, with a "C" or better, or CHE 121, CHE 131, CHE 150 or CHE 151 taken within the last five years with a "C" or better. Completion of BIO 121 within the past 5 years with a minimum grade of "C", or a passing grade on the MCCC Biology Placement Test.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 132 HUMAN ANATOMY AND PHYSIOLOGY II4-3-3

This course is a continuation of BIO 131 with study of the normal and pathological structure and function of the human body. Emphasis will be placed on circulatory, lymphatic, respiratory, digestive, urinary, endocrine and reproductive systems. Dissection of preserved animal material is required.

Prerequisite(s): BIO 131 with grade of: C; or better in last 5 years.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 140 MICROBIOLOGY AND IMMUNOLOGY4-3-3

A study of microorganisms and their relationship to infectious disease in humans. The biology of microorganisms; infection and pathogenesis; resistance and immunity. For Allied Health specialties and Science majors. (Laboratory/lecture format).

Prerequisite(s): Successful completion of High School Chemistry taken within the last five years, with a "C" or better, or CHE 121, CHE 131, CHE 150 or CHE 151 taken within the last five years with a "C" or better. Completion of BIO 121 within the last five years with a minimum grade of "C", or a passing grade on the MCCC Biology Placement Test.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 141 CLINICAL MICROBIOLOGY I4-3-3

BIO 141 is the first part of a two part Medical Microbiology course for MLT students. It examines the microbial world with emphasis on the morphology and biological properties of bacteria and their relationship to man and the clinical laboratory. It enables the student to understand how infectious disease is spread, how bacteria are isolated

and identified, how microbes are controlled and the nature and use of antibiotics. The procedures used in the identification of medically important bacteria are stressed.

Prerequisite(s): Students should have taken one semester of college level biology and chemistry (CHE131 or CHE151 and BIO121, BIO130 or BIO151) with a grade of "C" or higher. If a prospective student does not have this background, the instructor should be consulted before the student registers for the course.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 151 PRINCIPLES OF BIOLOGY I (FOR THE SCIENCE MAJOR)4-3-3

An introduction to the study of life as it applies to all organisms. Primary emphasis is given to biological chemistry, metabolism, production and utilization of energy, basic cell structure and reproduction and the classical and molecular aspects of genetics. Laboratory requires hands on experiments related to the course content.

Prerequisite(s): Successful completion of High School Chemistry taken within the last five years, with a "C" or better, or CHE 121, CHE 131, CHE 150 or CHE 151 taken within the last five years with a "C" or better and Completion of BIO 121 within the last five years with a minimum grade of "C", or a passing grade on the MCCC Biology Placement Test.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 152 PRINCIPLES OF BIOLOGY II4-3-3 (FOR THE SCIENCE MAJOR)

Emphasis is placed on the diversity of life from an evolutionary and ecological perspective. Domains, supergroups and kingdoms are discussed from the standpoint of structure, function, metabolism, reproduction, development and evolutionary adaptation. Taxa are compared and contrasted with one another and as they relate to development and ecosystem biology.

Prerequisite(s): BIO 151 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 241 CLINICAL MICROBIOLOGY II4-3-3

A course that introduces Immunology, Virology, Mycology, and Parasitology as well as the immunological basis of serological tests and their uses in the diagnosis of infectious and non-infectious diseases. For students of Medical Laboratory Technology. (Laboratory/lecture format)
Prerequisite(s): Students should have taken at least one semester of college-level chemistry and have completed BIO 141 (Clinical Microbiology I), with a grade of "C" or higher. A prospective student who does not have this background should consult the instructor before he or she registers.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 256 ECOLOGY4-3-3

This course provides students with a 4-credit lab science focusing on the interactions of organisms with their biotic and abiotic environments. It will include an overview of the various components of population, community and ecosystem-level interactions, a broad survey of the major terrestrial and aquatic biomes of the world, both local and biosphere-level anthropogenic effects, and restoration ecology. Labs will reinforce important classroom concepts and will include both computer-based mathematical models of species interactions and in-field experiences to acquaint students with the diversity of ecosystem types and ecological processes.

Prerequisite(s): This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIO 260 GENETICS4-3-3

A study of the basic principles and problems of classical, biochemical, and molecular genetics; including Mendelian inheritance, chromosomes, mutation, linkage mapping, DNA structure, gene expression and an introduction to recombinant DNA technology. Laboratory experiments provide an introduction to genetics and molecular biology; including studies of inheritance using organisms such as *Drosophila*, cloning, gel electrophoresis, and the polymerase chain reaction.

Prerequisite(s): BIO152 and CHE151, "C" or better in both.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIOTECHNOLOGY

BIT 120 INTRODUCTION TO BIOTECHNOLOGY4-3-3

This course is designed to acquaint students with the field of biotechnology. Topics will include a history of the biopharmaceutical industry, the drug discovery and development processes, medical biotechnology, forensics and bioremediation. Students will learn basic techniques and instrumentation used in biotechnology labs and the fundamentals of recombinant DNA technology. Issues that impact both the industry and the general population such as the regulation of the pharmaceutical industry, stem cell research, GMO's and bioethics will be examined in this course.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

Prerequisite(s): High School Biology (college preparatory or higher) or a college biology course within the last 5 years With a grade "C" or better.

BIT 123 TECHNIQUES AND INSTRUMENTATION FOR BIOTECHNOLOGY.....4-3-3

This course will allow students to gain theoretical and practical, hands-on knowledge of the operation, maintenance and calibration of commonly used and specialized laboratory instrumentation. Laboratory procedures will include solution preparation, aseptic technique, protein separations and assays, electrophoresis and recombinant DNA technology. The students be introduced to the concept of working with good laboratory practices as they pertain to documentation and record keeping. Discussion and implementation of laboratory safety policies will be key components to the entire course.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

Prerequisite(s): CHE 131 or CHE 151

Concurrent or Previous: BIT 120

BIT 124 MOLECULAR TECHNIQUES.....2-1-2

This course is designed to introduce students to the areas of medical biotechnology and molecular diagnostics. Students will learn the theory behind these areas and will practice molecular techniques used in medical laboratories.

Prerequisite(s): Previous BIO 141 with a minimum grade of "C"

Concurrent or Previous: MLT 235

BIT 220 BIOTECHNOLOGY RESEARCH4-3-3

This course provides a foundation for the principles of molecular genetics as they apply to research performed in the biotechnology industry. Lectures topics will include transcription, translation, cell cycle regulation and protein expression as they pertain to both prokaryotic and eukaryotic gene regulation. The laboratory will give hands on exposure to recombinant DNA technology such as cloning techniques (restriction digests, plasmid design, purification and gel electrophoresis), and

propagation and maintenance of bacteria and other cell types.

Prerequisite(s): BIT 120 and BIT 123 (with a grade of a "C" or better)

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIT 232 BIOMANUFACTURING4-3-3

The course provides a solid foundation in the biomanufacturing process of biopharmaceuticals, including producing them under current Good Manufacturing Practices. Students use bacteria, mammalian, and/or yeast cells to produce human proteins using the tools of manufacturing, such as bioreactors for upstream processing and protein purification systems for downstream processing and quality control of protein production. Students with a science-related degree and/or biotechnology and pharmaceutical experienced may be able to complete this course as a stand-alone course.

Prerequisite(s): BIT 123

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

BIT 298 BIOTECHNOLOGY INTERNSHIP.....6-1-15

In this course, the student will work under the guidance of a mentor at a local pharmaceutical or biotechnology company (or, if appropriate, an academic or clinical setting) to gain expertise in a biological or manufacturing laboratory setting. The course will allow the student not only to gain a first hand work experience at the sponsoring institution but also allow him/her to make contacts necessary for gaining future employment. The lecture portion of this course will consist of topics related to the particular student internships occurring in the present semester. The students will learn to use and evaluate computer based genome databases. Other topics to be covered in the course include resume writing, networking and interviewing skills necessary for the biotechnology industry. Mock job interviews will be conducted with the students.

Prerequisite(s): BIT 120, BIT 123, BIT 220, and GPA of at least a 2.5 for all science courses, availability of an internship position, internship pre-test or screening by the instructor, fulfillment of any additional selection criteria imposed by the sponsoring institution.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHEMISTRY

CHE 118 INTRODUCTION TO CHEMISTRY AND FOOD SCIENCE (FOR THE NON-SCIENCE MAJOR)4-3-3

This course is designed for non-science major students to gain introductory knowledge of general chemistry and food chemistry. Topics include fundamental facts, principles and techniques of chemistry along with the basics of food chemistry.

Prerequisite(s): One year of high school algebra or MAT 011

CHE 121 GENERAL CHEMISTRY INORGANIC4-3-3

The course is designed to acquaint liberal arts majors and allied health students with certain fundamental facts, principles, and techniques of chemistry with a view toward their application in modern life. Emphasis is placed on the scientific approach. This course is acceptable preparation for admission into Dental Hygiene, Nursing, and MLT programs.

Prerequisite(s): One year high school Algebra or MAT 011 or MAT 011B.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 122 GENERAL CHEMISTRY ORGANIC4-3-3

This course emphasizes introductory Organic Chemistry and Biochemistry.

The examination of the structure and reactivity of the major Organic and Biological classes of compounds will include an exploration of industrial and consumer oriented applications. This course is most appropriate for students with a background of basic Inorganic Chemistry and an interest in expanding their view of fundamental Chemistry or establishing a firm foundation for further study involving introductory Biology or Allied Health coursework. This course is acceptable preparation for admission into Dental Hygiene and Nursing programs, and is also a continuation of CHE 121. Prerequisite(s): CHE 121 or equivalent college chemistry course, or recent high school chemistry and one year high school algebra or MAT 011 or MAT 011B. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 131 CHEMISTRY FOR TECHNOLOGY I4-3-3

A general course in physical-inorganic and organic chemistry. Emphasis will be placed on the theoretical and descriptive attributes of chemistry, so as to form a sound basis for the understanding of analytical and biological chemistry and their applications to technology. Laboratory experiments will be performed so as to facilitate an understanding of the chemical principles and experimental techniques developed in the program. Prerequisite(s): High school Chemistry or equivalent (CHE 121). This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 132 CHEMISTRY FOR TECHNOLOGY II4-3-3

This course will present a brief overview of Nuclear Chemistry. The major portion of the semester will involve a survey of introductory Organic and Biochemistry. Topics will include the nomenclature, structure, physical properties, and chemical reactions of the major classes of Organic and Biological compounds. Prerequisite(s): CHE 131. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 151 PRINCIPLES OF CHEMISTRY I.....4-3-3 (FOR THE SCIENCE MAJOR)

A study of the fundamentals of chemistry for the science major. An emphasis is placed on atomic structure, molecular structure, bonding, periodic law, reactions and weight relations, gases, changes of state, thermochemistry, and an introduction to organic chemistry. The laboratory includes experiments from topics discussed in lecture. Prerequisite(s): High school Chemistry or HS chemistry within 5 years or CHE 121 Co-requisite: MAT 161 or MAT 170. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 152 PRINCIPLES OF CHEMISTRY II.....4-3-3 (FOR THE SCIENCE MAJOR)

This course is a continuation of CHE 151. The topics covered are: intermolecular forces, solutions, kinetics, equilibria, electrochemistry, introductory thermodynamics, and nuclear chemistry. The laboratory includes labs in these areas with emphasis on acid-base titration. Prerequisite(s): CHE 151. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 261 ORGANIC CHEMISTRY I4-3-3

This course covers the nomenclature, structure, properties and reactions of the important classes of organic compounds. Stereochemistry, reaction mechanism and syntheses are stressed. The laboratory demonstrates syntheses discussed during lecture. Prerequisite(s): CHE 151 and CHE 152. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHE 262 ORGANIC CHEMISTRY II.....4-3-3

This course is a continuation of CHE 261 and covers the nomenclature, structure, properties and reactions of many important classes of organic compounds including arenes, alcohols, ethers, epoxides, thiols, sulfides, aldehydes, ketones, carboxylic acids, nitriles, carboxylic acid derivatives amines, carbohydrates, amino acids and lipids. Stereochemistry, reaction mechanisms, syntheses and spectroscopy are stressed. The laboratory demonstrates syntheses discussed during lecture. Prerequisite(s): CHE 261. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CHINESE

CHI 101 ELEMENTARY MANDARIN CHINESE I3-3-0

Elementary Mandarin Chinese I is an introduction to the Mandarin language. Students will learn to master basic communicative situations in Mandarin Chinese at a mid-novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will create competence and confidence in expressing in Mandarin Chinese. In addition, students will learn about the various cultures in Mandarin Chinese speaking countries. Prerequisite(s): ESL 011, ENG 010A, or ENG 011; and REA 011 or REA 017

CHI 102 ELEMENTARY MANDARIN CHINESE II3-3-0

Elementary Mandarin Chinese II is the continuation of Elementary Mandarin Chinese I. Students will continue to master basic communicative situations in Mandarin Chinese at a high novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will enhance competence and confidence in expressing in Mandarin Chinese. In addition, students will identify the linguistic and cultural diversity of Chinese speaking countries. Prerequisite(s): CHI 101

COMMUNICATION STUDIES

CMS 110 INTRODUCTION TO SPEECH COMMUNICATION. 3-3-0

A human performance course designed to improve oral communication skills in public speaking, group process, and interpersonal situations. Communication theory will be presented and practice will be provided with audience situation analysis, organizational strategies, critical listening and thinking and the use of ethical principles and evidence in the preparation and delivery of informative and persuasive speeches, participation in decision-making groups, and analysis of interpersonal relationships. The incorporation of research from credible sources into all communication contexts, with a specific emphasis on public communication, will be emphasized. Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 17 Successful completion of ESL 009 is required for students who place into ESL courses.

CMS 113 VOICE AND ARTICULATION 3-3-0

This course is designed for students in communication-intensive careers such as theater, broadcasting, sales, or teaching, as well as those in the English Second Language (ESL) Program to help them improve their vocal skills. Exercises and techniques to improve English pronunciation and articulation, vocal projection, rhythm and fluid delivery, projection, and resonance, will be taught. The International Phonetic Alphabet will also be covered. Application and practice will be required. Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 17 Successful completion of ESL 009 is required for students who place into ESL courses.

CMS 115 INTERPERSONAL COMMUNICATION3-3-0

Although we regularly engage in interpersonal communication in our daily lives, we seldom stop to reflect on those interactions. In this course we will examine theories, concepts, and research associated with interpersonal communication and their applications for ethical and effective interaction in personal and professional settings. Emphasis is placed on the communication process, perception, listening, self-concept and self-disclosure, gender and cultural differences, verbal and nonverbal communication, conflict, power, and relationship development and dissolution. Class activities, discussions, readings and assignments are designed to develop communication skills necessary for interpersonal effectiveness and competency.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 17
Successful completion of ESL 009 is required for students who place into ESL courses.

CMS 120 PUBLIC SPEAKING 3-3-0

A human performance course which stresses the theory, preparation, practice and criticism of informative and persuasive speeches. Previous speech training and/or experience is recommended.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 17
Successful completion of ESL 009 is required for students who place into ESL courses.

This course has an honors version, CMS 120H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no predetermined conclusion, but with real-world application.

CMS 125 INTRODUCTION TO PUBLIC RELATIONS 3-3-0

Students will learn basic concepts necessary to understand what public relations is and how it is practiced in a variety of settings. The course will begin with an examination of the theoretical and conceptual framework that supports the field of public relations. Students will then have an opportunity to apply theory to practice by helping a campus organization accomplish a public relations goal. Specific emphasis will be placed on the four step public relations process.

Prerequisite(s): ENG 101 and SPC110 or SPC120.

CMS 202 PERSUASION3-3-0

This course examines theories and techniques associated with persuasion, ranging from those centered on interpersonal settings to those featured in mass mediated campaigns. The effects of persuasive messages on attitudes, opinions, values and behaviors will be considered from the perspective of consumers and practitioners. Both oral and written persuasion will be studied with the goal of engaging students in the role that persuasive messages play in their lives.

Prerequisite(s): SPC 110 or SPC 120 and ENG 101.

CMS 225 WRITING FOR PUBLIC RELATIONS CAMPAIGNS3-3-0

Students will receive instruction and writing practice designed to develop professional writing skills used by entry-level public relations practitioners. The course emphasizes the different approaches required for specific audiences and media, beginning with a review of the four-step public relations process. Students will then have an opportunity to practice their writing skills by designing a public relations campaign for a campus or community organization in a service-learning project.

Prerequisite(s): SPC 125.

CMS 230 COMMUNICATION IN ORGANIZATIONS3-3-0

A performance course which introduces and builds the communication skills

necessary for working business and professional settings. Emphasis will be placed on developing a working knowledge of theory and improving skills for interviewing, working in groups and teams, and presentational speaking. This course is suggested for students in business and communication as well as member of the community who are involved in organizations.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 17
Successful completion of ESL 009 is required for students who place into ESL courses.

CULINARY ARTS

CUL 101 CULINARY FOUNDATIONS.....3-3-0

This course introduces students to the Food Service Industry. Students will learn about common terms, techniques and basic mechanics and time management of the modern kitchen. Students will investigate kitchen ingredients such as herbs, spices, dairy products, grains, fruit, vegetables and fats. Students will also practice reading and writing standardized recipes utilizing kitchen math as well as recipe scaling and costing. Students will further study hospitality and foodservice organizations, industry specific periodicals and civic responsibilities. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to follow CAI professional dress policies to participate in class. Students need to complete 15 hands on hours at CAI on/off campus events which will account for 10% of the student's grade.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 102 HOSPITALITY FUNDAMENTALS.....3-3-0

This course provides the basics of food sanitation and safety including microorganisms found in food borne illness, proper sanitation procedures, temperature affects and proper food handling. This course also presents the professional careers in the hospitality & food service industries, and will be presented with a variety of career possibilities. Students will learn how to prepare a career outline, resume, personal portfolio, and prepare for a professional job interview. As part of the course, students must pass the ServSafe certification exam from the National Restaurant Association (NRA). Students are required to follow CAI professional dress policies to participate in class.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 105 SAFETY AND SANITATION2-2-0

This course provides an overview of the issues relating to the standards of food safety and sanitation within the hospitality industry. Specific topics include microorganisms, employee training, equipment purchasing, integrated pest management, cleaning and sanitizing, and other related subjects. Students prepare for, and take an industry recognized food safety and sanitation manager certification test. As part of the course, students must pass the ServSafe certification exam from the National Restaurant Association (NRA). Students are required to follow CAI professional dress policies to participate in class.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 114 FOOD & BEVERAGE OPERATIONS.....3-3-0

This course will introduce students to proper operating procedures for the front of the house and as it relates to other areas of a hospitality establishment. The course stresses the importance of front of the house experiences and as it relates to the overall success of the operation. During the course students will learn about customer service, front of

the house operations, career opportunities, table service styles, various beverage categories, service, and applicable laws. Students are required to follow CAI professional dress policies to participate in class.
 Prerequisite(s): CUL 101

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL198 CULINARY AND BAKING & PASTRY PRACTICUM I ... 1-0-2

This course is the introductory component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site, perform 30 hours of practical learning and provide documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

This course is crosslisted as BPA 198.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 120 INTRODUCTION TO CULINARY TECHNIQUES.....3-1-4

This course presents the basic principles of food preparation for the food service and hospitality industry. This class is a foundation course and topics covered include mise en place, knife skills, stocks, sauces, soups, vegetables, legumes, proteins and breakfast egg cookery. In addition, students will practice reading and writing of recipe cards, food and kitchen safety and sanitation. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 125 AMERICAN REGIONAL.....3-1-4

This course presents the principles of traditional dishes of various cuisines and related terminology throughout the United States. This class builds upon the basics and utilizes advanced techniques to proceed into the culinary traditions and practices of the different regions in our country. Ingredients, flavor profiles, preparations and techniques of each region will be analyzed. Students will have the opportunity to prepare, taste and present dishes from each regional cuisine. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): CUL 101; CUL 120

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 151 PURCHASING & COST CONTROL.....3-3-0

This course is designed to give the students a background in basic techniques of purchasing and costing in the hospitality industry. This course stresses the importance of purchasing and costing as it relates to the hospitality industry. The course details the flow of goods, including inventory, forecasting, purchase specifications, product yield, purchasing, receiving, storing, inventory control, and issuing of food and beverage. Students will also practice bid sheets, food and sales cost, profit and loss statements and food and labor cost analysis. Students are required to follow CAI professional dress policies to participate in class.

Prerequisite(s): CUL 101

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 170 MANAGEMENT & SUPERVISION.....3-3-0

This course introduces the importance of management within the hospitality industry. Students will learn leadership styles, communication skills and proper management documents. Current management issues, stress management, professional ethics and labor laws are discussed to prepare students to become successful leaders within the hospitality industry. Students are required to follow CAI professional dress policies to participate in class.

Prerequisite(s): CUL 102

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 220 MENU PLANNING3-3-0

This course will introduce students into the art of menu writing. Topics include menu layout, design, development, descriptions, government regulations, pricing, sales mix, and management. Students will analyze different types of menus based on concept, cost, design and efficiency. Students are required to follow CAI professional dress policies to participate in class.

Prerequisite(s): CUL 151

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 221 GARDE MANGER...3-1-4

This course presents the basic principles of Garde Manger for hotel, restaurant and industrial food catering establishments. Topics covered include charcuterie and preservation techniques found in various cultures, hors d'oeuvre and canapés, decorative centerpieces, cheese identification, additional cold food items and discussion and research of modern buffet displays. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): CUL 125

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 250 EUROPEAN CUISINES.....3-1-4

This course presents the principles of traditional dishes of cuisines throughout the continent of Europe. Ingredients, flavor profiles, preparations, and techniques of each cuisine will be analyzed. Students will have the opportunity to prepare, taste, and analyze dishes from each cuisine. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): CUL 125

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 260 GLOBAL CUISINES.....3-1-4

This course presents the principles of traditional dishes of cuisines from around the globe. Ingredients, flavor profiles, preparations, and techniques of each cuisine will be analyzed. Students will have the opportunity to prepare, taste, and analyze dishes from each cuisine. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): CUL 125

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 261 CLASSICAL & MODERN TECHNIQUES.....3-1-4

This course presents the various cuisines and techniques of the world's most prominent chefs through the ages. The different chef's style, substance and quality will be explored, including plating techniques and presentation. Students will gain insight into the history and evolution of cuisine as an art form and attain inspiration for future study. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies. Prerequisite(s): CUL 250

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 270 CULINARY ENTREPRENEURSHIP.....3-3-0

This course introduces students to concept development and business plan writing. Students will complete a business plan and market analysis based on real life scenarios. Topics include forms of business ownership, concept development, menu analysis, inventory, staffing, marketing and financials. There will be research of food industry success and failure examples of restaurants and concepts. Profit and loss statements will also be taught and researched. This class is an accumulation of business foundations to succeed within the hospitality & food service industries. Students are required to follow CAI professional dress policies to participate in class.

Prerequisite(s): CUL 220

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 282 RESTAURANT OPERATIONS.....4-2-8

This course presents the principles of restaurant operations for culinary arts students. This hands on course will involve production for the public for the college's restaurant entities enforcing practical skills with public evaluation. Additionally students will learn and execute dining room service skills and will interact directly with retail guests. Students will be executing full menu production. Also, the etiquette of an open kitchen live learning lab will allow students to understand the mechanics of full production restaurant operations, from menu development to final turnout. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform and front of the house uniform to participate in class according to departmental uniform policies.

Prerequisite(s): CUL 102; CUL 114; CUL 125; Current ServSafe Certificate Required.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 298A CULINARY & BAKING AND PASTRY PRACTICUM II2-0-4

This course is the second component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site or remain at their previously designated site, and perform 60 hours minimum of practical learning and provide documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA/CUL 198

This course is crosslisted as BPA 298A

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

CUL 298B CULINARY & BAKING AND PASTRY PRACTICUM III2-0-4

This course is the final component of the Culinary Arts Institute practicum experience. Students are required to select a college approved practicum site or remain at their previously designated site, and perform 60 hours minimum of practical learning and provide documentation upon completion to the Culinary Resource Specialist or assigned Faculty. Students are required to maintain the standards of the Culinary Arts Institute while representing the program at their host site. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Students are required to have a professional chef's uniform to participate in class according to departmental uniform policies.

Prerequisite(s): BPA/CUL 298A

This course is crosslisted as BPA 298B

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

COMPUTER & INFORMATION SYSTEMS

SPECIAL ONE-CREDIT COURSES

Note: Graduation credit will not be awarded for CIS 100, 101, 102 or 155. If A Student also completes CIS 110.

CIS 100 INTRODUCTION TO PERSONAL COMPUTERS 1-1-0

This course includes an overview of personal computer operations and applications. The PC will be used for hands-on experience with personal computer operations and Windows, word processing, electronic spreadsheets, and the Internet. The course assumes no previous knowledge of personal computers. This course may be taken on a Pass/No Pass (P/NP) basis only. The grade will not affect grade point average.

CIS 106 INTRODUCTION TO THE INTERNET 1-1-0

This course introduces the student to the structure of and use of the Internet worldwide computer network. Resources discussed will include Archie, File Transfer Protocol (FTP), Gophers, Listserv, Telnet, Usenet, Wais, and the World Wide Web (WWW), etc. Electronic mail (e-mail) facility, various means of accessing the Internet, and "netiquette" issues surrounding the appropriate use of such networks will be discussed. Considerable hands-on experience will be provided. (This course may be taken on a Pass/No Pass (P/NP) basis only. The grade will not affect grade point average.)

Prerequisite(s): CIS 100 or equivalent experience.

CIS 108 INTRODUCTION TO WEB PAGE DESIGN 1-1-0

This course introduces students to the fundamentals of World Wide Web page design using the Hypertext Markup Language (HTML) and a simple HTML editor. Students will have extensive hands-on experience creating HTML tags, links and incorporating images. Design elements will also be considered. (This course may be taken on a Pass/No Pass (P/NP) basis only. The grade will not affect grade point average.)

Prerequisite(s): C15 100 and C15 106

CIS 184 WEB ANIMATION (FLASH).. 1-1-0

Macromedia Flash is a widely used vector art and animation software tool for developing and delivering low-bandwidth animations, presentations and movies. Students will learn the basics skills necessary to create simple graphic and text animations to be published on the web. (This course may be taken on a Pass/No Pass (P/NP) basis only. The grade will not affect grade point average.)

Prerequisite(s): C15 106 or C15 108.

REGULAR SEMESTER COURSES

CIS 110 COMPUTER INFORMATION SYSTEMS FOR MANAGEMENT3-2-2

This course introduces non-computer science majors to the fundamentals of computer hardware, software, and their integration into management information systems. Specific software topics will include word processing, spreadsheet, presentation, database management and operating systems. Using these skills, students will solve problems that they will most likely encounter in a digital world. Additional topics will include computer hardware analysis, electronic communications, the Internet, computer networking, social implications of computing and other current computer topics. Specific software topics will include word processing, spreadsheet, presentation, database management and operating systems. Using these skills, students will solve problems that they will most likely encounter in a digital world. Additional topics will include computer hardware analysis, electronic communications, the Internet, computer networking, social implications of computing and other current computer topics.

Note: For students interested in becoming more familiar with the keyboard, mouse, Windows environment, etc. before taking this course, OFM 101 is recommended.

Note: Graduation credit will not be awarded for CIS 100,101, or 102 if student also completes CIS 110.

CIS 1101 PROGRAMMING FOR EVERYONE3-2-2

The course exposes students with no computing background to key concepts of programming, logical thinking and modern technical fluency. Students develop the essential concepts of logic, design, and problem-solving skills pertinent to their discipline. Students will apply these skills by developing projects and writing programs using tools designed for students with no prior programming experience. The emphasis of the course is to learn concepts and techniques that are common to most programming languages and to gain exposure to concepts required for technically fluent citizens. This course is appropriate for non-information technology majors.

CIS 111 COMPUTER SCIENCE I: PROGRAMMING AND CONCEPTS3-2-2

This course introduces students to fundamental techniques, concepts and vocabulary of procedural programming and computer science. Emphasis is placed on programming in a high-level computer language such as Java or C++. This is the first course for computer majors.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011, REA 011 or REA 017 and MAT 011 or MAT 011B with a minimum grade of C

CIS 111B COMPUTER SCIENCE II: OBJECT-ORIENTED PROGRAMMING 3-2-2

This course introduces students to the object-oriented programming paradigm and focuses on the definition and use of classes and the fundamentals of object-oriented design. It is designed for students that already have a firm foundation in procedural programming concepts. A high-level programming language such as Java or C++ is used. This is the second course for computer majors.

Prerequisite(s): CIS 111, with a "C" or better or equivalent experience in procedural programming techniques.

CIS 112 COMPUTER SCIENCE III: DATA STRUCTURES & ALGORITHMS 3-2-2

Building on the concepts learned in CIS 111B, the fundamental concepts of data structures and algorithms are explored. This course will apply software engineering techniques to the design and implementation of programs that manipulate complex data structures. Effective software engineering methods are stressed as well as developing good programming style. A high-level compiler language such as Java or C++

will be used. This is the third course for computer majors.

Prerequisite(s): CIS 111B with a "C" or better, or equivalent object-oriented programming experience.

CIS 113 PC MAINTENANCE AND SUPPORT3-2-2

Students develop the necessary skills to support personal computers by solving common computer hardware and software problems. Students will learn to install and maintain a variety of processors, operating systems, and applications. Successful completion of the course prepares students for the A+ Certification examination sponsored by the Computing Technology Industry Association.

CIS 114 WEB DESIGN AND DEVELOPMENT 3-2-2

This hands-on course introduces students to the fundamental skills required to build a modern and standards compliant Web site. A specific focus is placed on usability design and the use of HTML and CSS standards to create positive user experiences across a variety of devices and browsers. Students will learn the tools and skills necessary to build, organize, and maintain Web sites while following industry best practices in interface design and usability.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011, and REA 017 or REA 011.

CIS 119 USER EXPERIENCE/INTERFACE DESIGN.....3-2-2

This course will teach a student the knowledge and skills required to design and create cohesive and consistent user experiences and simple functional interface design with a focus on maximizing productivity and user satisfaction. Students will learn about interface elements that anticipate what users might need to do and use them to facilitate actions that help with task completion, efficiency, and satisfaction.

Prerequisite(s): CIS 114

CIS 120 TEACHING WITH TECHNOLOGY IN MIDDLE YEARS AND SECONDARY EDUCATION3-3-0

This course will give students the opportunities to explore, utilize, evaluate, and integrate the computer and technology into their classrooms and curriculum. Students will be involved in many aspects of this integration, including lesson plan writing and unit designing. Students will develop the skills for enriching their classrooms with computers and technology.

(Also offered as EDU 120.)

CIS 122 VISUAL BASIC3-2-2

This is a comprehensive course in using Visual BASIC to implement Windows programming concepts. These include usage of Windows' controls, icons, bitmaps, DLL's, VBX's, OLE, DDE and memory allocation. This course teaches the considerations of custom installation, structured programming, problem solving, and the uses of Visual BASIC as system prototyping tool, and the uses of Visual BASIC for live a systems development tool.

Prerequisite(s): CIS 111

CIS 126 COMPUTER ARCHITECTURE & ORGANIZATION.....3-2-2

This course is designed to explore how a computing system works and introduces the student to the organization and architecture of computer systems using the Assembly programming language. Computer Science students will gain insight into the functional components of a computer system. Topics covered will include digital logic, data representation, interfacing and I/O strategies, memory architecture, a computer's functional organization, and multiprocessing. The importance of CPU clock speed, cache size, bus organization, and number of core processors will also be discussed.

Prerequisite(s): CIS 111 with a grade of "C" or better.

CIS 140 CLIENT-SIDE WEB DEVELOPMENT 3-2-2

Students will learn the JavaScript programming language and how to use JavaScript to build dynamic web sites that take advantage of modern Web browser features. Topics will include the Document Object Model (DOM), XML and JSON data formats, Hypertext Transfer Protocol (HTTP) and the XMLHttpRequest object. Students will learn how to combine these and other technologies to build Ajax applications. Prerequisite(s): CIS 111B and CIS 114

CIS 141 INTRODUCTION TO LINUX3-2-2

This course is designed to provide students with a fundamental knowledge of the conventions, techniques, and terminology of the Linux Operating System. Students will learn the skills necessary to utilize, administer, and install Linux in both networked and desktop environments. The objectives of this course will align with a major Linux professional certification.

CIS 142 LINUX ADMINISTRATION.....3-2-2

This course provides extended knowledge of the Linux Operating System. Advanced features and benefits of this operating system including system administration, networking, configuration, communications, and control will be studied. Students will participate in complex laboratory assignments. The objectives of this course will align with a major industry certification exam. Prerequisite(s): CIS 141

CIS 151 SYSTEMS ANALYSIS AND DESIGN 3-2-2

This course reviews and applies traditional (life cycle) systems development methodologies implemented by project teams and including reporting responsibility to a systems development steering committee. The life cycle followed incorporates an initial investigation, a feasibility study, systems analysis, systems design, technical design, program specification, and implementation planning. Prerequisite(s): CIS 111

CIS 155 PC APPLICATIONS ON NETWORKS 3-2-2

This course will provide an overview of several applications software packages available to use on a local area network. Software covered will include DOS, spreadsheet, word processing, data base, windows, file management, performance tuning, and virus detection software. The impact of running this software on a network will be emphasized.

CIS 158 WINDOWS SERVER ADMINISTRATION AND SUPPORT3-2-2

This course provides the student with the knowledge and skills necessary to perform day-to-day administrative tasks in a single or multiple domain Microsoft Windows Server based network. Students will learn how to implement system security, create users, establish network printing, backup system data and manage system resources. Students will learn how to implement system security, create users, establish network printing, backup system data and manage system resources. This course will also include topics on installation, configuration and troubleshooting in a Microsoft Windows environment using the most current version of the Server and Client operating systems. Virtualization of Student Servers will be employed throughout this course. Prerequisite(s): CIS 155 and CIS 170

CIS 166 INTRODUCTION TO CLOUD COMPUTING3-2-2

This course introduces the evolution, architecture, structure, functions, components, and models of Cloud computing. Students will learn about computing principles and concepts involved and what it means from

a business and technical perspective. The course will also cover the objectives of the CompTIA Cloud Essentials certification exam.

CIS 167 INTRODUCTION TO DATA STORAGE AND STORAGE AREA NETWORK.....3-2-2

This course will teach a student the knowledge and skills required to configure basic storage networks to include archive, backup, and restoration technologies. Students will also learn about the fundamentals of business continuity, application workload, system integration, and storage/system administration, while performing basic troubleshooting on connectivity issues and referencing documentation. The course will also cover all the objectives of the CompTIA Storage + certification exam. Prerequisite(s): CIS 170

CIS 168 DATA CENTERS AND CLOUD STORAGE3-2-2

This course will teach a student about the components and functioning of a data center and the components of modern information storage infrastructure, including virtual data storage environments. The course will provide comprehensive learning of storage technology and prepares a student to learn advanced concepts, technologies, and products. A student will learn about the architectures, features, and benefits of Intelligent Storage Systems; storage networking technologies and the increasingly critical area of information security in the emerging field of cloud computing. Prerequisite(s): CIS 166

CIS 170 INTRODUCTION TO NETWORKS (CISCO SEMESTER 1).....3-2-2

This course prepares the student to understand and apply basic concepts of networking technology. The OSI model, industry standards, network topologies, IP addressing, subnet masking, networking components, cabling techniques and basic network design are introduced and discussed. Co-Requirement MAT 100

CIS 171 ROUTING AND SWITCHING ESSENTIALS (CISCO SEMESTER 2).....3-2-2

This course describes the 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. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Prerequisite: CIS 170 or Cisco CCNA 1 from any Cisco Academy.

CIS 172 SCALING NETWORKS (CISCO SEMESTER 3).....3-2-2

This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality and are able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. They will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Prerequisites: CIS 170 or Cisco semesters 1 from any authorized Cisco Academy.

CIS 172B CONNECTING NETWORKS (CISCO SEMESTER 4).....3-2-2

This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices

and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network.

Prerequisites: CIS 171 and CIS 172 or Cisco Semester 2 and 3 from any authorized Cisco Academy.

CIS 176 GAME DESIGN PRACTICE & THEORY3-2-2

This course introduces the fundamental techniques, concepts, and vocabulary of electronic game and simulation development. Students will explore the historical, social, and cultural effects of electronic games while applying modern game design and development methodologies and principles to create their own game.

Prerequisites: Elementary Algebra Accuplacer of 67 to 85 or a College Level Math Accuplacer of 0 to 52 on the math placement test.

CIS 177 INTRODUCTION TO 3D MODELING3-2-2

This course introduces the fundamental techniques, concepts, and vocabulary of 2D and 3D art development for electronic games and simulations. Students will use 2D and 3D development tools and apply appropriate design methodologies and principles to create graphic images. Students will be introduced to 3D game engine technology and the process of importing and manipulating art objects using popular game engines and graphics tools.

CIS 203 VMWARE VSPHERE3-2-2

This hands-on virtualization training course will explore the installation, configuration, and management of VMware vSphere, which consists of VMware vSphere ESXi and VMware vCenter Server. Completion of this course satisfies the prerequisite for taking the VMware Certified Professional 5 exam.

Prerequisite(s): CIS 158

CIS 204 CITRIX XENDESKTOP AND XENAPP3-2-2

This course provides the foundation necessary for administrators to effectively centralize and manage desktops and applications in the datacenter and deliver them as a service to users anywhere. Students will learn how to select a desktop delivery model, build proof-of-concept and production XenDesktop environments. Citrix XenApp will provide the foundation necessary for administrators to effectively centralize and manage applications. This course also provides instruction on building a Provisioning services farm to enable single-image desktop management and host virtual machines using Citrix XenClient. The course will cover the objectives of the Citrix Certified Administrator for XenDesktop and XenApp certification examinations.

Prerequisite(s): CIS 203

CIS 205 MICROSOFT WINDOWS SERVER HYPER-V3-2-2

This course provides students with the knowledge and skills to configure and administer Hyper-V in Windows Server 2012. Students will learn the history of virtualization as it pertains to Microsoft technologies and the features of Hyper-V in Windows Server. The course will end with a project on the design and configuration of a virtualized local area network for a small business. This course covers the objectives of the Microsoft HyperV certification examination.

Prerequisite(s): CIS 158

CIS 206 CLOUD SERVICES3-2-2

This course will teach a student the knowledge and skills required to implement, maintain, and deliver cloud technologies and infrastructures (e.g. server, network, storage, and virtualization technologies), and to understand aspects of IT security and use of industry best practices related to cloud implementations and the application of virtualization.

Various models of cloud services and deployments will be discussed. The course will include the objectives of the CompTIA Cloud + certification examination.

Prerequisite(s): CIS 166

CIS 207 INTRODUCTION TO COMPUTER FORENSICS3-2-2

This course will teach a student the knowledge and skills required to identify, track, and prevent cybercrimes. Students will also learn about the cyber security and investigation techniques, safeguarding of information and enhancing network and data security, while performing basic troubleshooting to identify and establish steps to prevent future attacks. The course will also cover the objectives of the EC-Council Computer Hacking Investigator (CHFI) certification examination.

Co-Requisite(s): CIS 275

CIS 208 IMPLEMENTING NETWORK SECURITY3-2-2

This course will teach a student the knowledge and skills required to design, configure, maintain and audit network security. Students will also focus on advanced router features being used for perimeter defense, firewalls, intrusion prevention and learn about securing switches and the process of authentication, authorization and accounting. This course will prepare a student for cyber security jobs and to take the CCNA Security certification examination and get the NSA CNSS 4011 recognition.

Prerequisite(s): CIS 171

CIS 209 ETHICAL HACKING3-2-2

This course will teach a student the knowledge and skills required to look for weaknesses and vulnerabilities in the computer systems and networks with a view to enhance defense against cyber-attacks. Students will also learn about Information System Security, Trojans, Viruses and Worms and understand the concepts of Cryptography and learn the steps to implement security controls to detect and prevent cyber-attacks. The course will also cover the objectives of the EC-Council Certified Ethical Hacker (CEH) certification examination.

Prerequisite(s): CIS 275

CIS 210 APPLIED SOFTWARE DEVELOPMENT3-2-2

This course will teach a student the knowledge and skills required to develop software applications that meet the real needs of users and business organizations. They will develop the ability to identify, evaluate and review processes that would lead to optimum desirable methodologies that are functional and appropriate. Students will learn to successfully bring products to life using effective tools for the development, modification, debugging, testing and verification of software design.

Prerequisite(s): CIS 111

CIS 212 ADVANCED HTML AND CSS3-2-2

This course will provide advanced knowledge of HTML and CSS to include the breadth of information needed to start creating the next generation of HTML websites by covering the full new HTML ecosystem and the associated APIs that complement the core HTML language. The extended usage of CSS that is required for proficiency in all core aspects of modern website creation and security of web applications will also be covered. These skills and knowledge can lead to jobs like front-end engineer or designer, designer/developer, UI or app designer, web editor, web project manager and small web business owner.

Prerequisite(s): CIS 114

CIS 213 ADVANCED JAVA SCRIPT3-2-2

This course will teach a student the advanced knowledge and skills

required to create modern, dynamic, interactive web sites using advanced tool sets. Students will learn on how to define modules and build templates; define custom directives, implement client-side services that interact with web servers and build dynamic browser views to provide rich user interaction and create custom services you can easily reuse.

Prerequisite(s): CIS 140

CIS 214 ADVANCED 3D MODELING3-2-2

This course provides the student with an advanced understanding of 3D graphic creation and modeling. Students will learn advanced techniques of rendering, texturing, and lighting on both characters and structures. Students will create a comprehensive class project incorporating the techniques taught throughout the semester. Students will also engage with the practices of the wider 3D entertainment industry to develop specific skills and a personal work flow for 3D modeling and texturing. Current industry standard application software will be used.

Prerequisite(s): CIS 177

CIS 215 DECISION MAKING USING SPREADSHEETS3-2-2

This course provides more advanced instruction in using spreadsheet software as a productive decision making tool. Topics covered will include macro programming, advanced printing features, data base management, internal functions, and graphing.

Prerequisite(s): CIS 110 or CIS 155

CIS 216 INTERACTIVE MEDIA CAPSTONE3-2-2

This final capstone course will bring together students from all concentrations of the Interactive Media program to work in teams to design and build a significant project over the course of the semester. Students will learn about collecting user requirements, project management and team organization, processes and tools for building interactive media projects with a team, testing, product promotion and distribution, and follow-up support for a shipped product. Students will create websites, apps and games that will be put on the web and/or mobile app stores for free or sale, using industry standard tools and procedures. Students will also work on building a portfolio of their own work and defining a strategy to advance their career post course.

Prerequisite(s): CIS 140 OR ART 135 OR CIS 238 OR CIS 240 OR CIS 177

CIS 231 PROJECT MANAGEMENT 3-3-0

This course will introduce students to key aspects of contemporary project management. Through hands-on exercises and case studies, students will learn the project planning process in detail, culminating in the creation of a baseline plan and budget using Microsoft Project. Topics addressed will be project scope and objectives, deliverables, milestones, tasks, work breakdown structure, responsibility and authority, project network, critical path analysis, costs, resource allocation, and auditing. (Also offered as MGT 231.)

Prerequisite(s): CIS 110 & MGT 111

CIS 235 OBJECT-ORIENTED PROGRAMMING IN C++3-2-2

This course will teach students C++. Emphasis will be placed on object-oriented programming and design, programmer defined data types (objects), object derivation, polymorphism, function over-loading, object-based abstract data structures (link lists, stacks, collections) and event-oriented program control.

Prerequisite(s): CIS 111

CIS 238 IPHONE OS APPLICATION DEVELOPMENT 3-2-2

This is a comprehensive course on how to develop applications for Apple's iPhone, iPod touch, and iPad. Students will learn how to utilize

the iPhone SDK, Objective-C programming language, and the standard Apple development tools Xcode, Interface Builder, and Instruments to build applications for distribution via the iTunes App Store. Although students may use the College's Macintosh labs to complete their course work, it is highly recommended that students have access to an Intel-based Macintosh to complete work outside of class. An iPhone, iPod touch, or iPad is not required for the course but is also recommended.

Prerequisite(s): CIS 111B with a C or better, or prior object-oriented programming experience. Experience with C or C++ programming is recommended but not required.

CIS 240 ANDROID APPLICATION DEVELOPMENT3-2-2

This is a comprehensive course on how to develop applications for Android phones and tablets targeted for business needs. Students will learn how to utilize the Android SDK with the Java programming language using standard Java development tools to build applications for distribution via the Android Market. Students will learn how to design mobile interfaces and how to apply mobile technology to solve common business needs. Although students may use the College's computer labs to complete their course work, it is highly recommended that students have access to an Android device or virtual machine to complete work outside of class. An Android device is not required for the course.

Prerequisite(s): CIS 111B with a C or better, or prior object-oriented programming experience.

CIS 241 SERVER-SIDE WEB DEVELOPMENT. 3-2-2

This course will teach students how to develop dynamic web sites using server-side technologies such as ASP.Net with VB.Net. The architecture of ASP.Net and the range of applications that can be developed using Microsoft's Visual Studio will be discussed. Gaining hands-on experience with VB.Net as it is used for writing WEB based applications for processing form data, accessing files on the server, and reading and writing to databases. Students will learn the capabilities of ASP.Net, the .Net Framework, and VB.Net in developing WEB based applications and web services.

Prerequisite(s): CIS 140 and CIS 111B. Prior experience with the Visual Basic programming language is recommended but not required.

Corequisite(s): CIS 245

CIS 244 PC DATA BASE MANAGEMENT SYSTEMS 3-2-2

This course is designed to introduce the student to the concepts involved in designing and using Microsoft Access. Topics to be covered in the course will include discussions of various types of data base structures and manipulations of the data base through the data base language.

Prerequisite(s): CIS 110 or CIS 155.

CIS 245 DATA BASE MANAGEMENT SYSTEMS/SQL3-2-2

This course is designed to introduce the student to the concepts involved in designing and using a data base management system. Topics to be considered in the course will include discussion of various types of data base structures, manipulations of a data base structure through applications, query techniques, and an investigation into a data base language.

Prerequisite(s): CIS 111 or CIS 1101.

CIS 250 SQL SERVER PROGRAMMING 3-2-2

This course will introduce students to relational database management and development on the SQL Server platform. Although an overview of database design and optimization will be presented, the main topics pertain to developing databases on SQL Server software. The Transact-SQL language, querying and modifying data, indexing, optimization of data, joins and user defined functions (UDF) will be explored.

Prerequisite(s): CIS 244 or CIS 245 with "C" or better

CIS 251 ADVANCED MOBILE DEVELOPMENT3-2-2

This course will build on the basic iOS and Android app courses and focus on key advanced topics relevant across implementation platforms. Students will be introduced to advanced Android development concepts such as advanced user interfaces, app designing techniques, real time app development and location services; and iOS development to include advanced objective-C and Swift programming skills, geo positioning, and rich gesture based UI handling. Security of the mobile environment and business models will also be discussed.

Prerequisite(s): CIS 238; CIS 240

CIS 257 NETWORK PLANNING, PROJECT MANAGEMENT AND IMPLEMENTATION.....3-2-2

This course will provide a final capstone project experience on planning, implementing and managing a Local Area Network using Microsoft Server Administration and CISCO routing skills. The course will also introduce students to key aspects of project management such as defining the project scope, identifying deliverables, establishing timelines and evaluating project cost. Additional topics will include a comparison of Microsoft Server to other network operating systems as well as an industry site visit to interview a Network Administrator.

Prerequisite(s): CIS 171, CIS 141, and CIS 258

CIS 258 ADVANCED WINDOWS SERVER ADMINISTRATION AND SUPPORT 3-2-2

This course provides the students with the knowledge and skills necessary to install, configure, manage, and support a Windows infrastructure. Students will learn advanced deployment and configuration concepts, including the implementation of: Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Windows Internet Naming Service (WINS), network security, Remote Access Services (RAS), Internet Authentication Server (IAS), and Remote Installation Services (RIS). In addition, students will learn how to install, manage, configure and administer Windows Server 2008 R2/Windows 7 Active Directory. Virtualization of Student Servers will be employed throughout this course.

Prerequisite(s): CIS 158

CIS 275 NETWORK SECURITY FUNDAMENTALS 3-2-2

This course will introduce students to the basic elements of establishing a secure network, including security objectives, security architecture, security models and security layers. Students will analyze what elements contribute to high quality risk management, network security policy, and security training. This course focuses on the five security keys: Confidentiality, Integrity, Availability, Accountability, and Auditability. Successful completion of this capstone course prepares students to take appropriate industry certifications in the security field.

Prerequisite(s): CIS 170

CIS 276 GAME & SIMULATION PROGRAMMING FOUNDATIONS3-2-2

This course introduces students to the necessary mathematical techniques and physical modeling principles for electronic game and simulation development. Students will learn mathematical tools underlying the development of gaming software algorithms. They will use a range of software products to implement these algorithms and modeling methods.

Prerequisite(s): CIS 111B, with a C or better.

COUNSELING
COU 121 PSYCHOLOGY OF CAREER DEVELOPMENT2-2-0

This course is designed to give students practical ideas and methods as well as theoretical concepts for developing career plans and making satisfying vocational decisions. Through a variety of classroom activities, students learn more about themselves, what career fields may help them find fulfillment, and how to enter and progress in these fields.

CRIMINAL JUSTICE
CJS 100 INTRODUCTION TO CRIMINAL JUSTICE 3-3-0

The course introduces the student to the American system of criminal justice. Its growth and development will be examined with emphasis placed on the various subsystems of the criminal justice system (substantive and procedural criminal law; police, prosecution, defense, courts, institutional and community corrections; and the juvenile justice system). Additionally, contemporary issues that challenge the functional efficiency and effectiveness of the criminal justice system will be addressed. Students will learn the terminology of the field, have the opportunity to evaluate personal attitudes and values regarding crime and response to crime.

CJS 105 CRIMINAL LAW 3-3-0

An introduction to the origin and function of the substantive criminal law of Pennsylvania; a survey and analysis of the elements of major offenses in common law and under modern penal codes, and the available defenses; a consideration and discussion of leading judicial interpretations of penal codes and criminal law.

CJS 107 CRIMINAL PROCEDURE & RULES OF EVIDENCE3-3-0

This course provides an in-depth exploration of the laws and constitutional cases governing criminal procedure in the American criminal justice system. The course focuses on the "police phase" of the criminal process, including custody and seizures, arrests, interrogation, identification procedures. It also provides a survey of the rules of evidence in criminal proceedings, their origins and history, the use of both direct and circumstantial evidence in proving guilt or innocence, witness reliability, hearsay, and the use of inference. The course also highlights both procedural and evidentiary rules governing the investigative and prosecutorial phases of law enforcement, including the role of investigating grand juries, and the defense and police misconduct aspects of entrapment.

Prerequisite(s): CJS 100 and CJS 105

CJS 120 FORENSIC ACCOUNTING 3-3-0

Forensic Accounting is the application of accounting methods and financial techniques to assist in solving economic-based crimes. The course includes the discussion of criminal statutes relating to financial crimes, fraud investigation and prevention, techniques used in solving financial crimes, interviewing, rules of evidence, sources of information, forensic accounting procedures, and current issues in financial investigations. (Also offered as ACC 120)

Prerequisite(s): ACC 115 with a minimum grade of C.

CJS 200 CRIMINAL INVESTIGATION 3-3-0

The theory of investigation, conduct at crime scenes, the collection, handling and preservation of criminal evidence and other criminal investigation practices and procedures, discussion of scientific aids and

their uses in investigation; preparation of cases, emphasizing methods and problems of information and interrogation.
Prerequisite(s): CJS 100

CJS 201 INTRODUCTION TO CRIMINAL FORENSICS 4-3-1
This course will familiarize students with the basic principles and uses of forensic science in the context of the American criminal justice systems. Forensic science, which is the study and application of science to legal processes, will be related to the collection, examination, evaluation and interpretation of evidence. The field of forensics encompasses many areas in both the physical and social sciences. This course will focus on the application of modern science to physical evidence collection, preservation, and analysis, which, if properly utilized, can be crucial in the resolution of social and legal disputes. This course will review and illustrate through actual laboratory demonstration, basic applications and methodologies in the biological, physical, and behavioral sciences to questions of evidence and law.
Prerequisite(s): CJS 100. Completion of a CHE or BIO lab course prior to CJS 201 is recommended, but not required.

CJS 205 ETHICS AND THE AMERICAN CRIMINAL JUSTICE SYSTEM 3-3-0
"Ethics and The American Criminal Justice System" presents an introduction to the ethical issues arising in the law, to the methodology by which ethical deliberations are resolved, and to the personal-societal implications of ethical decision making. The course will focus upon the judicial system as an institution, the philosophy of the legal system-criminality, liability, and corrections, the role of law enforcement, and current legal issues.
Prerequisite(s): CJS 100

CJS 220 CRIMINOLOGY 3-3-0
A study of crime and delinquency patterns, their causes, and remedial measures, emphasizing social, economic, and psychological forces involved in the shaping of criminal behavior. The role of law enforcement and the functioning of treatment and punishment models will also be discussed.
(Also offered as SOC 220)
Prerequisite(s): CJS100

CJS 235 INTRODUCTION TO JUVENILE JUSTICE SYSTEM 3-3-0
This course introduces the student to the origins and development of the juvenile justice system in the United States. Students will study the juvenile justice system and child welfare systems from historical, legal, and institutional perspectives. Students will become familiar with the substantive law of Pennsylvania in terms of delinquency and child abuse with some international comparisons. Problems and theories of delinquency, interdisciplinary communication and diversion of selected juvenile offenders from the formal justice system will be explored. Each component of the system: police, courts, probation and community corrections are analyzed and recommendations for improvement are considered. The community and the schools and their role in delinquency prevention will be covered. Lastly, there will be a study of the nature, magnitude, and social location of youth crime; analysis of casual theories, and an overview of programs aimed at delinquency prevention and control.
Prerequisite(s): CJS 100

CJS 240 THE CORRECTIONAL PROCESS 3-3-0
The concept, rationale, and administration of the adult correctional institution will be the focal point in this introductory course dealing with the American correctional process. Probation and parole and the role each plays in the total penal system will also be examined. The course will conclude with a look at what appears to be future alternatives in

dealing with the offender in society.
Prerequisite(s): CJS 100

CJS 250 TERRORISM & COUNTERTERRORISM 3-3-0
Terrorism in the 21st century is a global phenomenon. This course is designed to provide a comprehensive and interdisciplinary survey of the history, theory, and modern-day political manifestations of terrorism and counter-terrorism. Terrorism will be evaluated in terms of its underlying cultural, economic, political, and psychological root causes. Effective counteraction and profiling requires empathetic explorations and analyses by students into causes and mind-sets. Counter-terrorism strategies and tactics will also be examined specifically in light of the legal and procedural safeguards that are fundamental to the maintenance of liberal democratic social and political values.
(Also offered as EMP 250, POL 250, and SOC 250)
Prerequisite(s): A passing grade in at least one introductory level course in any of the following: CJS,HIS,POL, or SOC.

CJS 251 INTRODUCTION TO HOMELAND SECURITY3-3-0
This course will introduce students to the key vocabulary and concepts of homeland security. The course will cover the essential structures, functions, accountabilities, and working relationships of the principal governmental agencies charged with homeland security duties and missions, and will include an in-depth survey of the principal directorates and sub-agencies within the U.S. Department of Homeland Security. The course will cover the evolution of homeland security as a concept in its historical context, and students will be introduced to the body of federal, state, and local law, as well as international law, impacting the homeland security mission. Special attention will be devoted to key provisions of the USA PATRIOT Act of 2001, the Homeland Security Act of 2002, and the Emergency Management Reform Act of 2006. The course will survey and examine from an "all hazards" standpoint, the most critical natural and man-made threats confronting homeland security, and students will be introduced to the still-evolving "National Strategy for Homeland Security" as a statement of unified federal policy.

CJS 252 INTELLIGENCE ANALYSIS & SECURITY MANAGEMENT 3-3-0
This course examines intelligence analysis and its indispensable relationship to the prevention and mitigation of terrorist attacks, other kinds of man-made disasters, and natural disasters. The course explores key public and private-sector vulnerabilities in our national defense and homeland security infrastructures from an intelligence and counter-intelligence standpoint. Students will be exposed to and will discuss substantive management issues regarding the U.S. and international intelligence communities and how their roles and operations support the homeland security endeavor.
Prerequisite(s): CJS 251

CJS 253 TRANSPORTATION & BORDER SECURITY3-3-0
This course provides an in-depth view of modern border and transportation security. Specific topics of study will include security for ships and seaports; aircraft and airports; trains, ground transportation, and their related terminals; commercial trucking; pipelines and power transmission; bridges and tunnels; and major border-crossing control points. Existing and emergent technologies needed to detect terrorists, their weapons, and inherent vulnerabilities in infrastructure, will be a special emphasis of the course, along with discussion of the legal, economic, political, and cultural aspects of transportation safety and border security.
Prerequisite(s): CJS 251

CJS 255 ORGANIZED CRIME 3-3-0

This course examines the problem of organized crime (OC) from an interdisciplinary perspective, including a series of key legal, law enforcement and social issues, with a focus on American OC and enterprise crime in comparative perspective. Topics will include: the concept and definition of OC; a range of theoretical perspectives on OC; the relationship between white collar, criminal organized crime, enterprise crime and non-criminal economic activity; historical origins; ethnic connections; international linkages; models of organized crime; major organized crime groups; major organized criminal activities; emerging organized criminal activities; the relationship of OC to public corruption; strategies for combating organized crime; and the future outlook.

(Also offered as SOC 255.)
Prerequisite(s): CJS 100 or SOC 101.

CJS 260 SPECIAL STUDIES IN CRIMINAL JUSTICE 3-3-0

This course will explore topics and areas within the criminal justice field. Subject matter will vary from each semester and reflect an in-depth study of the particular issues being examined. A seminar approach will be employed in this course.

Prerequisite(s): CJS 100

CJS 265 PUBLIC SAFETY TECHNOLOGY 3-3-0

This course focuses on current themes in public safety technology, including such topics as: Computer Aided Dispatch, basic ideas of mobile radio technology, mobile data/mobile computer capabilities and functionality, public safety applications for Global Positioning technology, as well as emerging trends that will appear in the Public Safety arena in the next 3 to 5 years. An overview of standards governing communications systems, dispatchers, and other areas of public safety technology will also be covered. Topics will be covered at a non-technical level to provide the student with an overview and understanding of the technology rather than an in-depth examination of just a few specific items. Lectures will include live demonstrations of devices to reinforce key concepts and promote greater understanding. Students will prepare a summary paper in small groups on an emerging idea in public safety technology, based upon original research.

(Also offered as EMP 265 & FSC 265)
Prerequisite(s): FSC 100, EMP 100 or CJS 100.

CJS 270 POLICE DEPT. ORGANIZATION & MANAGEMENT 3-3-0

An introduction to concepts of organization and management as they relate to law enforcement. Topics include principles of structure, process, policy and procedure, communication and authority, division of work and organizational controls, the human element in the organization, and informal interaction in the context of bureaucracy. The course will deal with the history of policing in relation to organizational theory and practical innovation. It will explore the responsibilities of the police manager from the standpoint of the design and regulation of internal systems and procedures, the management of human resources, the management of capital plant and equipment, the budgetary and planning processes, functioning as part of a larger municipal bureaucracy, and inter-agency cooperation and coordination.

Prerequisite(s): CJS 100.

CJS 275 ADMINISTERING THE BUSINESS OF SECURITY 3-3-0

This course offers students an understanding of the role of management within a security organization. It describes techniques and offers practical methods that will help students achieve effective security department management. During the course, students will examine the following issues and topics: individual roles of security management personnel; policies and procedures; current computer applications that can help all

aspects of the security function; the importance of security statistics; and how to 'sell' the importance of the security function to senior management.

DANCE

DAN 101 INTRODUCTION TO DANCE STUDIES. 3-3-0

This course provides an introduction to the study of dance at the college level. The course is designed for dance majors or anyone with a serious interest in pursuing dance studies. The course focuses on the development and care of the dancer's instrument. Students will learn and practice the fundamental principles of correct dance technique common to Western dance forms. The course addresses practical concerns of dance training including: injury prevention, cardiorespiratory fitness and endurance, strength training, stretching for flexibility, diet and nutrition, and caring for the dancing body.

(Also offered as ESW 101)
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 with a minimum grade of "C"
REA 011 or REA 017 with a minimum grade of "C"

DAN 102 FUNDAMENTALS OF MODERN DANCE I. 3-3-0

This course provides an introduction to the principles and practice of modern dance. Ongoing dance technique classes will incorporate aspects of modern and postmodern dance, dance improvisation, Bartenieff Fundamentals, Pilates mat work, and stretching and relaxation techniques. Through these movement experiences, students will develop their technical dance skills, learn basic concepts of dance design, and further their understanding and cultivation of the body as an instrument of expression. The course will provide a basis for understanding the aesthetic principles of modern dance through movement experiences, critical viewing and analysis of masterworks of modern dance choreography, and class discussions. The class will attend one or more live dance performances.

Prerequisite(s): ENG 010 or ESL 010. REA 011 or REA 017

DAN 103 FUNDAMENTAL OF MODERN DANCE II 3-3-0

This course is a continuation of DAN 102 Fundamentals of Modern Dance I. Students consolidate and refine their skills as they continue the study and practice of modern dance at the elementary level. The class will attend one or more live dance performances.

Prerequisite(s): DAN 102 with a grade of C or better.

DAN 104 MODERN DANCE I 3-1-4

This course is a continuation of DAN 103 and is designed to advance the student to the intermediate level of modern dance technique. Students will continue to refine their skills as they increase their movement vocabularies. Warm-up exercises, center and traveling combinations will increase in complexity. The course includes anatomical information of particular importance to sound modern dance technique. The class will attend one or more live dance performances.

Prerequisite(s): DAN 103 with a grade of C or better.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 110 INTRODUCTION TO DANCE AS ART IN AMERICA. ... 3-3-0

This course offers the basis for understanding, appreciating, and participating in dance as an art form. It provides an overview of dance as artistic expression in 20th and 21st century America, with attention given to the artistic and cultural influences that have shaped American concert dance. Students will examine the work of major figures in American concert dance including Isadora Duncan, Doris Humphrey, Martha Graham, Jose Limon, Katherine Dunham, George Balanchine,

Alvin Ailey, Merce Cunningham, Yvonne Rainer, Steve Paxton, and Bill T. Jones. In this course, students will view, discuss, and analyze significant choreographic works in class. The class will attend a live dance performance and write about their experiences.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011
REA 011 or REA 017

DAN 121 FUNDAMENTALS OF BALLET I 3-3-0

This course provides an introduction to the theory, practice, and aesthetic foundations of classical ballet. Students will learn the foundations of classical ballet technique emphasizing correct body placement. The class will include exercises at the barre, center work, simple turns, jumps, and traveling movements. The course will include an overview of ballet history.

Prerequisite(s): ENG 010A, ENG 010 or ESL 010 and REA 011 or REA 017

DAN 122 FUNDAMENTALS OF BALLET II 3-3-0

This course is a continuation of DAN 121 Fundamentals Ballet I. Students consolidate and refine their skills as they continue the study and practice of classical ballet at the elementary level. The class will include exercises at the barre, center work, turns, jumps, and traveling movements.

Prerequisite(s): DAN 121 with a grade of C or better.

DAN 123 BALLET I 3-1-4

This course is a continuation of DAN 122 and is designed to advance the student to the intermediate level of classical ballet technique. Students will continue to refine their skills as they increase their vocabulary of classical ballet steps. Exercises at the barre, center work, and traveling combinations will increase in complexity. The course includes basic anatomical information of particular importance to sound ballet technique.

Prerequisite(s): Completion of DAN 122 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 131 FUNDAMENTALS OF JAZZ DANCE I 3-3-0

This course provides an introduction to the practice, aesthetics, and historical foundations of jazz dance. Classes will include center warm-up exercises and floor stretches, simple turns, jumps, and traveling movements, and more complex center combinations. The course will include an overview of jazz dance history.

Prerequisite(s): ENG 010A, ENG 010 or ESL 010 and REA 011 or REA 017

DAN 132 FUNDAMENTALS OF JAZZ DANCE II3-3-0

This course is a continuation of DAN 131 Fundamentals of Jazz Dance I. Students consolidate and refine their skills as they continue the study and practice of jazz dance at the elementary level.

Prerequisite(s): DAN 131 with a grade of C or better.

DAN 134 FUNDAMENTALS OF HIP HOP DANCE I.....3-3-0

This course provides an introduction to the theory, practice, aesthetics, and historical foundations of hip hop dance. Students will explore the roots of funk and hip hop dance in the social fabric of African, Caribbean, and Afro-Latin cultures while examining reinventions of ragtime, swing, and rock n' roll throughout the 20th century in America. Students will experience hip hop's manifestations across media by viewing dance films, listening to music, and reading essays and books. Historical and philosophical perspectives will be integrated into movement activities. Through movement, students will be introduced to the basic Laban principles of time, space, energy and the kinesphere. Students will explore personal, social, and cultural dynamics of race and the diversity of hip hop culture in the United States as well as political, social, and economic issues in hip hop abroad.

Prerequisite(s): ENG 010A, ENG 010 or ESL 010; and REA 011 or REA 017

DAN 135 FUNDAMENTALS OF HIP HOP DANCE II 3-3-0

This course is a continuation of DAN 134 Fundamentals of Hip Hop Dance I. Students consolidate and refine their skills as they continue the study and practice of hip hop dance at the elementary level.

Prerequisite(s): DAN 134 with a minimum grade of a C.

DAN 151 DANCE IMPROVISATION 3-3-0

This course is designed to help students discover and develop their creative movement potential. Through guided movement exercises, the class will explore the basic movement elements of space, time, weight, and flow and the spontaneous use of movement through structured improvisations derived from movement concepts, games, imagery, media sources, chance procedures, and various improvisational practices.

Prerequisite(s): ENG 010A, ENG 010 or ESL 010 and REA 011 or REA 017

DAN 155 DANCE PERFORMANCE ENSEMBLE I 1-3-2

This course introduces students to the process of preparing for and presenting a dance concert. Each student will choreograph and/ or perform at least one dance for public performance. Students will be introduced to the basics of dance production including costume selection, concepts of lighting design, use of sets and props, and stage makeup for dance. Students will be required to participate in rehearsals and performances outside of class time. Previous dance experience is expected.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 156 DANCE PERFORMANCE ENSEMBLE II 1-3-2

This course introduces students to the process of preparing for and presenting a dance concert. Each student will choreograph and/ or preform at least one dance for public performance. Students will be introduced to the basics of dance production including costume selection, concepts of lighting design, use of sets and props, and stage makeup for dance. Students will be required to participate in rehearsals and performances outside of class time. Previous dance experience is expected.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 157 DANCE PERFORMANCE ENSEMBLE III 1-3-2

This course introduces students to the process of preparing for and presenting a dance concert. Each student will choreograph and/or perform at least one dance for public performance. Students will be introduced to the basics of dance production including costume selection, concepts of lighting design, use of sets and props, and stage makeup for dance. Students will be required to participate in rehearsals and performances outside of class time. Previous dance experience is expected.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 158 DANCE PERFORMANCE ENSEMBLE IV 1-3-2

This course introduces students to the process of preparing for and presenting a dance concert. Each student will choreograph and/ or perform at least one dance for public performance. Students will be introduced to the basics of dance production including costume selection, concepts of lighting design, use of sets and props, and stage makeup for dance. Students will be required to participate in rehearsals and performances outside of class time. Previous dance experience is expected.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 161 DANCE REPERTORY AND PERFORMANCE I. 3-3-0

This course provides students with a structured rehearsal and performing experience. Students will learn one or more dances and perform for at

least one public performance during the semester. Repertory will vary each semester. Students will be required to participate in performances and workshops and to attend at least one dance performance outside of class time. Previous dance experience is expected.

Prerequisite(s): DAN 104. Students should have previous dance experience and the ability to learn and perform new material.

The instructor will evaluate each student's preparedness in the first week of classes.

Co-requisite: Students must be enrolled in a dance technique course during the same semester.

DAN 162 DANCE REPERTORY AND PERFORMANCE II.. 3-3-0

This course provides students with a structured rehearsal and performing experience. Students will learn one or more dances and perform for at least one public performance during the semester. Repertory will vary each semester. Students will be required to participate in performances and workshops and to attend at least one dance performance outside of class time. Previous dance experience is expected.

Prerequisite(s): DAN 104. Students should have previous dance experience and the ability to learn and perform new material. The instructor will evaluate each student's preparedness in the first week of classes.

Co-requisite: Students must be enrolled in a dance technique course during the same semester.

DAN 163 DANCE REPERTORY & PERFORMANCE III3-3-0

This course provides students with a structured rehearsal and performing experience. Students will learn one or more dances and perform for at least one public performance during the semester. Repertory will vary each semester. Students will be required to participate in performances and workshops and to attend at least one dance performance outside of class time. Previous dance experience is expected.

Prerequisite(s): DAN 104. Students should have previous dance experience and the ability to learn and perform new material. The instructor will evaluate each student's preparedness in the first week of classes.

Co-requisite: Students must be enrolled in a dance technique course during the same semester.

DAN 164 DANCE REPERTORY AND PERFORMANCE IV.....3-3-0

This course is a continuation of DAN 104. Students refine their skills and advance their technique as they continue the study and practice of modern dance at the intermediate level. The class will attend one or more live dance performances.

Prerequisite(s): DAN 163

Co-requisite(s): Students must be enrolled in a dance technique course during the same semester.

DAN 204 MODERN DANCE II 3-1-4

This course is a continuation of DAN 104. Students refine their skills and advance their technique as they continue the study and practice of modern dance at the intermediate level. The class will attend one or more live dance performances.

Prerequisite(s): DAN 104 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 205 MODERN DANCE III..... 3-1-4

This course is a continuation of DAN 204. Students continue to refine their skills and increase their strength, flexibility, and stamina as they advance their technique through the continued study and practice of modern dance at the intermediate level. The class will attend one or more live dance performances.

Prerequisite(s): DAN 204 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 206 MODERN DANCE IV 3-1-4

This course is a continuation of DAN 205. Students continue to refine their skills and increase their strength, flexibility, and stamina as they advance their technique through the continued study and practice of modern dance at the intermediate level. The class will attend one or more live dance performances.

Prerequisite(s): DAN 205 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 223 BALLET II 3-1-4

This course is a continuation of DAN 123. Students refine their skills and advance their technique as they continue the study and practice of classical ballet at the intermediate level.

Prerequisite(s): DAN 123 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 224 BALLET III3-1-4

This course is a continuation of DAN 223. Students continue to refine their skills and increase their strength, flexibility, and stamina as they advance their technique through the continued study and practice of classical ballet at the intermediate level.

Prerequisite(s): DAN 223 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 225 BALLET IV3-1-4

This course is a continuation of DAN 224. Students continue to increase their proficiency in classical ballet technique as they hone their movement skills, increase their physical capacity, and refine their skills of artistic expression through the continued study and practice of classical ballet at the intermediate level.

Prerequisite(s): DAN 224 with a grade of C or better..

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DAN 251 DANCE COMPOSITION3-3-0

This course provides an immersion into the creative act of choreography. Through short in-class assignments and extensive work outside of class, students will investigate both form and content in choreography. Students will create and perform solo and group studies based on choreographic problems.

Prerequisite(s): DAN 151 with a grade of C or better.

DENTAL HYGIENE

DHG 100 THEORY AND PRACTICE OF DENTAL HYGIENE I ..4-3-6

A course designed to introduce the dental hygiene student to the profession of dental hygiene, theories and rationales for basic dental hygiene care procedures and the prevention of dental disease, ethical principles, infection control, risk factors for oral disease and treatment planning. Practical application of fundamental concepts and skills are applied in the clinical setting on student partners with emphasis on workplace safety, hazards management, ergonomics, assessment and instrumentation.

Prerequisite(s): Completion of Special Admission Guidelines and admission to the Dental Hygiene Program. MAT 011 with a grade of "C" or better. Co-requisites: DHG 111 and DHG 155.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 111 DENTAL ANATOMY 2-2-0

This course is designed to familiarize the dental hygiene student with all phases of dental anatomy. Topics of study include gross anatomy, nomenclature, eruption sequence, morphology and physiology of the oral structures with emphasis on the primary and permanent dentitions, occlusion, an overview of the temporomandibular joint, and anomalies of the oral structures. The coronal structure and root morphology for individual teeth will be addressed and related to direct patient care procedures.

Prerequisite(s): Completion of Special Admission Guidelines and admission to the Dental Hygiene Program. Co-requisites: DHG 100 and DHG 155

DHG 155 DENTAL RADIOLOGY 2-1-3

This course enables the dental hygiene student to acquire the knowledge, skills, and attitudes necessary to produce dental radiographs of diagnostic quality with minimum patient exposure to radiation. Topics of study include the principles of radiation physics, radiation biology, radiation safety, radiographic technique, processing, patient management, quality assurance, patient selection criteria, mounting and evaluation, recognition of anatomic landmarks and common radiographic findings and alternate imaging modalities. A laboratory component provides the student with the opportunity to learn and practice radiology skills on simulation manikins in preparation for operating competently in the clinic environment.

Prerequisite(s): Completion of Special Admission Guidelines and admission to the Dental Hygiene Program. Co-requisites: DHG 100 and DHG 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 158 THEORY AND PRACTICE OF DENTAL HYGIENE II... 5-2-12

This course is designed to provide the dental hygiene student with the opportunity to expand knowledge and experience in planning and providing oral health services. Topics include nutritional counseling, instrumentation, prevention education and communication, desensitization, tobacco cessation, ethics as well as the hygienist's role in dental specialties. Focus is placed on the student's development of skills in communication and treatment of patients through the lifespan as well as functioning in clinic in an effective and efficient manner. Students provide educational and clinical services with an emphasis on comprehensive care for child and adult clients at the Central Campus' dental hygiene clinic.

Prerequisite(s): DHG 100, DHG 111 and DHG 155

Co-requisite(s): DHG 159 and DHG 161

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 159 HISTOLOGY AND PATHOLOGY OF THE ORAL TISSUES 3-3-0

This course presents the development and microscopic anatomy of the cells, tissues and organs of the oral cavity. Building on the concepts of general histology and embryology, the nature of disease is addressed with respect to etiology, mechanism of disease formation and the body's response to injury. The clinical presentation of basic disease processes that affect the oral cavity and the clinical and histological recognition of oral neoplasia are emphasized.

Prerequisite(s): DHG 100, DHG 111 and DHG 155

Co-requisite(s): DHG 158 and DHG 161

DHG 161 PERIODONTICS I 2-2-0

This course covers the study of the microscopic and clinical aspects of the normal and diseased periodontal tissues. Utilizing the knowledge of normal tissues, the students will learn to recognize the changes that occur in periodontal disease at the clinical and microscopic level. Students

will apply this background knowledge to classify periodontal disease using the American Academy of Periodontology Classification System.

Prerequisite(s): DHG 100, DHG 111, DHG 155

Co-requisite: DHG 158

DHG 224 MATERIALS IN DENTISTRY 2-1-3

This course is designed to provide students with a survey of dental materials and procedures, their reasons for use, proper technique and dental application. The scope of study includes gypsum products, impression materials, dental cements, amalgam, synthetic resins, nightguard vital bleaching, athletic mouthguards, prosthetics, finishing and polishing restorations, pit and fissure sealants, digital photography and advanced instrumentation. Laboratory sessions provide students with hands-on experience with selected dental material procedures and instrumentation.

Prerequisite(s): DHG 158, DHG 159, DHG 161, BIO 132

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 226 DENTAL PAIN CONTROL 2-1-3

The course is a study of the basic and current concepts in the administration of local dental anesthetics. Topics examined include the mechanism of action, local and systemic effects, tissue diffusion and toxicity of anesthetic agents used in dentistry. Patient assessment including medical considerations, apprehension and pain threshold will be evaluated for determining the indications and contraindications of dental pain control. Selection of appropriate anesthetic agents and proper administration techniques will be emphasized. The pharmacology, principles of nitrous oxide analgesia administration, patient considerations and legal issues will be discussed.

Prerequisite(s): DHG 224. Corequisites: DHG 228 and DHG 261

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 228 THEORY AND PRACTICE OF DENTAL HYGIENE III 8-4-4

The course introduces the student to the general pathology and physiology of relevant diseases and conditions that may present in the clinical setting. Discussion includes the methods of treatment and the oral health impact of the disease or treatment. The recognition and management of medical emergencies will also be examined. Special emphasis will be given to diseases, condition and drugs of importance in clinical dentistry. Further, this course is designed to broaden the realm of clinical procedures performed by the dental hygiene student and to enhance the student's abilities to integrate basic, dental and psychosocial sciences in evaluating, planning and implementing a comprehensive dental hygiene treatment plan for varied patient populations.

Prerequisite(s): DHG 224. Co-requisites: DHG 226 and DHG 261

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 229 EXPANDED FUNCTION DENTAL ASSISTING I..... 4-3-3

This course is designed to expand student's skills in the area of restorative dentistry through both lecture and on-campus laboratory practice. These skills include the placement of temporary and permanent restorations utilizing a variety of dental materials; rubber dam applications, placement of sealants, finishing and polishing techniques; coronal polishing and fluoride applications; taking impressions for the construction of mouth guards, fluoride trays, bleaching trays and crown and bridge temporary restorations.

Prerequisite(s): Admission to the Expanded Function Dental Assistant Specialty Certificate Program.

DHG 230 EXPANDED FUNCTION DENTAL ASSISTING II.....3-1-8

This course is designed to further expand student's skills in restorative dentistry through didactic seminar and focused competency development in clinical practice. The clinical component consists of a 120-hour rotation in a dental office performing reversible restorative procedures under the direct supervision of a dentist.

Prerequisite(s): Successful completion of DHG 229 within the past 3 months and current documented evidence of employment as a Certified Dental Assistant and/or Licensed Dental Hygienist. .

DHG 253 COMMUNITY DENTISTRY 2-2-0

This course is designed to introduce the student dental hygienist to the knowledge and skills necessary to promote oral health in the community. Topics include an overview of public health and its relationship to community dental health, epidemiology and prevention of oral disease, factors affecting the delivery, financing and utilization of dental services, planning community dental programs, and basic research and statistical concepts. Students will apply course content to assess, design, implement and evaluate a community dental health program.

Prerequisite(s): DHG 261, DHG 226, DHG 228

Corequisite: DHG 258

DHG 258 THEORY AND PRACTICE OF DENTAL HYGIENE IV.....6-2-8

This course is designed to prepare students to make the transition into dental hygiene practice. Emphasis is placed on new technologies in oral health care, genetic risk factors for periodontal diseases, periodontal disease as a potential risk factor for systemic diseases, ethical and legal considerations in clinical practice, career options and current issues in dental hygiene.

Prerequisite(s): DHG 261, DHG 226, DHG 228

Corequisite: DHG 253

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

DHG 261 PERIODONTICS II 2-2-0

The major emphasis of this course is on treatment planning (intraoral photographs, periodontal charting, occlusal analysis, patient education) and therapy (pain control, chemotherapeutic agents, site specific drug therapy, host modulation drug therapy, periodontal surgery, periodontal packs, sutures) of the periodontal patient.

Prerequisite(s): DHG 158, DHG 159, DHG 161

Co-requisite: DHG 228

ECONOMICS AND FINANCE

ECO 110 ELEMENTS OF ECONOMICS 3-3-0

Students will develop economic literacy in both macro economics (business cycles, inflation, unemployment, etc.) and microeconomics (markets, competition, poverty, pollution, etc.). Business majors planning to transfer may not substitute this course for ECO 121 Macroeconomics or ECO 122 Microeconomics.

Prerequisite(s): Students must have successfully completed or tested out of MAT 010 or MAT 010B.

ECO 111 PERSONAL FINANCE 3-3-0

Students will learn the management of personal finances, and how to solve personal financial problems. Topics include saving, borrowing, purchasing life, health and property insurance, social security, home buying, buying stocks and bonds, and estate planning.

ECO 115 PRINCIPLES OF PERSONAL INVESTING. 3-3-0

Students learn both a conceptual and applied approach to personal investments. Financial theory is used as a practical guide to

understanding the workings of financial markets. Topics include the investment risk/return relationship, debt and equity instruments, sources of investment information, efficient markets, managing your portfolio, and investment companies.

ECO 121 MACROECONOMICS 3-3-0

Students are introduced to the basic economic problem, the study of economics, and the American capitalist market system. Macroeconomic topics discussed are the business cycle, inflation, unemployment, economic growth, and government policies for stability and growth.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and MAT 011 or MAT 011B

This course has an Honors version, ECO 121H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

ECO 122 MICROECONOMICS 3-3-0

Students are introduced to the American capitalist market system. Microeconomic topics discussed are markets, pricing, competition, and resource allocation both domestically and internationally. Also discussed are government policies directed at solving problems in these areas.

Prerequisite(s): ECO 110 or ECO 121.

ECO 130 ECONOMICS OF GLOBALIZATION 3-3-0

Students investigate the forces shaping the global economy including the principles of global economics that drive international trade (comparative advantage, tariff/non-tariff barriers, and trade history), international finance (balance of trade and exchange rates), international capital and labor flows, and world-wide economic development. Also studied will be the international organizations created to facilitate global economic integration.

Prerequisite(s): MAT 011 or MAT 011B and ECO 110, or ECO 121, or ECO 122

ECO 211 PRINCIPLES OF FINANCE 3-3-0

Students analyze financial systems, financial investments, and business finance. Topics include money, banking and financial markets, Federal Reserve operations and policy, saving and investing, interest rate determination, securities markets, and business financial data and analysis. The course provides an overview of the field of finance for those seeking an introduction to the principles of financial analysis or for the non-finance business major.

Prerequisite(s): ACC 115 (ACC 111 with a minimum grade of "C" may be substituted), and ECO 110, ECO 121 or equivalent

ECO 221 MONEY AND BANKING 3-3-0

Students will analyze the American financial system. Topics discussed are financial markets, monetary theory and policy, organization and control of the banking system, bank functions and operations, and the operation of the Federal Reserve System.

Prerequisite(s): ECO 121 and ECO 122

EDUCATION

EDU 100 INTRODUCTION TO EDUCATION 3-3-0

This course is designed to give prospective teachers a proper introduction to the field of education. There is a strong emphasis on present-day practices, issues, and theories while also exploring ethics and educational history. While in class, students will participate in various instructional strategies both individually and in group settings. In addition, students will gain educational perspective while engaging

in observations in an early childhood, elementary, or secondary school setting. Students must submit Child Abuse History Clearance, FBI Clearance, and PA Criminal Record Check.

EDU 120 TEACHING WITH TECHNOLOGY IN MIDDLE YEARS AND SECONDARY EDUCATION 3-3-0

This course will give students the opportunities to explore, utilize, evaluate, and integrate the computer and technology into their classrooms and curriculum. Students will be involved in many aspects of this integration, including lesson plan writing and unit designing. Students will develop the skills for enriching their classrooms with computers and technology.
 (Also offered as CIS 120.)

EDU 210 TEACHING YOUNG CHILDREN: AN INTRODUCTION TO EARLY CHILDHOOD EDUCATION 3-3-0

This course is an introduction to the field of early childhood education and care. It provides a broad overview to the history, philosophy and theories of development as they relate to current best teaching practices. With the increased attention to different kinds of educational standards, the course is directly linked to the NAEYC Learning Standards, the Code of Ethics and the PA Learning Standards for Early Childhood. Students will examine the teacher's role in creating responsive, multicultural, and inclusive environments for young children, as well as the importance of play in the learning process will be stressed. The development of observation skills combined with practical experience will aid the student in documentation of young children's thinking and behavior during the field experience component of the class. Health and safety in the early childhood environment, classroom management strategies, and communication skills will also be discussed. Throughout the course, discovering who you are in the lives of children will assist in the process of becoming an early childhood professional.

EDU 213 WORKING WITH CHILDREN WITH SPECIAL NEEDS..... 3-3-0

An introductory course that provides students with an overview of the historical perspective as well as current issues and practices related to special education. Students will learn about laws that affect students with special needs and the classification of exceptionalities identified by the laws. Students will acquire knowledge of definitions, terminology, and assessment tools that relate to special education. The focus will be on the types of accommodations and adaptation that a teacher should make to support students with special needs to ensure their success. Each student will be assigned to a public school special education classroom for the purpose of gaining a first-hand knowledge of the current state of the art of special education.

Prerequisite(s): Completion of, or concurrent registration in, EDU 100

EDU 225 GUIDING CHILDREN'S READING DEVELOPMENT 3-3-0

In this course, students will learn how literacy skills, reading, writing, speaking, and listening develop in young children from birth to fourth grade. They will develop an understanding of their roles as teachers in supporting this development by creating literacy-rich environments and intentionally exposing children to critical skills at the appropriate ages. Skill development that will be addressed in this course includes: emergent literacy skills, word recognition skills, such as phonics skills, context clues, and structural analysis, comprehension, assessment techniques, and approaches to remediation.

Prerequisite(s): EDU 100

EDU 226 ART FOR YOUNG CHILDREN 3-3-0

EDU 226 is designed for the classroom teacher of young children who regularly provides artistic experiences in the curriculum. The course

is grounded in a comprehensive approach to art education instruction based on the four core disciplines of art making, art criticism, art history, and aesthetics. The concept of creativity is thoroughly examined and applied to the many, numerous projects made by the students. Students will recognize and identify the artistic elements that will help them communicate with young children as a common vocabulary in talking about their artwork as well as critiquing others. An appreciation of aesthetics and art history are a part of the topics. Other topics include children's artistic development, integrating art into other curricular areas, and the enhancement of development through children's art.

EDU 227 TEACHING MATHEMATICS TO CHILDREN 3-3-0

This course is designed to teach students how to teach mathematics skills from pre-numbers through elementary school skills. Math readiness skills, the four basic math processes, fractions, geometry, decimals, and the metric system are covered. The course also teaches students to use manipulatives in the teaching of mathematics.

EDU 228 LITERATURE IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION 3-3-0

This is a required course for students who are in the Education in the Early Years: Birth through Fourth Grade Program. It includes a comprehensive examination of children's literature including a variety of genres, authors, and illustrators. Students will examine authors' literary styles and techniques and learn how to include children's literature in every content area of the curriculum. In addition, students will become familiar with literary elements and authors' uses of them to achieve a specific purpose. They will develop skills in the use of storytelling and dramatization. Students will learn how to assess the quality and appropriateness of children's literature for various ages.

Prerequisite(s): EDU 100

EDU 233 EARLY CHILDHOOD CURRICULUM 3-3-0

Early Childhood Curriculum is a comprehensive course the addresses all aspects of teaching young children. Students explore both the Infant/Toddler and Preschool age groups and approaches. Throughout the course, students will be exposed to various approaches to curricula with emphasis on emergent curriculum. Students will be expected to develop appropriate curricular strategies to be used in an early childhood program. This course must be taken at the same time as student teaching, EDU 250.

EDU 240 TEACHING ENGLISH LANGUAGE LEARNERS 3-3-0

This course will enable students to better meet the challenge of educating English Language Learners in the inclusive classroom. This course will emphasize differentiating instruction for English Language Learners, strategies and materials needed to educate English Language Learners, second language acquisition, cultural sensitivity, challenges for English Language Learners in content area classes, and Pennsylvania Language Proficiency Standards for English Learners. This course will address PA teaching certification guidelines, as specified in Chapter 49-2.

Prerequisite(s): ENG 10A, ENG 011 or ESL 011 and REA 011 or REA 017

EDU 245 CONNECTING FAMILIES, SCHOOLS AND COMMUNITIES 3-3-0

This course, designed for Education majors, will allow students to explore the concept of family, beginning with an understanding of their own families and moving on to diverse family structures, communication styles, parenting styles, family roles, and community engagement. Students will learn how to create meaningful relationships with families in order to enhance learning opportunities for children. In addition, students will investigate community organizations that support families

and schools in order to develop community connections and be able to provide information to families.

Prerequisite(s): ENG 010A or ESL 010 and REA 010 or REA 014

EDU 250 STUDENT TEACHING 6-15-0

This course provides field experience for students in the Education in the Early Years Program: Birth through Fourth Grade. It acts as a capstone course for this program. Students spend 15 hours per week observing, planning and implementing their plans in an early childhood classroom under the daily supervision of an experienced teacher. A faculty member from the College oversees the entire placement, arranging for the placement, orienting the on-site teacher and director, observing the student teacher on a regular basis, and providing feedback to the student teacher based on the observations. Transportation is the responsibility of the student. This course is taken at the end of the program in conjunction with EDU 233, Early Childhood Curriculum. Students need permission of a faculty member or advisor before registering for student teaching. (A student must get permission of student teacher supervisor.)

Prerequisite(s): All required courses in the Education in the Early Years Program: Birth through Fourth Grade should be taken prior to this course.

Co-Requisite: EDU 233

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/> tuition/course-fees for current rates.

EMERGENCY MANAGEMENT PLANNING

EMP 100 EMERGENCY PLANNING 3-3-0

This course will introduce the student to the concepts of Emergency and Crisis Planning. The course provides an conceptual overview of planning as a means to anticipate, prevent, prepare for, respond to, and recover from any incident. The course will analyze the planning process in its constituent parts, such as hazard analysis, resource assessment, plan development, coordination with others, and plan implementation, training, and education. Students will work in an interactive program to establish a planning process for companies or municipalities. Students will learn from actual case experiences, and will sharpen their understanding and relevant skills.

EMP 110 INCIDENT MANAGEMENT. 3-3-0

This course is designed to provide the student with an overview of the 'Incident Command' – 'Unified Command' Structure. Students will analyze incident management from various perspectives, including those of local fire departments, in industrial settings, and through the use of case studies such as the Oklahoma City bombing. Students will work interactively to prepare for future roles and responsibilities as those charged with a management role in incident command, control or mitigation. Moreover, the student will learn from the experiences of others, sharpening their understanding and skills relative to the dimensions of emergency incident management.

EMP 120 SEARCH & RESCUE 3-3-0

This is a skills-based course that will provide the student with practical knowledge concerning the general responsibilities, skills, abilities, and equipment needed by those involved in search and rescue efforts. The course will also provide the student with practical exercises and search missions where they will be required to utilize the proper equipment and methods. The content of the course includes topics in three major areas: survival, support, and search and rescue. The course will afford the opportunity to discuss and investigate the role of search and rescue in

relation to incident management as well as the roles and responsibilities of search and rescue leaders. Students will learn from the experiences of others through actual case analysis.

EMP 200 SEMINAR IN EMERGENCY MANAGEMENT 1-1-0

This course will provide the student with a forum for discussion of the basic need for emergency management, emergency planning and incident management. This course will also offer an overview of the roles and responsibilities of the Incident Safety Officer in preparation for a series of response drills to implement student knowledge in these areas. In addition, a functional exercise utilizing advanced interactive simulation software will be conducted to confirm the course outcomes and test student competencies.

Prerequisite(s): EMP 100 and EMP 110.

EMP 210 LEADERSHIP & INFLUENCE IN EMERGENCY RESPONSE 3-3-0

This course is intended to serve as a 4th semester capstone course in the EMP Program. It will provide the student with an overview of the theories and concepts of leadership development, as well as to inculcate higher-order leadership skills and competencies. The course will examine leadership from a core values approach, systems (chain of command) approach, a functional approach, and a skills approach (motivation, supervision and communications). Students will study the process approach by looking at leadership as a process of influencing an organization or group to achieve desired ends.

Prerequisite(s): EMP 100 and EMP 110.

EMP 250 TERRORISM & COUNTERTERRORISM 3-3-0

Terrorism in the 21st century is a global phenomenon. This course is designed to provide a comprehensive and interdisciplinary survey of the history, theory, and modern-day political manifestations of terrorism and counter-terrorism. Terrorism will be evaluated in terms of its underlying cultural, economic, political, and psychological root causes. Effective counteraction and profiling requires empathetic explorations and analyses by students into causes and mind-sets. Counter-terrorism strategies and tactics will also be examined specifically in light of the legal and procedural safeguards that are fundamental to the maintenance of liberal democratic social and political values.

(Also offered as POL 250, SOC 250, and CJS 250.)

Prerequisite(s): A passing grade in at least one introductory level course in any of the following: CJS, HIS, POL, or SOC.

EMP 265 PUBLIC SAFETY TECHNOLOGY 3-3-0

This course will focus on current themes in public safety technology, to include such topics as: Computer Aided Dispatch, basic ideas of mobile radio technology, mobile data/mobile computer capabilities and functionality, public safety applications for Global Positioning technology, as well as emerging trends that will appear in the Public Safety arena in the next 3 to 5 years. An overview of standards governing communications systems, dispatchers, and other areas of public safety technology will also be covered. Topics will be covered at a non-technical level to provide the student with an overview and understanding of the technology rather than an in-depth examination of just a few specific items. Lectures will include live demonstrations of devices to reinforce key concepts and promote greater understanding. Students will prepare a summary paper in small groups on an emerging idea in public safety technology, based upon original research.

(Also offered as CJS 265 and FSC 265.)

Prerequisite(s): FSC 100, EMP 100 or CJS 100.

ENGINEERING SCIENCE

EGR 102 INTRODUCTION TO ENGINEERING3-2-2

This course provides solid foundation of skills to solve engineering problems. Students demonstrate problem solving techniques with spreadsheets, dimensions and units; use modeling techniques and interpret validity of experimental results. Students design projects on multi-discipline teams. The course introduces professional and societal issues appropriate to engineering. Various forms of technical communication are emphasized.

Prerequisite(s): MAT 011 or MAT 011B and REA 011 or REA 017

EGR 111 ENGINEERING COMPUTATIONS 3-2-2

In engineering environments, it is critical to recognize when and how a computer can assist in the analysis of a problem. This course will introduce the key concepts of good programming practice and show how computer programming directly relates to solving engineering problems. Multiple programming environments are used, each one emphasizing the same core concepts, yet customized to support a specific category of engineering problem application.

Prerequisite(s): MAT 100

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 115 ENGINEERING GRAPHICS 3-2-2

This course covers the basics of 3-Dimensional Solid Modeling design from conception through to final product production. Drawing, dimensioning, and tolerancing techniques are discussed as well as fitment and scaling. Solutions to 3D problems and spatial analysis through descriptive geometry are also analyzed.

Prerequisite(s): MAT 100

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 203 ENGINEERING STATICS.....3-2-2

This course describes the mechanical behavior of materials and systems in equilibrium using Newton's laws of motion. Students will learn the principles of force and moment equilibrium, construction and analysis of free-body diagrams, understanding distributed forces, friction, and structural response.

Prerequisite(s): EGR 111, EGR 115, MAT 190 and PHY 151.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 204 ENGINEERING DYNAMICS3-2-2

This course is a vector approach to the study of the rectilinear and curvilinear motion of particles and rigid bodies as described by rectangular, polar, and path coordinates and the study of the forces that produce such motion as described through the application of Newton's second law of motion, work-energy relationships, and impulse and momentum principles, including rigid body rotation and relative motion.

Prerequisite(s): EGR 203 Co-requisite: MAT 201

EGR 210 DIGITAL SYSTEMS 4-3-3

This course introduces the fundamentals of digital systems design. It is designed as a foundation course for those pursuing studies leading to a degree in electrical, electronics or computer engineering.

Prerequisite(s): EGR 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 211 LINEAR ELECTRICAL SYSTEMS I4-3-3

This course covers the fundamental laws and procedures of electric circuit

analysis including Kirchhoff's laws, superposition, and Thevenin's and Norton's theorems. Elementary transients, sinusoidal steady-state analysis, impedance, power transfer and operational amplifiers are covered.

Prerequisite(s): EGR 111, MAT 190 Corequisites: MAT 201 and PHY 152

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 213 MECHANICS OF MATERIALS..... 3-2-2

This course covers the deformation of beams and shafts using energy methods and structural analysis, the analysis of stress and strain, stress-strain relations, shear and moment diagrams, stress and strain transformations, failure criteria and elementary plasticity.

Prerequisite(s): EGR 203 and MAT 201

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 214 LINEAR ELECTRICAL SYSTEMS II.....4-3-3

This course introduces the concepts of linear systems theory as applied to electrical networks, AC steady state analysis, frequency response, two-port models, Fourier series, and Laplace transforms

Prerequisite(s): EGR 211, MAT 201, PHY152

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 291 ENGINEERING RESEARCH I3-2-2

This course provides the student with an introductory research experience focused on a specific topic in engineering. Utilizing the scientific method, students will conduct literature reviews, design and execute experiments, collect and analyze data, and report out on results through technical reports and presentations. Students will learn best practices in experimental design, data collection, and laboratory notebook maintenance.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGR 292 ENGINEERING RESEARCH II.....3-2-2

This course provides students with an additional research experience building upon work performed in EGR 291, Engineering Research I. Students may continue projects or initiate new ones. Utilizing the scientific method, students will conduct more advanced literature reviews, and play a leadership role in the design and execution of experiments, data collection/analysis, and reporting of results through technical reports and presentations. Students will continue to hone best practices in experimental design, data collection, and laboratory notebook maintenance.

Prerequisite(s): EGR 291 with a grade of "C" or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ENGINEERING TECHNOLOGY

EGT 190 PRINCIPLES OF CRITICAL THINKING IN TECHNOLOGY3-3-0

The primary aim of this course is to teach students how to apply standards of critical thinking to everyday problem-solving situations in order to succeed in a rapidly changing world. Critical thinking standards are studied and applied to a variety of everyday situations to develop fact-finding and sound questioning skills in order to more effectively assess and find solutions to problem situations. Developing critical thinking behavior will improve the technology student's ability to "troubleshoot" systems. Business students will benefit by doing more efficient cost/benefit analysis and students of other disciplines will find

learning how to think more critically a tremendous asset to their lives.
Prerequisite(s): High School graduate.

EGT 203 APPLIED STATICS4-3-3

This course covers Newton's first law as applied to particles and rigid bodies. Topics include the study of elementary, analytical and practical applications of the principles and physical concepts of statics.

Prerequisite(s): EGT 190, MAT 161, and PHY 121 or equivalent. Co-requisite: MAT 162
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 204 APPLIED DYNAMICS 4-3-3

This course covers topics on kinematics, work-energy equations, and impulse-momentum theory as they apply to rigid bodies, with an emphasis on engineering situations. Students will also be introduced to vibration theory.

Prerequisite(s): EGT 190, MAT 162 and PHY 121.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 210 DIGITAL CIRCUITS 4-3-3

This course introduces the student to basic digital circuit design and analysis with an emphasis on applications. The course is taught in a laboratory-oriented environment and incorporates a design-of experiments approach to fabrication and test of a variety of digital circuits. Interactive computer-based instructional systems reinforce the material covered in class.

Prerequisite(s): EGT 190, . PHY 122 and MAT 161.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 211 AC/DC CIRCUITS 4-3-3

This course covers advanced principles of passive DC and AC electrical circuits. The DC network is initially introduced to provide a solid understanding of the relationships of multiple current and voltage supply configurations in multi-loop circuits. The single-phase sinusoidal AC network is then introduced followed by multi-phase AC networks. Basic filtering networks and transformer theory are also covered. Substantial laboratory-based activities are included to reinforce and validate the circuit theory. A basic background in college-level general physics II is required as well as a working knowledge of complex- number mathematics, simultaneous equations, and basic trigonometry to enroll in this course.

Prerequisite(s): EGT 190, PHY 122 and MAT 162

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 212 APPLIED FLUID MECHANICS 4-3-3

This course covers topics in fundamental fluid mechanics theory including fluid properties, static fluids, kinematics of fluids, and the general energy equation. Applied topics include power requirements of hydraulic and turbo machinery, steady incompressible flow in pressure conduits, and flow measurements.

Prerequisite(s): EGT 190, MAT 162, PHY 121 and PHY 122

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 213 APPLIED STRENGTH OF MATERIALS. 4-3-3

This course is an intensive study of the mechanical properties of materials used in engineering. Topics covered include stress-strain relationships, shear and moment diagrams, design of beams and columns, welded connections, pressure vessels, stress concentrations, and material properties.

Prerequisite(s): EGT 190 and MAT 162

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 215 APPLIED THERMODYNAMICS.....4-3-3

This course introduces the student to the fundamental heat transfer equations for conduction, convection, and radiation and heat exchanger design. Topics will also include instruction on fundamental concepts of the first and second laws of thermodynamics and their applications to engineering systems. All lecture material presented in class will be reinforced by in-class laboratory experiences.

Prerequisite(s): EGT 190 and MAT 162

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 230 ANALOG CIRCUITS 4-3-3

This course introduces the student to the implementation of commercially available solid-state devices and linear integrated circuits in analog electronic systems. The course is taught in a laboratory-oriented environment and incorporates a design-of-experiments approach to fabrication and test of a variety of communication systems. Interactive computer-based instructional systems reinforce the material covered in class.

Prerequisite(s): EGT 190, PHY 122, MAT 162 or MAT 115 and MAT 116

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 235 INSTRUMENTATION AND CONTROLS 4-3-3

This course provides the student the opportunity to investigate the selection and use of automated control devices and their associated input and output interfaces to measure operating characteristics in both electrical and mechanical systems. The student will work with programmable logic equipment as well as electromechanical devices and design actual processes that will then be monitored and feedback-controlled. A design-of-experiments approach to learning is incorporated into the course.

Prerequisite(s): EGT 190, PHY 121 and PHY 122 , MAT 162, EGR 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

EGT 240 COMMUNICATION SYSTEMS 4-3-3

This course introduces the student to the principles of analogue and digital data transmission by way of RF, microwave, wire, and fiber-optic technology associated with the transmission and reception of data. Wired and wireless LAN, cellular, satellite, radio, and microwave transmission are discussed and reinforced. This course is taught in a laboratory-oriented environment and incorporates a design-of-experiments approach to fabrication and test of a variety of communication systems. Interactive computer-based instructional systems reinforce the material covered in class.

Prerequisite(s): EGT 190, EGT 210, EGT 211, EGT 230, PHY 121 and PHY 122, MAT 162 or MAT 115 and MAT 116 or equivalent, EGR 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ENGLISH

***ENG 010A BASIC WRITING.....0-6-0**

ENG 010A uses writing and reading to focus on grammar, sentence structure, paragraph development, fundamental English usage, and intensive paragraph writing. The course is required of all students whose scores on the placement test indicate a need for intensive review of basic writing skills. ENG 010A may also be taken as a refresher course. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Placement test score of 0 or 1. *Placement into developmental courses restricts college level course choices.

***ENG 011 BASIC WRITING II 0-3-0**

ENG 011 emphasizes sentence structure, paragraph development, fundamental English usage, and intensive paragraph writing. The course is required of all students whose scores on the placement test indicate a need for intensive review of basic writing skills. ENG 011 may also be taken as a refresher course. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): "Placement test score of 2 or 3, or a grade of "C" or better in ENG010 or ENG 010A.

*Placement into developmental courses restricts college level course choices.

ENG 101 ENGLISH COMPOSITION I 3-3-0

ENG 101 is based on the premise that critical thinking generates clear writing. In this course, the student learns to read critically, a skill that involves distinguishing central ideas from supporting material and identifying an author's purpose, assumptions, attitudes, and biases. Additionally, the student in ENG 101 learns a writing process that involves generating ideas, drafting, composing, revising, and editing. The student also learns to locate, use, and accurately reference various sources of information.

Prerequisite(s): REA 017 or REA 011, ESL 011, ENG 010A or ENG 011 with a grade of "C" or better.

This course has an Honors version, ENG101H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

ENG 102 ENGLISH COMPOSITION II 3-3-0

ENG 102 focuses on writing the college-level research paper and develops each student's mastery of communication, information literacy, and analytic skills with emphasis placed on research and documentation methods. Students use writing, reading, listening, and observations skills to understand, organize, receive, and convey information. Using research gleaned from diverse sources, students employ logic, reasoning, and analysis to craft effective essays.

Prerequisite(s): ENG 101 with a grade of "C" or better. This course has an honors version, ENG 102H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

ENG 115 WRITING FOR TECHNICAL COMMUNICATION 3-3-0

Writing for Technical Communication entails the application of writing skills taught in ENG 101 and research skills. It teaches how to do on-the-job writing. It concentrates on special and practical forms of communication, letters and memos, the summary, the critique, the report, the article, and the technical speech. In addition, the course adapts formal English to the style of the technical or specialized writer. Prerequisite(s): ENG 101 with a grade of "C" or better

ENG 117 WRITING FOR BUSINESS AND INDUSTRY 3-3-0

Writing for Business and Industry entails the study of the principles of

general business communication for people in business and industry or students planning a career in business. The course includes intensive study of the mechanics, form, style, and content of business letters, memos, reports, proposals, and evaluations.

ENG 165 JOURNALISM I .. 3-3-0

ENG 165 introduces students to the art of journalistic writing. In this course, the student learns to present news in an objective and responsible manner, a skill that involves recognizing newsworthy events, organizing information, pitching articles to news editors, writing articles suitable for publication, and submitting properly formatted copy to news outlets, both traditional print and online. The student also learns to locate, use, and accurately reference various sources of information, both online and through interview and observation. Prerequisite(s): ENG 101 with a grade of "C" or better.

ENG 201 SURVEY OF ENGLISH LITERATURE I..... 3-3-0

A chronological survey of English literature from the beginnings through the Neoclassical period. The emphasis is on major writers, whose works are studied for their literary value and in their historical and philosophical contexts.

Prerequisite(s): C or better in ENG 101

ENG 202 SURVEY OF ENGLISH LITERATURE II..... 3-3-0

A chronological survey of English literature from the Romantic Period to the present. The emphasis is on major writers, whose works are studied for their literary value and in their historical and philosophical contexts.

Prerequisite(s): C or better in ENG 101

ENG 211 SURVEY OF AMERICAN LITERATURE I 3-3-0

A chronological survey of American literature from the Colonial Period to the Civil War. Significant works of American writers are studied for their literary value and in their historical and philosophical contexts.

Prerequisite(s): C or better in ENG 101

ENG 212 SURVEY OF AMERICAN LITERATURE II..... 3-3-0

This is a chronological survey of American literature from 1865 to the present. Upon successful completion of this course, students will be able to write analytical essays on literary texts, explain the individual, social, economic, and global forces that have shaped American literature from 1865 to the present, define the characteristics of realism, modernism, and postmodernism in relation to American literature, present chronologically the movements and major writers of American literature from 1865 to the present, and use secondary sources to analyze literary texts from diverse cultural and social perspectives.

Prerequisite(s): C or better in ENG 101

ENG 221 LITERATURE OF THE WESTERN WORLD I 3-3-0

This course is a survey of major periods, trends, ideas, and genres in Western literature from the beginning of Western tradition to the Renaissance. Representative writings and authors from the Old Testament to Shakespeare are studied.

Prerequisite(s): C or better in ENG 101

ENG 222 LITERATURE OF THE WESTERN WORLD II 3-3-0

A survey of major periods, trends, ideas, and genres in Western literature from the 17th century to the Modern Era. Representative writings and authors from Milton to the present are studied.

Prerequisite(s): C or better in ENG 101

ENG 228 LITERATURE IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION 3-3-0

This is a required course for students who are in the Education in the Early Years: Birth through Fourth Grade Program. It includes a comprehensive examination of children's literature including a variety of genres, authors, and illustrators. Students will examine authors' literary styles and techniques and learn how to include children's literature in every content area of the curriculum. In addition, students will become familiar with literary elements and authors' uses of them to achieve a specific purpose. They will develop skill in the use of storytelling and dramatization. Students will learn how to assess the quality and appropriateness of children's literature for various ages.

Prerequisite(s): EDU 100

ENG 235 POETRY3-3-0

The course will include a study of the techniques and styles of poetry as a means of understanding human experience. The course will be a survey of poems selected because of the insights and revelations which they provide. The course will also provide appropriate background information and instruction in types, techniques and styles of poetic composition with special emphasis on the relationship of these matters to the poetic vision of each work.

Prerequisite(s): C or better in ENG 101

ENG 236 FICTION.3-3-0

This course aims to cultivate an appreciation of the commentaries and influences on contemporary civilization by European and American writers of fiction. The short story and/or the novel will be studied in terms of structure, plot, setting, character development, point of view, tone and style which, in concert, will provide a deeper understanding of the author's vision.

Prerequisite(s): C or better in ENG 101

ENG 237 DRAMA3-3-0

The aim of the course will be to introduce the student to the significant playwrights of Western literature, concentrating particularly on those playwrights who have had a major influence on the theatre. A particular play will be approached in terms of the culture of its origin and as a representation of universal human values and conflicts. Specifically, the course will deal with a discussion of plot, character, theme, setting and diction.

Prerequisite(s): C or better in ENG 101

ENG 238 THE LITERARY VISION OF FILM3-3-0

This course focuses on film as a mode of literary expression. After developing a baseline knowledge of the techniques and devices of literature, selected films are viewed and discussed as works of literature. Only films which were created as films - that is, not based on books or works of drama - are considered. This is not a "film" course, and techniques related to film are not studied.

Prerequisite(s): C or better in ENG 101

ENG 245 SCIENCE FICTION.3-3-0

A survey of the works of distinguished science fiction writers from Jules Verne to the present. Novels and short stories by writers such as H.G. Wells, Isaac Asimov, Kurt Vonnegut, Robert Heinlein, Arthur Clarke and Ray Bradbury will be read and discussed. Discussions will be aimed at determining the specific characteristics of the genre and its relationship to fantasy and traditional fiction.

Prerequisite(s): C or better in ENG 101

ENG 246 AFRICAN-AMERICAN LITERATURE3-3-0

This course introduces the student to representative works by African Americans. Autobiographies, novels, poems, plays, and films will be studied, by some of the following: Frederick Douglas, Langston Hughes,

Richard Wright, Ralph Ellison, Zora Neale Hurston, Malcolm X, Leroy Jones, James Baldwin, Nikki Giovanni, Eldridge Cleaver, Toni Morrison, John Wideman, August Wilson, and Spike Lee.

Prerequisite(s): C or better in ENG 101

ENG 255 WOMEN IN LITERATURE3-3-0

This course will analyze the image of women in literary works. The instructor will select one of several possible formats to follow, such as thematic (e.g. women as mothers, wives, mistresses, shrews, temptresses, and heroes). The class will discuss themes, characters, structure, imagery, and point of view, all in relation to women's roles.

Prerequisite(s): C or better in ENG 101

ENG 256 LITERATURE AND FILM3-3-0

The purpose of this course is to acquaint the student with works of literature and their adaptations into films. Both forms will be discussed and studied as expressions of human experiences. The emphasis of the course will be on the literary work; typically, the film will be viewed and discussed as an adaptation of that work.

Prerequisite(s): C or better in ENG 101

ENG 257 CONTEMPORARY LITERATURE3-3-0

Contemporary Literature is a course designed to familiarize the student with what some of our best writers are doing today; possible emphases include journeys into the mind and the effects of electronic media. Such writers as Kerouac, Ginsberg, Bartheleme, Baraka, Pynchon, Barth, Bellow and Oates may be discussed.

Prerequisite(s): C or better in ENG 101

ENG 265 CREATIVE WRITING3-3-0

Introduction to Creative Writing entails the study of the craft of creative writing. Over the course of the semester, students will learn to identify and discuss the characteristics of literary creative writing, compose basic works of creative writing, employ effective editing and revision skills, and use a standardized vocabulary to justify aesthetic literary judgments. Class enrollment is limited to 20 students.

Prerequisite(s): C or better in ENG 101

ENG 266 ADVANCED CREATIVE WRITING3-3-0

This course develops further the writing skills learned in ENG 265. Students analyze literary models and critique each other's works with an emphasis on developing critical abilities necessary to refine their own works for publication. Most importantly, it will give them the chance to write for markets and learn the mechanisms through which they may submit their works for publication. They also may pursue special writing projects beyond the scope of the classroom, including chances to participate in internships and feature their own works while presenting coffeehouses or teaching writing workshops.

Prerequisite(s): ENG 265

ENG 275 SHAKESPEARE.....3-3-0

The course is a general introduction to the comedies, histories, and tragedies of Shakespeare. The aim of the course is to enable the student to appreciate Shakespeare's dramatic ability, his skill with language, and his insights into humanity.

Prerequisite(s): C or better in ENG 101

ENG 285 SOPHOMORE LITERATURE STUDIES3-3-0

Specialized sophomore level course typically dealing with a different subject each time the course is offered. Each course will present a body of literary materials which will serve as the basis for assisting the student in strengthening sensitivity to literature and developing the

critical abilities needed for understanding, evaluating and appreciating literature. Consult the English Department for a detailed description of the course currently being offered.
Prerequisite(s): C or better in ENG 101

ENGLISH AS A SECOND LANGUAGE

***ESL 003 ENGLISH AS A SECOND LANGUAGE I 0-6-0**

This semi-intensive (two hours a day, five days a week for seven weeks) ESL course introduces the student to the alphabet and basic vocabulary of the English language that will help them to talk about themselves, their families, jobs, shopping, and their new community. The course assumes that students are literate in their native language. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

***ESL 004 ENGLISH AS A SECOND LANGUAGE II 0-6-0**

This semi-intensive (two hours a day, five days a week for seven weeks) ESL course is designed to develop the student's ability to make sense out of the English language as acquired thus far. The understanding of English will be applied to the areas of reading, speaking and spelling. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): ESL 003 with grade of "C" or better or appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

***ESL 005 ENGLISH AS A SECOND LANGUAGE III 0-6-0**

This semi-intensive (two hours a day, five days a week for seven weeks) ESL course introduces the student to basic everyday structure, vocabulary and pronunciation with practice in listening/ speaking and writing. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): ESL 004 with grade of "C" or better or appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

***ESL 006 ENGLISH AS A SECOND LANGUAGE IV 0-6-0**

This semi-intensive (two hours a day, five days a week for seven weeks) ESL course is designed to develop the student's oral communication so that the native speakers would have little difficulty in understanding the student and to develop in the student the ability to write a well-constructed paragraph. This course is for students who have completed ESL 005 or have an appropriate score on the placement test. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): ESL 005 with grade of "C" or better or appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

ESL 009 ORAL/AURAL SKILLS 0-3-0

A course designed for developing listening comprehension and pronunciation skills for ESL students with low intermediate English proficiency. By using tapes of lessons and natural speech, the student should attain accuracy at the sound, word and sentence level. Conversation practice will be based on topical discussions, readings and student debates. This course is a prerequisite for ESL students who plan to take SPC 110. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

***ESL 010 BASIC WRITING I 0-3-0**

ESL 010 is a low intermediate course that integrates computerized interactive tutorials to develop writing skills and teach communication through writing. This course reviews simple and advanced verb forms, adjectives and adverbs. Emphasis is on sentence structures: word order, word choice, sentence combining and punctuation. Students will build upon their sentence skills to develop a unified paragraph of at least seventy- five words in length utilizing topic sentences. This is a required course for students who have successfully completed ESL 006. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): ESL 006 with grade of "C" or better or appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

***ESL 011 BASIC WRITING II 0-3-0**

This course covers advanced grammar structures and paragraph development. Emphasis is placed on writing in a coherent and well organized manner through the development of main ideas/ topic sentences, supporting information and conclusion. This course is for students who have successfully completed ESL 010 or have an appropriate score on the placement test. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): ESL 010 with grade of "C" or better or appropriate placement test score.

*Placement into developmental courses restricts college level course choices.

ESL 014 VOCABULARY AND READING COMP. DEVELOP. I..... 0-3-0

This reading course, designed for non-native English speaking students, focuses on development of academic reading skills, literal and interpretative comprehension, and vocabulary development. This course prepares non-native English speaking students to take college courses leading to a degree, a certificate, or to transfer. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse. (Also offered as REA 014).

Prerequisite(s): Students must have successfully completed or tested out of:

ESL 006 by permission of the instructor

ESL 017 VOCABULARY AND READING COMP. DEVELOP. II 0-3-0

Vocabulary and Reading Comprehension Development is designed to prepare advanced non-native English speaking students for the rigors of a college curriculum. The course focuses on comprehension strategies, critical reading and thinking, information literacy, and vocabulary development. There is a strong emphasis on vocabulary development. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

(Also offered as REA 017)

Prerequisite(s): REA 014 - Vocabulary and Reading Comprehension Development I with a minimum grade of C.

ENTREPRENEURSHIP

ETP 110 ENTREPRENEURIAL ESSENTIALS 3-3-0

This course will enable a student to explore the viability of a proposed entrepreneurial venture as well as key concepts and principles related to entrepreneurship. By conducting due-diligence research, the student will evaluate consumer and economic data that will result in a data-supported decision regarding the feasibility of a proposed venture.

Prerequisite(s): Students must have successfully completed or tested out of developmental courses.

This course has an honors version, ETP110H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

ETP 111 ENTREPRENEURIAL MARKETING.....3-3-0

This course will allow the student to gain insights essential for marketing an entrepreneurial venture utilizing innovative and financially responsible marketing strategies. Additionally, the student will prepare a marketing plan to launch the entrepreneurial venture, with an implementation strategy for the first two years of operation.

Prerequisite(s): Students must have successfully completed or tested out of developmental courses.

ETP 113 ENTREPRENEURIAL BUSINESS PLAN 3-3-0

This course will enable the student to prepare a professional, comprehensive business plan that will guide their business start-up and address capital funding. Topics to be covered include: the parts of a business plan, the planning process, and writing techniques that will get the plan noticed.

Prerequisite(s): Students must have successfully completed or tested out of developmental courses.

EXERCISE SCIENCE AND WELLNESS

ESW 100 FOUNDATIONS OF PHYSICAL EDUCATION 2-1-2

This course is designed to acquaint the student with concept of physical education as the study of human movement, motor development, and socialization of sport. Emphasis is placed on the ways body movement enhances growth, development, and wellness of the mind and body. Practical applications and activities will be included.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 101 INTRODUCTION TO DANCE STUDIES 3-3-0

This course provides an introduction to the study of dance at the college level. The course is designed for dance majors or anyone with a serious interest in pursuing dance studies. The course focuses on the development and care of the dancer's instrument. Students will learn and practice the fundamental principles of correct dance technique common to Western dance forms. The course addresses practical concerns of dance training including: injury prevention, cardio/respiratory fitness and endurance, strength training, stretching for flexibility, diet and nutrition, and caring for the dancing body. (Also offered as DAN 101)

Prerequisite(s): REA 017 or REA 011 and ESL 010 or ENG 010.

ESW 102 INTRODUCTION TO EXERCISE SCIENCE, WELLNESS AND SPORT STUDIES3-3-0

This ESW majors course is designed to provide foundational knowledge in exercise science, wellness, and sport studies through a broad range of classroom presentations and service learning experiences as well as integration of technology. Students will explore the various professional opportunities in the field and will develop an educational and professional plan to support their career aspirations.

ESW 106 AEROBICS 2-1-2

This course is designed to provide an overview of the theory of aerobic exercise and a selection of aerobic activities and exercises that will develop the student to a higher level of physical fitness with a working knowledge of the principles of exercise. Discussions will deal with such topics as cardiovascular endurance, muscular strength, neuromuscular coordination, flexibility, warm-up, workout progression, cool down, and body nutrition for performance.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 107 ZUMBA® CLASS & FITNESS PRINCIPLES2-1-2

This course is designed to provide an overview of the theory, history, and practices of Zumba® Fitness and support the student's development of a higher level of physical fitness through a working knowledge of the principles of exercise. Discussions will address such topics as cardiovascular endurance, muscular strength, neuromuscular coordination, flexibility, warm-up, workout progression, cool down, and body nutrition for performance.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011, REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 113 BADMINTON.....2-1-2

This course is designed to develop and improve students' competence in the skills of badminton. Instruction and practice will emphasize refining the mechanics of the strokes within the basic and advanced shots of play. Students will be given the opportunity to learn and apply the game strategy to singles and doubles. The course will also focus on the health benefits of playing badminton across a lifespan.

ESW 117 CREATIVE DANCE I 2-1-2

This is an introductory course which allows the student to develop an innate capacity for expressive movements. The course explores modern dance fundamentals and Labanation vocabulary for individual and group work in interpretive movement.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 123 GOLF..... 2-1-2

This course is designed to introduce the student to the fundamentals of golf, including grip, stance, swing, rules, and etiquette. Emphasis is given to swing mechanics of the irons, woods, and putting, with some play on local golf courses. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 128 WALK, JOG, RUN FOR FITNESS2-1-2

This course is designed to enable the student to develop and implement a progressive individualized walk, jog, run program. The course will provide a thorough overview of a walk, jog, run program including techniques, training methods, physiological and psychological effects, nutrition, and treatment of injury. Students will utilize technological resources to evaluate current trends and issues and analyze the importance of walking, jogging and running as a lifetime activity.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 137 INTRODUCTION TO TENNIS 2-1-2

The introductory level of tennis course includes learning the basic tennis techniques such as the serve, volley, forehand, and backhand, and the basic strategies such as high and deep hitting, consistent and accurate play, short and long angle hitting, and utilization of the four quadrants of the court.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 141 VOLLEYBALL 2-1-2

This course acquaints students with the skills and fundamentals of team play, the rules and etiquette of the game, and the principles of basic strategy and tournament play.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 146 CONDITIONING, WEIGHT TRAINING, AND WEIGHT CONTROL.....2-1-2

This course is designed to introduce the student to all areas of fitness training including progressive resistance (weight training), cardiovascular training, flexibility, and weight management. The student develops skills in planning and implementing personal fitness programs designed to meet student-own personal needs. Basic understanding of the physiological and psychological principles of human fitness is emphasized. Course designed for both women and men.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 147 MAT PILATES 2-1-2

An introductory course that addresses the basic concepts of body conditioning designed by Joseph H. Pilates. The Pilates philosophy integrates fundamental concepts of body conditioning into a unique system of stretching and strengthening exercises. The course focuses on abdominal strength (core muscles), spinal alignment, flexibility, proper breathing, and the elongating of muscle groups. This course is ideal for beginners and is adaptable to individual needs through a natural progression of Level I, II, and III Pilates mat work exercises.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 148 HATHA YOGA 2-1-2

Introduction to Hatha Yoga postures, breathing exercises, mental discipline, terminology, precepts and practices. The influence of Yoga on Western culture and guidelines for advanced study will also be discussed.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 151 FUNDAMENTALS OF FUNCTIONAL TRAINING2-1-2

This course is designed to acquaint the student with the basic principles of the martial arts and the techniques of self-defense. Emphasis is placed on learning the basic forms and positions of Karate, Judo, and Self-Defense. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 160 MARTIAL ARTS AND SELF-DEFENSE 2-1-2

This course is designed to acquaint the student with the basic principles of the martial arts and the techniques of self-defense. Emphasis is placed on learning the basic forms and positions of Karate, Judo, and Self-Defense. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 206 BASIC NUTRITION 3-3-0

This course will introduce students to the study of nutrition. It will incorporate fundamental scientific principles enabling students to develop their own nutritional lifestyle compatible with these principles. The course will provide an understanding of nutrients, their function in the body, deficiency diseases, body composition, nutrition and physical activity, nutrition through the life span, food faddism, consumer issues, and an evaluation of diets. The course will encourage the intelligent application of information to enable the students to succeed in implementing good nutrition in their own lives.

ESW 207 FOOD & CULTURE 3-3-0

This survey course will introduce students to the study of Food & Culture, unraveling, in a regional approach, how historically and geographically meeting our human nutritional needs has been intertwined with the evolution of our modern eating habits. Beginning with the traditional beliefs and practices of the earliest global villages and continuing into today's American 'Melting Pot' of great culinary diversity, this course takes a multicultural and multiethnic approach to food and regional geography. (Also offered as GEO 207)

ESW 208 INTEGRATIVE NUTRITION 3-3-0

The course investigates the interrelatedness of health; the environment; and food nutrients, components and additives which are essential to health and wellness. In depth study of the application and use, safety and efficacy of herbal, vitamin, mineral and biological supplements, taken in complement with food to promote health will be covered. Current emerging trends in holistic nutrition including, but not limited to; organic foods, slow foods, food synergy and eating plans such as Ayurvedic approaches to nutrition, macrobiotics, fasting and raw food diets will be evaluated by students for integration into a holistic self-care plan and application into a personal nutrition-related approach to health. Completion of ESW 206 – Basic Nutrition is recommended but not required.

Prerequisite(s): ENG 010A, ENG 011, or ESL 011 and REA 017 or REA 011.

ESW 210 HOLISTIC HEALTH: COMPLEMENTARY AND ALTERNATIVE HEALTH PRACTICES..... 3-3-0

This course will explore the use of complementary and alternative health practices within a holistic framework of care. A spirit of inquiry will be encouraged through sharing of knowledge, demonstration and exploration of selected health practices such as herbal remedies, homeopathy, healing touch therapies, chiropractic and Eastern therapies. Use of complementary and alternative health practices will be evaluated in the context of managing health conditions such as pain, weight, addictions, and gender specific issues. This course will examine use of complementary and alternative health practices in terms of safety, effectiveness and integration into one's own lifestyle and working with others.

(Also offered as NUR 210.)

ESW 214 MIND-BODY CONNECTIONS 3-3-0

This course provides insights into and an understanding of mind-body connections as they influence one's health. Content will address the powerful ways in which emotional, mental, social, behavior, spiritual and physical health impact on each other. Principles of the emerging field of psychoneuroimmunology will be examined. The impact of stress on health and eliciting of the relaxation response will be explored. Cognitive structuring and dynamics of behavior change will be examined. Students will begin to develop healthy strategies for self-care through use of such modalities as biofeedback, mediation, breathing, journaling, guided imagery, aromatherapy, music and art therapies and humor within a holistic framework. (Also offered as NUR 214)

Completion of ESW/NUR 210 - Holistic Health: Complementary and Alternative Health Practices and/or ESW 208 - Integrative Nutrition is recommended but not required.

Prerequisite(s): ENG 010A, ENG 011, or ESL 011 and REA 017 or REA 011.

ESW 215 PREVENTION AND CARE OF ATHLETIC INJURIES ...3-2-1

This course is designed to address the prevention and management of injuries in athletic activities. Course content includes discussion of relevant sports medicine issues, physical conditioning and training, nutritional and psychological concerns, ergogenic aids, and injury recognition. Practice is provided in the use of wrapping, taping, and therapeutic rehabilitation programs.

Prerequisite(s): BIO 129 with a grade of "C" or better OR BIO 131 and 132 with a grade of "C" or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 220 DIRECTING FITNESS AND RECREATIONAL PROGRAMS FOR ACTIVE AND AGING ADULTS..... 3-3-0

Designed for students in health sciences, physical education and human services, and for Gerontological service/care workers; to include YMCA employees, nursing home administrators, nurses, recreational therapists, occupational therapists, community recreation leaders, and health care advocate. Content covered will include an introduction into the field of gerokinesiology, basic theories of exercise, aging and recreation, the design of individual and group recreational and fitness programs and the social, psychological, and physical issues of an aging population.

ESW 222 APPLIED KINESIOLOGY3-3-0

This course is designed to introduce the student to the basic fundamentals of human movement, structural characteristics, articulations, and muscular actions around the major joints. The student will apply the basic anatomical and physical principles of human motion, the principles of biomechanics and the theory of neuromuscular action used in motor skills for occupational, daily living activities, and fitness across the lifespan. Upon completion of the course, the student will be able to fully analyze joint actions and muscles involved in multi-joint exercises or sport movements. In addition, the student will be able to identify and recommend exercises to enhance performance based on appropriate muscular analysis.

Prerequisite(s): BIO 129 OR BIO 131 and 132

ESW 224 EXERCISE PHYSIOLOGY WITH LAB3-3-0

This ESW major's course examines the physiological response and adaptations to acute and chronic bouts of exercise, training regimens, and environmental conditions. Through experiential learning, research, and technology, the student will analyze physiological responses to exercise. Training principles, nutritional considerations, and optimal human performance across the lifespan will be identified and analyzed.

The lab component of the course will allow students to apply the concepts introduced in the lecture portion in hands-on and computer simulated learning opportunities.

Prerequisite(s): BIO 129 with a grade of "C" or better OR BIO 131 and 132 with a grade of "C" or better

ESW 226 ASSESSMENT OF HUMAN FITNESS3-3-0

This course is designed to introduce the student to the use of health and fitness assessment technology and testing mechanisms needed to assess the physical fitness status of individuals in healthy and selected special populations. Students will perform assessments for the five (5) components of health related physical fitness: Cardiorespiratory endurance; Muscular strength and endurance; Flexibility; and Body composition. The data gathered from the fitness assessments will be used to develop appropriate fitness goals and exercise programs.

Prerequisite(s): BIO129 OR BIO 131 and 132

ESW 227 EXERCISE PROGRAMMING FOR HEALTHY AND SPECIAL POPULATIONS3-3-0

This course focuses on providing the student with the knowledge and experience needed to design exercise programs for individuals who meet the ACSM guidelines for healthy adult and special populations. Emphasis will be placed on practical approaches to fitness program design and appropriate adaptations and individualized modifications for each participant. Upon completion of the course, the student will be able to work in a broad range of physical activity settings by applying principles of exercise programming to meet the specific needs of each individual, working in one-on-one and small group settings.

Prerequisite(s): ESW 226

ESW 228 TRENDS IN EXERCISE SCIENCE AND WELLNESS 2-2-0

This capstone course in the Exercise Science and Wellness A.S. degree program will focus on trends in Exercise Science and Wellness. Students will explore the latest trends, legal, ethical issues as they relate to various fields. Through the semester, students will develop a professional plan to aid in transferring to a 4-year institution as well as continuing in their professional goals. Included in this course is a service learning component which will enable students to gain valuable life skills.

Prerequisite(s) Students must have successfully completed or tested out of the previous three semesters in the ESW AS program of study.

ESW 236 PERSONAL HEALTH AND WELLNESS3-3-0

This course assists the student in assimilating strategies to assess current lifestyle behaviors that promote personal, community and global health behavior changes across the lifespan. The student explores each of the Six Dimensions of Wellness, including physical, social, emotional, environmental, intellectual, and spiritual elements involved in achieving a healthy lifestyle.

ESW 240 PRINCIPLES OF COACHING 3-3-0

This course is designed for coaches involved with community youth sports programs as well as with school and college athletic teams. The course is based on standards set by the National Association for Sport and Physical Education (NASPE). Emphasis is placed on the development of a coaching philosophy, relationships with players, staff, administrators, and parents, as well as the management and organization of a successful team/program. The course covers theories and techniques of teaching sports, evaluation techniques, and research related to competitive performance.

ESW 245 SAFETY AND FIRST AID 3-3-0

This course is designed to develop and provide the citizen responder with the knowledge and skills necessary to help sustain life and minimize the consequences of injury or sudden illness until advanced medical care arrives. American Heart Association certifications in Heartsaver First Aid: Adult/Child and Infant Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) are available upon meeting certification requirements.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 246 CARDIOPULMONARY RESUSCITATION FOR HEALTHCARE PROFESSIONALS 1-1-0

The Cardiopulmonary Resuscitation (CPR) for the Healthcare Professional course is designed to teach the skills of CPR for victims of all ages including ventilation with a barrier device, a bag-mask device, and oxygen; use of an automated external defibrillator (AED); and relief of foreign-body airway obstruction (FBAO). It is intended for individuals who provide healthcare to clients in a wide variety of venues. This two- week course includes discussion of healthy heart living and one mandatory on-campus day for skills completion as per AHA 2015 Guidelines BLS course.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

ESW 255 HUMAN SEXUALITY 3-3-0

A survey of the major topic of sex education with emphasis placed on: sexual development, functioning, behavior, gender identification, reproduction, interpersonal relationships, health, historical and cultural sex studies, and sex education. (Also offered as PSY 255.)

ESW 296 PRACTICUM IN EXERCISE SCIENCE AND WELLNESS .. 4-1-5

Integrating a seminar and practicum experience in this course serves as the capstone course for the Health and Fitness Professional AAS and Personal Training Certificate programs. The course also offers students in the Exercise Science and Wellness AS degree program an opportunity to gain practical experience as it relates to each student's educational and career goals. Emphasis will be placed on professionalism, employment strategies, career options, and current issues in the health and fitness field. The field practicum is held in an educational fitness setting where the student works under the direct supervision of a cooperating supervisor. A faculty member arranges the placement and supervises the student on site visitations. At the completion of the course the student prepares a professional portfolio and sits for the ACSM Personal Training certification exam.

Prerequisite(s): ESW 222; ESW 224 and ESW 226

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

FIRE SCIENCE

FSC 100 INTRODUCTION TO FIRE SCIENCE..... 3-3-0

This course will provide an introduction to the history and philosophy of fire protection; a review of fire losses; a discussion of the relationship between fire prevention, fire protection and fire control and extinguishment; a career orientation; current legislative developments; and a review of current and future fire protection problems.

FSC 101 EMERGENCY SCENE MANAGEMENT 3-3-0

This course will be concerned with the principles and applications of fire

size-up, confinement and extinguishment; salvage and overhaul; pre-planning for fires and other natural disasters; conflagration problems; mutual aid; cooperation with other local departments; use of manpower and equipment; communications problems, command and control.

Prerequisite(s): FSC 100.

FSC 102 HAZARDOUS MATERIALS 3-3-0

This course is about hazardous material (hazmat) incident response. It is designed to provide both public and private sector emergency response personnel with a logical system for managing hazardous materials incidents. This course will also present a study of the proper storage, transportation and handling of flammable liquids and gasses, combustible solids, oxidizing and corrosive materials; dusts, metals and plastics; radioactive and poisonous substances; cryogenics and rocket fuels; electrical hazards; and will place emphasis on emergency situations and firefighting and control.

Prerequisite(s): FSC 100.

FSC 103 FIRE DEPARTMENT ORGANIZATION AND ADMINISTRATION 3-3-0

This course will acquaint the student with the basic principles and concepts of organizational structure; the construction of new fire facilities; the distribution of equipment and personnel; personnel management; communications; community and public relations; training; budgeting; the use of systems analysis and operations research; and reports and their uses.

Prerequisite: FSC 100.

FSC 104 BUILDING CONSTRUCTION FOR FIRE SCIENCE 3-3-0

The topics covered include: the functional and structural aspects of construction, constructional features, fire resistive and fire retardant materials, and ways in which occupancy affects construction requirements.

Prerequisite: FSC 100.

FSC 105 FIRE PREVENTION AND CODE ENFORCEMENT 3-3-0

The topics covered include: federal, state, and local building codes and ordinances; national fire protection standards; National Electrical Code; Life Safety Codes; how codes affect construction and fire fighting; and the role of local fire departments and state officials.

Prerequisite(s): FSC 100.

FSC 106 FIRE INVESTIGATION 3-3-0

The topics covered include: causes of fires, arson laws, investigative techniques, recognition and preservation of evidence, interrogation of witnesses, reports, court procedure, testimony, and legal opinions.

Prerequisite(s): FSC 100.

FSC 108 FIRE PROTECTION SYSTEMS 3-3-0

This course will focus on the study of automatic and manual, electronic, and mechanical system based fire protection. Students will examine the different types of active fire protection and components, their operational characteristics, when and where code installation requirements apply, and the inspection and maintenance requirements of these systems.

Prerequisite(s): FSC 100.

FSC 110 SPECIAL STUDIES IN FIRE SCIENCE..... 3-3-0

Topics or areas of professional interest within the fire science field will be explored. These offerings will vary from semester to semester, depending upon the needs of the student and the community, along with the future development of the program.

Prerequisite(s): FSC 100

FSC 265 PUBLIC SAFETY TECHNOLOGY 3-3-0

This course will focus on current themes in public safety technology, to include such topics as: Computerized Dispatch, basic ideas of mobile radio technology, mobile data/mobile computer capabilities and functionality, public safety applications for Global Positioning technology, as well as emerging trends that will appear in the Public Safety arena in the next 3 to 5 years. An overview of standards governing communications systems, dispatchers, and other areas of public safety technology will also be covered. Topics will be covered at a non-technical level to provide the student with an overview and understanding of the technology rather than an in-depth examination of just a few specific items. Lectures will include live demonstrations of devices to reinforce key concepts and promote greater understanding. Students will prepare a summary paper in small groups on an emerging idea in public safety technology, based upon original research. (Also offered as CJS 265 & EMP 265.)

Prerequisite(s): FSC 100, EMP 100, or CJS 100

FRENCH

FRE 101 ELEMENTARY FRENCH I 3-3-0

Elementary French I is an introduction to the French language. Students will learn to master basic communicative situations in French at a mid-novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will create competence and confidence in expressing in French. In addition, students will learn about the culture in French speaking countries.

Prerequisite(s): REA 017 or REA 011 and ENG010A, ENG 011 or ESL 011

FRE 102 ELEMENTARY FRENCH II 3-3-0

Elementary French II is the continuation of Elementary French I. Students will master basic communicative situations in French at a high novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will enhance competence and confidence in expressing in French. In addition, students will identify the linguistic and cultural diversity of French speaking countries.

Prerequisite(s): FRE 101

FRE 190 INTRODUCTORY FRENCH FOR BUSINESS..... 3-3-0

This course will focus on the application of the French language in the context of business and prepare students for dealing with French businesses. The systematic presentation and analysis of each topic will increase competence in speaking, listening, writing, and reading in French. In addition, students will learn about French business culture and etiquette and how to incorporate strategies when working with French businesses.

Prerequisite(s): FRE 101

FRE 201 INTERMEDIATE FRENCH I 3-3-0

Intermediate French I is the continuation of Elementary French II. Students will master uncomplicated communicative tasks in French at a low intermediate level. Learners will express personal meaning by combining and recombining what they know and what they hear from their interlocutors into short statements. In addition, students will identify the linguistic and cultural diversity of French speaking countries through an introduction to French literature.

Prerequisite(s): FRE 102.and/or FRE 190 (2 years of high school French)

FRE 202 INTERMEDIATE FRENCH II.. 3-3-0

Intermediate French II is the continuation of Intermediate French I. Students will master communicative tasks in French at a mid-intermediate level. Learners are at ease when performing uncomplicated

tasks in speaking, listening, reading, and writing. In addition, students will summarize the linguistic and cultural diversity of French speaking countries through the analysis of French chansons.

Prerequisite(s): FRE 201

FRE 251 ADVANCED FRENCH I.. 3-3-0

Advanced French I is a course designed to improve proficiency in written and oral French. Students will study the contemporary culture of France and the French-speaking countries via authentic materials selected from authentic media as well as from cultural readings. French literature is approached through the study of representative excerpts from the works of major French authors. This class is taught in French. Outside reading is required.

Prerequisite(s): FRE 202.

FRE 252 ADVANCED FRENCH II 3-3-0

Advanced French II is a continuation of Advanced French I. It is a course designed to improve proficiency in written and oral French. Students will continue to study the contemporary culture of France and the French-speaking countries via authentic materials selected from authentic media as well as from cultural readings. French literature is approached through the study of representative excerpts from the works of major French authors. This class is taught in French. Outside reading is required.

Prerequisite(s): FRE 251

GEOGRAPHY

GEO 110 WORLD REGIONAL GEOGRAPHY3-3-0

This introduction to the social science of geography is a regional approach that surveys the diverse cultural and physical patterns of the world. This course is designed to cover a wide range of topics related to the regions of the world including: physical, environmental, population, ethnic, language, religious, agricultural, economic, political, and urban characteristics. Spatial skills and tools such as maps, location, scale, and various models (demographic, economic development, and urbanization) will be employed to better understand the diversity of regional geography.

This course has an honors version, GEO 110H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no predetermined conclusion, but with real-world application.

GEO 130 CULTURAL GEOGRAPHY3-3-0

This introductory course in the social science of human geography surveys the spatial aspects of: human-environment interaction, religion, language, agriculture, industrial & economic development, urbanization, globalization and population trends, as well as other adjustments made to the cultural landscape.

GEO 135 PHYSICAL GEOGRAPHY3-3-0

This introduction to the science of physical geography describes the patterns of natural features on the earth. Topics will include location, landforms, hydrology, weather, climates, biological regions and human-environment interactions.

Prerequisite(s): MAT 011 or MAT 11B with a minimum grade of "C".

GEO 137 URBAN GEOGRAPHY 3-3-0

This introduction to urban geography surveys the patterns of

urbanization. The course includes a brief history of cities, models of morphology and location, transportation systems, economics, and social patterns associated with urban areas. A focus on urban areas in the United States (with an emphasis on Philadelphia) is used to explore and explain the urban patterns found in places around the world.

GEO 207 FOOD AND CULTURE .. 3-3-0

This survey course will introduce students to the study of Food & Culture, unraveling, in a regional approach, how historically and geographically meeting our human nutritional needs has been intertwined with the evolution of our modern eating habits. Beginning with the traditional beliefs and practices of the earliest global villages and continuing into today's American "Melting Pot" of great culinary diversity, this course takes a multicultural and multiethnic approach to food and regional geography.
(Also offered as ESW 207)

GEO 210 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS 3-2-2

This introduction to Geographic Information Systems is structured to develop knowledge of various geographic location systems and skill in basic geographic analysis with ArcView software. The course emphasizes the techniques of spatial problem solving. The weight of the course is on practical analysis skills including data compilation, projection, analysis and reporting.
Prerequisite(s): MAT 011, REA 011, CIS 100

GEO 220 MAP DESIGN IN GEOGRAPHIC INFORMATION SYSTEMS (GIS) 3-2-2

This course is an introduction to the art and science of cartography and geographic information systems and is structured to develop skills in design and use of analytical and computer-mapping systems.
Prerequisite(s): MAT 011, REA 011, CIS 100.

GEO 230 GEOGRAPHIC INFORMATION SYSTEMS (GIS) APPLICATIONS.... 3-2-2

This workshop teaches advanced geographic analysis with Geographic Information Systems. Students will learn each of the advanced data import skills, standard symbol systems, specialized geographic analysis and pseudo-3d displays specific to their discipline, and be exposed to problems in other disciplines. Specific tracks are available for emergency management / criminal justice, business & marketing, social sciences & human services, and environmental science.
Prerequisite(s): GEO 210 or GEO 220

GEO 238 INTRODUCTION TO URBAN AND REGIONAL PLANNING 3-3-0

This course surveys the principles, methods and practices of contemporary urban and regional planning. This course will cover a range of topics including: principles and theories of urban morphology, urban structure and institutions, concepts of planning as a community process and a professional activity, planning as both a public and private responsibility, and the evolution of planning ideas in response to changing social, economic, and environmental conditions within the context of the United States political framework.

GEOLOGY

GLG 115 ENVIRONMENTAL GEOLOGY . 4-3-3

Environmental Geology is an examination of geologic processes which have impact upon humans and of the impact humans have upon those processes.

Topics such as coastal erosion, flooding, earthquakes, radon, greenhouse effect, water quality, and waste disposal will be investigated. Environmental Geology should be considered by the following students: those needing a lab-science elective, those preparing for a career as an environmental technician, and those considering a Geology major seeking a geology elective.

Prerequisite(s): MAT 011

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

GLG 120 EARTH SCIENCE .. 4-3-3

Earth Science is a general survey course which includes the disciplines of Astronomy, Geology, Meteorology, and Oceanography. Specific topics to be examined include stellar evolution, planetary geology, cosmological theory, erosional and depositional processes, volcanoes, earthquakes, plate tectonics, weather patterns and forecasting. This course is recommended to fulfill a laboratory science requirement for non-science majors who do not have a strong science background.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

GLG 121 INTRODUCTION TO ASTRONOMY . 4-3-3

Introduction to Astronomy is a one-semester college-level course in basic astronomy. The course may be used as a laboratory science elective with basic algebraic applications. The course explores a broad range of astronomical concepts and principles in ten major areas: understanding the sky, apparent motions of the planets and the sun, telescopes and accompanying technology, basic structure and behavior of atoms, origin and analysis of light, origin of the solar system, internal structure and behavior of the sun, lifecycle of all stellar classes, origin and structure of galaxies and cosmology. Throughout the course, emphasis is placed on the implementation of the scientific method, the evidence that astronomers use to support their conclusions, and the importance of astronomy. (Night-time observing is required).

(Also offered as AST 120 and PHY 120.)

Prerequisite(s): A minimum grade of "C" or better within 5 years in both MAT 011 and ESL 011 or ENG 011.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

GLG 125 THE SCIENCE OF CLIMATE CHANGE 4-3-3

The Science of Climate Change is an introductory survey of the causes and consequences of climate change at a variety of time and spatial scales throughout Earth's history. Natural and human-induced climate change will be studied as physical processes with varying dimensions of biophysical and societal impacts. This course should be considered by the following students: those needing to fulfill a lab science Core requirement, those preparing for a career in environmental science, and those considering a Geology or Atmospheric Sciences major seeking a geoscience elective.

Prerequisite(s): MAT 011 or MAT 011B; ESL 011, ENG 010A or ENG 011, and REA 011 or REA 017.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

GLG 151 PHYSICAL GEOLOGY 4-3-3

Physical Geology is a survey of the physical character of the earth. Topics of surficial geology to be examined include weathering and mechanisms of erosion - mass movement, streams, wind, glaciers, and waves. The internal character of the earth will be explored by studying heat flow, seismology, volcanism and plutonism, metamorphism, crustal deformation and plate tectonics. This course should be considered by the student who is a prospective Geology or Environmental Science major.

Prerequisite(s): MAT 011

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

GERMAN

GER 101 ELEMENTARY GERMAN I 3-3-0

Elementary German I is an introduction to the German language. Students will learn to master basic communicative situations in German at a mid-novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will create competence and confidence in expressing in German. In addition, students will learn about the culture in German speaking countries.

Prerequisite(s): REA 017 or REA 011 and ESL 011, ENG 010A or ENG 011

GER 102 ELEMENTARY GERMAN II 3-3-0

Elementary German II is the continuation of Elementary German I. Students will master basic communicative situations in German at a high novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will enhance competence and confidence in expressing in German. In addition, students will identify the linguistic and cultural diversity of German speaking countries.

Prerequisite(s): GER 101

GER 111 THE WORLD OF GERMANY AND GERMAN SPEAKING COUNTRIES 3-3-0

Taught entirely in English and open to all students, this course offers a modern-day perspective of Germany and the social and cultural forces which shaped Germany's image. The student will become acquainted with a land of contrasts which has emerged from chaos to become Europe's most dynamic force. A number of authentic documents will supplement lectures and class discussions.

GER 201 INTERMEDIATE GERMAN I .. 3-3-0

Intermediate German I is the continuation of Elementary German II. Students will master uncomplicated communicative tasks in German at a low intermediate level. Learners will express personal meaning by combining and recombining what they know and what they hear from their interlocutors into short statements. In addition, students will identify the linguistic and cultural diversity of German speaking countries through an introduction to German literature.

Prerequisite(s): GER 102 (two years of high school German).

GER 202 INTERMEDIATE GERMAN II .. 3-3-0

Intermediate German II is the continuation of Intermediate German I. Students will master communicative tasks in German at a mid intermediate level: Learners are at ease when performing uncomplicated tasks in speaking, listening, reading, and writing. In addition, students will summarize the linguistic and cultural diversity of German speaking countries through the analysis of German movie scenes.

Prerequisite: GER 201

GER 251 ADVANCED GERMAN I 3-3-0

Advanced German I is a course designed to improve proficiency in written and oral German. Students will study the contemporary culture of Germany and the German-speaking countries via authentic materials selected from authentic media as well as from cultural readings. German literature is approached through the study of representative excerpts from the works of major German authors.

Prerequisite(s): GER 202

GER 252 ADVANCED GERMAN II 3-3-0

Advanced German II is a continuation of Advanced German I. It is a course designed to improve proficiency in written and oral German. Students will continue to study the contemporary culture of Germany and the German speaking countries via authentic materials selected from authentic media as well as from cultural readings. German literature is approached through the study of representative excerpts from the works of major German authors. This class is taught in German. Outside reading is required.

Prerequisite(s): GER 251 or approval of instructor

HEALTH CARE PROFESSION

HCP 105 CAREERS IN HEALTHCARE 1-1-0

Professions in the health care industry offer students a wide range of career opportunities. This course will provide an overview of the health care industry and the variety of disciplines which support it. The course will investigate health care careers, focusing on the nature of the work, legal and ethical responsibilities, as well as required abilities, educational preparation and credentialing. Understanding the impact of current trends in health care on employment will assist students toward planning and pursuit of their own career goals. An opportunity to interface with a variety of health care practitioners encourages discussion and examination of professional activities.

HCP 114 MEDICAL LAW AND ETHICS FOR HEALTH CARE PROFESSIONALS 3-3-0

This course provides the student with a deeper understanding of legal and ethical issues in healthcare. Students explore the legal, ethical and moral dilemmas currently faced by healthcare professionals, and identify issues related to potential legal liability in the workplace.

(Also offered as MAS 114.)

HCP 117 MEDICAL OFFICE ADMINISTRATION 4-3-2

This course builds a solid foundation in Medical Office Administrative skills and introduces students to the administrative procedures and business practices commonly performed in medical practices. Emphasis on operational functions, the application of electronic technology for both practice management and medical records management, and health insurance and reimbursement in professional practice will help prepare the student for entry level office administration. Course specific competency evaluations must be successfully completed by the student.

(Also offered as MAS 117)

Prerequisite(s): MAT 010; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017; OFM 101 previous or concurrently enrolled.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HCP 118 PROFESSIONAL ESSENTIALS FOR THE MEDICAL OFFICE 3-3-0

This course builds a solid foundation of professional and communication skills required to work within a medical office. It provides students with an introduction to health care organization and administration and, prepares students to utilize therapeutic communication techniques, apply knowledge of legal and ethical issues in healthcare, demonstrate respect for individual diversity, and employ problem solving skills. Course specific competency evaluations must be successfully completed by the student.

(Also offered as MAS 118)

Prerequisite(s): MAT 010, ENG010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HCP 120 ETHICAL ISSUES AFFECTING CONSUMERS AND THE HEALTH CARE PROFESSIONS .. 3-3-0

This course addresses the needs of the health care consumer and the provider alike. Stemming from a philosophical base, this course will examine controversies emerging from rapid technological advances and modern health care practice. Conflicts discussed range from the person's right to choose or refuse a particular course of treatment to issues of euthanasia, genetic research, and human experimentation. Students are encouraged to participate in discussions of ethical problems reported in the popular media and to develop a personal decision-making system which can be applied to a variety of ethical issues. Emphasis is on critical analysis and the incorporation of theory to ethical deliberations. The course is interactive, therefore, open discussion format and familiarity with use of the computer is essential. (Also offered as PHI 120.)

HCP 220 GENERAL PHARMACOLOGY ... 3-3-0

Designed for the student who has a basic understanding of the human body and how it works. This course emphasizes the major drug classifications, related legal/ethical considerations, pharmacokinetics, pharmacodynamics, drug toxicity, and therapeutic monitoring. (Also offered as NUR 220.)

HCP 224 MEDICAL TERMINOLOGY . 3-3-0

This course is designed to develop a basic understanding of human body systems and the medical vocabulary associated with these systems. While attaining a working knowledge of human anatomy, students will experience a word-building system comprised of medical prefixes, suffixes and word roots which will allow them to write and develop fundamental concepts for the meaning of various medical nomenclature. Accurate spelling, medical definitions, and medical abbreviations are key elements to this course. Prerequisite(s): ENG 010A, ENG 011 or ESL 011

HCP 225 HEALTH INSURANCE AND PROFESSIONAL BILLING3-3-0

This course is designed to introduce the student to the health insurance industry and the accurate processing of health insurance claims. The course will explore the basic concepts of health insurance and related federal healthcare legislation, and examine several health insurance models. Students will develop a basic knowledge of national diagnosis and procedural coding and learn the process of completing insurance claims.

HCP 226 MEDICAL CODING I .. 3-3-0

This course is designed to provide the student with an understanding of coding and classification systems in order to assign valid diagnostic and/or procedure codes for medical billing and reimbursement required by the Health Care Portability and Accountability Act (HIPAA) including the validation of coded clinical information. The ICD-10-CM classification system is introduced with an emphasis on use of the alphabetic index and tabular list for code assignment. The course focuses on ICD-10-CM rules, conventions, and instructions as well as specific guidelines (e.g. circulatory, injury, pregnancy), including assignment criteria for principal and additional diagnoses in all applicable patient settings. The impact of proper code assignment, MS-DRGs and reimbursement are also discussed. Prerequisite(s): REA 011. Co-requisite(s): BIO 103 and HCP 224

HCP 227 MEDICAL CODING II... 3-3-0

This course expands student knowledge of coding and classification systems in order to assign valid diagnostic and/or procedure codes for medical billing and reimbursement required by the Health Care

Portability and Accountability Act (HIPAA) including the validation of coded clinical information. Focus is placed on ICD-10-CM and ICD-10-PCS classification systems. The course introduces the professional standards for coding and reporting of diagnostic inpatient and outpatient services and inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to diseases, conditions and procedures. Health records, manual and computerized coding methods, and coding references will be utilized in the coding process. Prerequisite(s): HCP 226

HCP 228 ELECTRONIC HEALTH RECORDS MANAGEMENT.....3-3-0

The course provides the student with a comprehensive understanding of electronic health record management and utilization. Emphasis on the creation, use, and maintenance of electronic health records, along with an introduction to the terminology and technology associated with the operational use of these records provides the student with the necessary skills to perform these operations in a medical office setting. Prerequisite(s): REA 011 & HCP 224.

HCP 230 CPT CODING AND REIMBURSEMENT MATERIALS..... 3-3-0

This course is designed to expand student knowledge of medical codes used in billing and reimbursement with emphasis on Current Procedural Terminology (CPT), Healthcare Common Procedure Coding System (HCPCS) II and the Ambulatory Payment Classifications (APCs) classification systems. The use of diagnosis and procedure codes for professional services reimbursement and coding systems for reimbursement will be analyzed. The relationship between these coding systems will be explored as well as the coding systems used by non-physician medical suppliers and for durable medical equipment. Prerequisite(s): HCP 226

HISTORY

HIS 101 HISTORY OF WESTERN CIVILIZATION I ANCIENT MEDIEVAL & EARLY MODERN 3-3-0

This course is a survey of the origins of Western Civilization starting with prehistoric man and the emergence of agriculture. The course continues with the study of the Ancient Near Eastern Civilizations, Greece and Rome, the Middle Ages and Europe up through the Renaissance and Reformation to roughly the eighteenth century. These civilizations are studied by looking at their economy, religion, politics, art, literature and everyday life. This course has an honors version, HIS 101H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

HIS 102 HISTORY OF WESTERN CIVILIZATION II MODERN EUROPEAN HISTORY 3-3-0

A survey of Western Civilization covers the period from the middle of the seventeenth century to the twenty-first century. The course begins with the Scientific Revolution, Enlightenment and the French Revolution, and then proceeds to look at other challenges in society and culture and the impact of the West on the rest of the world through imperialism, totalitarianism and conflict. The Cold War and the modern period conclude the course. This course has an honors version, HIS 102H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often

from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

HIS 121 WORLD CIVILIZATIONS I: TO 1500..... 3-3-0

A survey of world civilizations covers the period from prehistory to the sixteenth century. The course begins with the origin of humans, first river valley civilizations, empire-building, foundations of the great world religions, and then proceeds to look at the rise of Europe. The Renaissance and the early explorers will conclude the course. Government, societal, economic, cultural, and religious aspects are analyzed throughout the course.

HIS 122 WORLD CIVILIZATIONS II: FROM 1500.. 3-3-0

This course is a continuation of HIS 121. It is a survey of the major events that have occurred in the world since 1500. The interrelationships between the civilizations of Asia, Africa, Europe and the Americas provide many opportunities for comparison of their varied histories. This course will help students gain a clearer understanding of a complicated, interdependent modern world.

HIS 203 HISTORY OF THE UNITED STATES: TO 1877.....3-3-0

A survey of the political, social, economic, and intellectual history of the United States from pre-Columbian Native Americans through the period of the Civil War and Reconstruction.

This course has an Honors version, HIS 203H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

HIS 205 HISTORY OF THE UNITED STATES: FROM 1877..... 3-3-0

A survey of the political, economic and intellectual history of the United States from the period of Reconstruction until the present. Emphasis is on the rise of industrial America and the growth of the country as a world power in the 20th Century. (HIS 205 can be taken without taking HIS 203.)

This course has an Honors version, HIS 205H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

HIS 210 HISTORY OF PENNSYLVANIA 3-3-0

A history of the state of Pennsylvania that emphasizes the key role it has played in the history of the nation. Emphasis will be placed on industrial development, cultural contributions, military events, and constitutional issues in which Pennsylvania has had a pivotal role. A regional visit to one historic site is a course requirement.

HIS 213 THE CIVIL WAR AND RECONSTRUCTION..... 3-3-0

This course covers the period from the election of Lincoln in 1860 to the end of Reconstruction in 1877. The military history of the war will be studied in its political and social contexts. Stress will be given to the revolutionary changes brought about by the war, especially those affecting African-Americans. Causes of the Civil War and how it evolved into a war against slavery, will be studied.

HIS 214 AFRICAN-AMERICAN HISTORY AND CULTURE 3-3-0

This course is a chronological survey of the history of African Americans from their African beginnings through their progress in the twenty-first century. Five units in the history of African Americans will be emphasized-becoming African American, antebellum black life, the Civil War and Reconstruction, White Supremacy and legalized justice, and the Civil Rights movement through the modern era.

HIS 215 AMERICAN IMMIGRATION 3-3-0

This course will examine the immigrant experience in the United States in a loose chronological manner by focusing on diversity issues, analyzing legislation and highlighting anti-immigrant social movements. The students will research the personal aspect of immigration by studying the lives of immigrants in autobiographical accounts and historical fiction. Class discussions will focus on discovering to what extent America is a society of immigrants.

HIS 218 HISTORY OF LATIN AMERICA: BLOOD AND EMPIRE..3-3-0

This course provides a survey of Latin America from pre-Columbian times to the present. Emphasis is placed on the twentieth century. Trends in political, economic, social and cultural development are studied, as well as the relationship between the United States and Latin America.

HIS 219 THE VIETNAM WAR 3-3-0

This course covers the experience of Americans and Vietnamese, soldiers and civilians in the Vietnam War. It has three parts: 1) the origins of American involvement, 1945-1963; 2) the war America waged on the ground and in the air; 3) the impact of the war on American society and government.

HIS 220 WOMEN IN AMERICA 3-3-0

This course is a chronological survey of the role of women in American history from the colonial period up to the modern day. It examines the experiences of women from various ethnicities and economic backgrounds. The contributions of women to the political, economic, and social development of the nation will be emphasized. The historiography and theory of the field of women's history will also be a focus.

Prerequisite(s): ESL 011, ENG 010A, or ENG 011, and ESL 017 or REA 011.

HIS 225 TOPICS IN MODERN HISTORY 3-3-0

Specialized sophomore level courses which will deal with a different subject each semester. Included will be such chronological histories as those of France, Germany, or England, or such topical histories as War, Society and Technology Western Imperialism or Culture and Society in European life. Check with the History Coordinator as to which subject is dealt with when the course is offered.

HIS 234 ASIAN CIVILIZATION 3-3-0

A survey of the major civilizations of "Monsoon Asia" with the focus on India, China and Japan. This course will emphasize political, economic, social and cultural forces that have shaped Asian civilization. Students will gain a greater appreciation of the differences and similarities between Asian civilization and the rest of the world.

HIS 235 MODERN CHINA 3-3-0

This course explores the origins and development of Modern China. The main subjects of the course are the fall of the Qing dynasty, the Western influence, the rivalry between the Chinese Communist Party and the Nationalist Guomindang Party, the Sino-Japanese War, and the emergence of the People's Republic of China, from the Mao years to the present.

HIS 237 INDIAN CIVILIZATION3-3-0

This course is a topical introduction to Indian civilization from its ancient origins to the rise of modern, technological India. It will focus on the history

and culture of India, including religious traditions, caste, imperialism and the British Raj, the Indian nationalist movement, the life and ethics of Gandhi, the impact of modernization, and India's global role.
Prerequisite(s): ENG 010A, ENG 011 or ESL011, and REA 017 or REA 011.

HIS 241 THE HOLOCAUST: FROM ANTI-SEMITISM TO THE "FINAL SOLUTION" 3-3-0

A survey of the Holocaust, the attempted annihilation of the Jews of Europe by Nazi Germany between 1933 and 1945. This course also focuses on other destructive crimes carried out by Nazi Germany, including the mass murder of the Gypsies and the mentally and physically handicapped. The course will emphasize the nature and significance of the Holocaust and the impact of prejudice, racism, and stereotyping in other societies.

HIS 250 HISTORY OF THE MODERN MIDDLE EAST 3-3-0

After a brief survey of the Islamic background of the Middle East and the analysis of the rise and decline of the Ottoman Empire, the course focuses on the development of the Middle East since Napoleon's invasion of Egypt in 1798. Modernization, imperialism, and nationalism are the dominant themes in the history of this region in the 19th and 20th centuries. The national histories of Turkey, Iran, the Arab states, and Israel are examined. Attention is given to the role of the Great Powers in the Middle East.

HIS 260 HISTORY OF RUSSIA FROM TSARISM TO VLADIMIR PUTIN 3-3-0

This course begins with the brief overview of the Russian state before the 1800s and then proceeds to look at changes in the social, economic and political structure of pre-revolutionary Russia, the formation and break-up of the Soviet Union and the post-Soviet period.

HONORS

HON 111H SPECIAL TOPICS IN HONORS INTERNATIONAL STUDY 3-3-0

This course is an international study abroad experience. This course develops an understanding of a contemporary global culture. Students will explore the basic social and working skills for effectively interacting with people in business and other cross-cultural circumstances. This Honors course fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading, artistic literacy, or original data analysis; forming judgments based on evidence, often from alternative modes of inquiry or integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.
Prerequisite(s): Students must have successfully completed or tested out of at least 12 credit hours of College work with a grade point average of 3.5 or better.

HON 203H HONORS EXPERIENCE 3-2-1

This service-learning course will enrich Honors Program students' and Phi Theta Kappa members' academic environment with an opportunity to explore and acquire a deeper understanding of significant and timely interdisciplinary questions and civic issues. The seminars are specialized courses which cover a different subject each semester, but which all utilize student research of a variety of perspectives to collaboratively develop sustainable service projects improving the world around them, encouraging excellence. This Honors course fosters high-

achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading, artistic literacy, or original data analysis; forming judgments based on evidence, often from alternative modes of inquiry or integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.
Prerequisite(s): Students must be eligible to participate in the Honors Program or be eligible for membership in Phi Theta Kappa.

HOTEL/RESTAURANT MANAGEMENT

HOS 111 INTRODUCTION TO HOSPITALITY MANAGEMENT 3-3-0

This course is designed to introduce the student to the vast variety of career opportunities and career paths within the world's largest and fastest growing industry. Each segment is discussed in terms of its growth potential, trends, unique characteristics, and management responsibilities. Field trips are taken hospitality-industry related operations which may include hotels, restaurants, country clubs, conference centers, caterers and retirement communities.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HOS 185 MANAGING THE CUSTOMER EXPERIENCE 3-3-0

This course is designed to provide the students with a broad perspective of customer service requirements in the hospitality industry. Students will learn how to deliver an exceptional guest experience and to act on customer requests and complaints in a service-minded manner. Topics will include anticipating guests' needs, providing proactive service, exceeding guest expectations, empowering employees, and turning challenges into opportunities. Discussions will include industry best practices as exhibited by widely known businesses and hospitality organizations.
Prerequisite(s): HOS 111; CUL 102
Co-requisite(s): CUL 170
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HOS 214 SPECIAL EVENT MANAGEMENT 3-2-2

This course is designed to introduce students to the special events segment of the hospitality industry. The course provides principles and practice related to all facets of this growing career specialty. Discussions will emphasize best practices and trends. Students participate in the planning and execution of on-campus special events. Note: To be taken in the last semester.
Prerequisites: CUL114 and CUL120
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HOS 231 HOSPITALITY MARKETING 3-3-0

This course is designed to provide the student with an understanding of the basic marketing concepts as they apply to the hospitality industry. Emphasis is placed on the concept of the five P's of Marketing – People, Product, Package, Price, and Promotion. Students will have the opportunity to earn a certificate of completion from the National Restaurant Association's Manage First program. Students will complete a group marketing project with in-class presentation.
Prerequisite(s): HOS 111
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HOS 251 TOURISM, HOTEL AND CASINO MANAGEMENT.....3-3-0

This course is designed to provide the students with an overview of the concepts and practices in Tourism, the basic control procedures and management responsibilities for the Front Office and the Housekeeping Departments of a commercial hotel, and a survey of the physical operations in a casino. Social, legal, political and ethical management best practices will be discussed.

Prerequisite(s): HOS 111; HOS 185

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HOS 297 COOPERATIVE INTERNSHIP IN HOSPITALITY MANAGEMENT3- 0-15

This is a work-experience course in which the student is required to work a minimum of 200 hours in a college-approved hospitality position in the student's area of specialization. The position may be a paid or unpaid situation. Students must seek approval. Once approval is received, students begin recording hours. In addition, students will devote a minimum of 25 hours creating a professional portfolio and will complete a packet of papers related to their experience. Ten online discussions will be included in the requirements for this course. Experience must be completed during the last semester of attendance in the program.

Prerequisite(s): CUL 114; CUL 151; CUL 170; HOS 185; Should be taken in the student's last semester.

HUMAN SERVICES

HSW 101 INTRODUCTION TO HUMAN SERVICES AND THE HELPING PROFESSION 3-3-0

This course is designed to help students explore human services as a generalist human service professional. Emphasis is on historical development, roles of the human service professional, theories of helping, technology, managed care, crisis intervention, international and multicultural issues in human services. Students are encouraged to examine themselves as helpers in the human service profession. Open to all majors.

HSW 102 THEORIES OF GROUP COUNSELING 3-3-0

A survey of therapeutic modalities commonly employed in group settings. Students are expected to carefully analyze the theories presented and to begin developing a basis for their own theory of effective group work with various populations.

Prerequisite(s): HSW 101.

HSW 105 SOCIAL POLICY AND ETHICS IN HUMAN SERVICES 3-3-0

This course examines the relationship of social policy, ethics, and the human services field. Students will address ethical dilemmas, particularly as they relate to current and needed social policies on local, state, and national levels. A basic understanding of social welfare theories will assist the student in evaluating, assessing, and advocating for change in both a micro/macro perspective. The Ethical Standards of Human Service Professionals (National Organization for Human Services) will serve as a backbone for students to use in decision-making, assessment of clients and client groups, and promotion of change in a diverse setting. Open to all majors.

(Also offered as SOC 105)

HSW 130 INTRODUCTION TO YOUTH AND FAMILY SYSTEMS 3-3-0

This introductory course examines children and youth within the context of their familial role. Emphasis is placed upon non-traditional as well as

traditional family systems and the impact that issues such as divorce, substance abuse, child abuse and incarceration has on the various units in the family system. (Also offered as SOC 130.) Open to all majors.

HSW 155 INTRODUCTION TO AGING 3-3-0

This introductory course is designed to discuss basic principles and sensitize students to those personal and social forces which impact the lives of older adults in contemporary America. Commonly held attitudes about older persons and the aging process will be examined along with current theories and prominent bodies of knowledge associated with the biological, psychological and sociological aspects of aging. Roles which older adults assume in various settings – community, residential and institutions, as well as the responses of society to older adults will be emphasized. Open to all majors.

HSW 160 THE MIDDLE YEARS 3-3-0

This course explores the developmental stages of the middle years of the life span: the twenties, thirties, forties, and fifties. The course covers the major psychosocial theories and research on how we adapt to the psycho-dynamic and cultural pressures of middle age. It is designed for those whose work brings them into contact with adults and for students of all ages (including those who are anticipating, experiencing, or who have completed the changes of middle adulthood). The unique pressures on the "sandwich" generation (who have responsibility for teenagers and aging parents) will be examined. Open to all majors.

HSW 202 THEORIES OF INDIVIDUAL COUNSELING 3-3-0

Professionalization, ethics and the impact of values on the helping process are considered. Special attention is given to evaluation research (accountability), testing and report writing and their use in various settings. Students develop their own theory of helping, explain its relationship to existing theories and demonstrate its application(s).

Prerequisite(s): HSW 101.

HSW 203 ASSESSMENT AND DOCUMENTATION IN HUMAN SERVICES 3-3-0

This course is designed to teach students the necessary skills to assess and document client interactions in a human services agency or program. Students will explore the nature of the helping relationship, demonstrate their active listening abilities, learn how to gather information, build treatment plans, and write case notes. Students will also understand case management in a managed care environment, and the legal, ethical and regulatory implications of comprehensive assessment and documentation. (Also offered as PSY 203)

Prerequisite(s): HSW 101, ENG 101. Students must have successfully completed these courses with a grade of "C" or higher.

HSW 205 VOLUNTEER ADMINISTRATION ... 3-3-0

This course examines the development and role of volunteerism in a profit-oriented society. Specifically, it is an in-depth exploration of the fundamentals of volunteer organization and management from an administrative perspective. It is designed for those whose work brings them into contact with volunteers, the currently employed volunteer administrator and the student who will eventually be involved with volunteer management. Open to all majors.

HSW 206 HOSPICE: CONCEPTS AND SKILLS 3-3-0

A course designed for those whose work brings them into contact with the dying (and their families) or for anyone who wishes to understand the issue of his/her own mortality in relation to the life cycle. Students will have the opportunity to examine the "hospice without walls" concept, to clarify attitudes toward death and dying, and to explore how such

attitudes are learned and can be changed. Skills that can be acquired and practiced include: hospice and grief outreach and counseling, administration of cost-effective hospice counseling in the social service agency, and mobilizing support networks for the dying and their families. Open to all majors.

HSW 210 PROFESSIONAL DEVELOPMENT IN HUMAN SERVICES 3-3-0

This course is designed to prepare students for the practicum experience through professional self reflection and development. Students will evaluate human service agencies, organizational structures, and funding sources. Students will select a field site, process agency interview, and prepare for supervision in the field. Topics such as self-assessment, document gathering, and certification reviews will be addressed. The development of portfolio management demonstrating interpersonal styles, and program competency will be required. Students must pass this course with a grade of "C" or higher before taking HSW 211.

Prerequisite(s): HSW 102 or 202, and HSW/PSY 203

HSW 211 HUMAN SERVICES PRACTICUM I 6-0-14

A course designed to integrate human services theory within a practical milieu. Through supervised clinical experience, the student begins hands-on training in a community agency. Skills focused upon are intake interviewing, case management, assessment of client/consumer needs and intervention strategies to meet those needs, individual and group counseling, outreach activities, recording procedures, appropriate use of community referral and networking resources, staff relations, and inter-agency communication, evaluating program services and volunteer participation. Two hundred and eighty hours of recorded clinical experience are required in addition to a one and half-hour seminar every other week. Restricted to HSW majors.

Prerequisite(s): ENG 101, HSW 210, and an overall GPA of a "C" or better in both Program and College courses. Coordinator approval required.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

HSW 216 ASSESSMENT AND TECHNIQUES FOR CHILDREN AND YOUTH 3-3-0

This course is designed to develop knowledge and skills in assessing the risk factors in the current situation of the child and/ or adolescent. The course will focus upon the youth's educational, social, psychological, emotional and physical environment to determine the level of required intervention. Students will learn the techniques needed to assess and reduce risk factors. (Also offered as PSY 216)

Prerequisite(s): HSW 101

HSW 219 THE DRUG AND ALCOHOL TREATMENT PROCESS: AN INTRODUCTION 3-3-0

Designed to provide a working knowledge of the helping process as it applies to drug and alcohol counseling. Students completing this course should be able to: develop assessment and diagnostic skills; formulate appropriate goals, and treatment plans. Students will improve interviewing and intervention skills with drug/alcohol clients; and be able to discuss and compare individual, group, and family treatment approaches. Students will describe the levels of service available to drug/alcohol clients and their families; use AA, AL-ANON and other support groups as treatment allies. Students will appreciate the impact of sex, age, ethnicity, race and religion on the treatment process; and understand the American Psychiatric Associations (DSM IV) assessment of substance use disorders, anti-social personalities and depression. Open to all majors.

(Also offered as PSY 219)

HSW 220 INTRO TO ADJUNCTIVE THERAPIES 3-3-0

A variety of adjunctive therapies and activities that enhance the therapeutic process for populations served by human service agencies. Therapeutic modalities include but are not limited to: art, music, movement, dance, poetry, psychodrama and biofeedback. Open to all majors.

HSW 250 PSYCHOLOGY OF AGING: HELPING SKILLS IN WORKING WITH OLDER ADULTS 3-3-0

This course is an in-depth exploration of psychological theories and their applications to appreciating and working with older adults. Students will have the opportunity to gain an increased understanding of their own personal development and self-knowledge in the context of the life cycle and to explore feelings about the aging process. Classroom experiences that focus on enhancing communications skills will be designed to enable students to translate psychological theories and helping techniques to every day family and job-related encounters with older adults. This course is open to all majors. (Also offered as PSY 250.)

Prerequisite(s): HSW 155 or PSY 101 or SOC 101.

For the Gerontology Certificate, HSW/PSY 250 will be substituted for HSW 102 or 202 to meet prerequisite for HSW 210.

HSW 254 AGING IN THE UNITED STATES 3-3-0

This course is an in-depth exploration of the current social issues concerning older adults in U.S. society. Students will examine the social needs which confront all older people and those needs of particular sub-groups of the older population such as the frail elderly, women and minorities. Emphasis will be placed on reviewing the legislation which has led to the creation of programs and services for meeting the needs of older adults and on analyzing the system of services to detect areas of unmet needs, such as the need for "long-term care." Students will have the opportunity to gain an understanding of techniques of advocacy which can be used on behalf of and in concert with older persons. This course is open to all majors. (Also offered as SOC 254.)

Prerequisite(s): HSW 155 or PSY 101 or SOC 101

INTERDISCIPLINARY STUDIES

IDS 115 ISSUES OF RACE AND ETHNICITY 3-3-0

This course analyzes the realities and mythologies that surround the issue of race in the modern world. Perspectives from multiple disciplines are used to examine the concept of race and its meaning, nature and significance in various contemporary issues. The topics considered in this course include the economic, political and social issues of the day and the possibilities of finding solutions as we tackle the problems relating to the issue of race.

IDS 116 CHILDHOOD IN AMERICA 3-3-0

This course is designed to expose students to American childhood and youth experiences from a variety of racial, ethnic, class and gender perspectives. The course will be a thematic exploration of a wide range of topics that include but are not limited to: familial and social relationships, social and political movements, educational experiences and economic conditions in the twentieth and twenty-first centuries. The course will examine childhood through an interdisciplinary approach, incorporating history, literature and sociology to help students contextualize individual and groups experiences.

ITALIAN

ITA 101 ITALIAN I 3-3-0

Elementary Italian I is an introduction to the Italian language. Students will learn to master basic communicative situations in Italian at a mid-

novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will create competence and confidence in expressing in Italian. In addition, students will learn about the various cultures in Italy.

Prerequisite(s): REA 011 or REA 017 ESL 011, ENG 010A or ENG 011.

ITA 102 ITALIAN II 3-3-0

Elementary Italian II is the continuation of Elementary Italian I. Students will master basic communicative situations in Italian at a high novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will enhance competence and confidence in expressing in Italian. In addition, students will identify the linguistic and cultural diversity of Italy.

Prerequisite(s): ITA 101

ITA 201 INTERMEDIATE ITALIAN I 3-3-0

Intermediate Italian I is the continuation of Elementary Italian II. Students will master uncomplicated communicative tasks in Italian at a low intermediate level. Learners will express personal meaning by combining and recombining what they know and what they hear from their interlocutors into short statements. In addition, students will identify the linguistic and cultural diversity of Italy through an introduction to Italian movies.

Prerequisite(s): ITA 102

ITA 202 INTERMEDIATE ITALIAN II 3-3-0

Intermediate Italian II is the continuation of Intermediate Italian I. Students will master communicative tasks in Italian at a mid intermediate level. Learners are at ease when performing uncomplicated tasks in speaking, listening, reading, and writing. In addition, students will identify the linguistic and cultural diversity of Italy through an introduction to Italian literature.

Prerequisite(s): ITA 201.

ITA 251 ADVANCED ITALIAN I 3-3-0

Advanced Italian I is a course designed to improve proficiency in written and oral Italian. Students will study the contemporary culture of Italy via authentic materials selected from authentic media as well as from cultural readings. Italian literature is approached through the study of representative excerpts from the works of major Italian authors. This class is taught in Italian. Outside reading is required.

Prerequisite(s) ITA 202

ITA 252 ADVANCED ITALIAN II 3-3-0

Advanced Italian II is a continuation of Advanced Italian I. It is a course designed to improve proficiency in written and oral Italian. Students will continue to study the contemporary culture of Italy via authentic materials selected from authentic media as well as from cultural readings. Italian literature is approached through the study of representative excerpts from the works of major Italian authors. This class is taught in Italian. Outside reading is required.

Prerequisite(s): ITA 251

JAPANESE

JPN 101 ELEMENTARY JAPANESE I3-3-0

Elementary Japanese I is an introduction to the Japanese language. Students will learn to master basic communicative situations in Japanese at a mid-novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will create competence and confidence in expressing in Japanese. In addition, students will learn about the various cultures in Japan.

Prerequisite(s): REA 017 or REA 011 and ESL 011, ENG 010A or ENG 011..

JPN 102 ELEMENTARY JAPANESE II3-3-0

Elementary Japanese II is the continuation of Elementary Japanese I. Students will continue to master basic communicative situations in Japanese at a high novice level. The systematic training in speaking, listening, writing, and reading, reinforced by the use of authentic audio and video material, will enhance competence and confidence in expressing in Japanese. In addition, students will identify the linguistic and cultural diversity of Japan.

Prerequisite(s): JPN 101

JPN 201 INTERMEDIATE JAPANESE I (CONVERSATIONAL) 3-3-0

This course introduces students to conversational Japanese using the modules of the subjects. Using sentence patterns and common expressions, it stresses communication with Japanese people at a low intermediate level. The conversational skills and vocabulary building will be enhanced by listening to the accompanying AV/Multimedia materials. The students will be encouraged to express his/her own ideas verbally using simple sentence patterns in the class. The study of Kanji is introduced.

Prerequisite(s): JPN 102

JPN 202 INTERMEDIATE JAPANESE II (CONVERSATIONAL) 3-3-0

Intermediate Japanese 202 is a continuation of Intermediate Japanese 201 with extensive practice in building vocabulary and conversational skills at a mid intermediate level. The recognition of Kanji writing as well as advanced grammar will be covered as the class progresses. The analysis of dialogues and the creation of skits will give the student practice in conversation.

Prerequisite(s): JPN 201

MANAGEMENT

MGT 110 INTRODUCTION TO BUSINESS 3-3-0

Students will learn the organization and management of an enterprise, including a study of the characteristics of economic systems, the nature and functions of management, and the operations of the basic organizational functions of finance, marketing, and production.

MGT 111 PRINCIPLES OF MANAGEMENT 3-3-0

In addition to building a solid foundation of management fundamentals, this course introduces students to emerging concepts and issues that are shaping the theory and practice of management. Students discuss quality, productivity, customer satisfaction, global management, social responsibility, ethics and other topics that students will encounter both on the job and in any advanced studies.

MGT 112 PRINCIPLES OF LEADERSHIP.....3-3-0

This course emphasizes theories and models of leadership in a variety of organizations. Students will demonstrate mastery and apply effective leadership principles, concepts and skills in various organizational settings. Students will integrate critical thinking and problem solving while examining personal and organizational aspects of management. Engaging in a variety of activities, the following concepts will be explored: creating a vision, understanding philosophies and styles, managing conflict, establishing a constructive culture, and examining ethics.

This course has an honors version, MGT 112H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

MGT 113 CONFLICT RESOLUTION AND NEGOTIATION.....3-3-0

This course provides a framework for negotiation skills and conflict resolution approaches for more effective organizational leadership. Students will learn to identify solutions to workplace conflict and develop negotiation skills to create a collaborative environment. Topics emphasized include: reaching practical agreements, achieving objectives, strengthening relationships, and ultimately increasing productivity.

MGT 114 STRATEGIC ANALYTICS FOR LEADERS3-3-0

This course introduces the concept of data analytics and its applicability to organizations. Students will learn how to apply critical thinking skills and analytics to enhance data driven decision making essential to today's leaders. Students will use the latest software to evaluate and apply data to enhance business performance. Students will learn how to organize and interpret data, conduct analysis, and develop visually appealing and informative reports. This course will enhance leadership performance for analytical problem solving and decision making in today's dynamic business environment.

MGT 121 SMALL BUSINESS MANAGEMENT 3-3-0

Students gain practical knowledge about starting and managing a small business organization. Course topics include the development of a business plan, financial structuring, site selection, marketing strategies and pricing techniques.

MGT 131 HUMAN RESOURCES MANAGEMENT 3-3-0

Students learn personnel procedures and practices. Topics include equal opportunity, personnel planning, employee selection, employee incentive systems, and performance appraisal.

This course has an honors version, MGT 131H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

MGT 141 PRINCIPLES OF RISK MANAGEMENT AND INSURANCE3-3-0

Students learn the fundamentals of risk management and the appropriate application of insurance. The course stresses the nature of risk as well as the purpose and use of insurance in risk management.

MGT 160 CUSTOMER RELATIONSHIP MANAGEMENT3-3-0

This course introduces students to major issues and creative problem-solving in managing customer relationships. Important strategies necessary to maintain high quality relationships with customers in a competitive, challenging, and complex environment are developed. Current trends in the industry will be reviewed, and students will develop the ability to interpret these trends and will develop the skills necessary to achieve excellence in managing customer relationships in a dynamic marketplace.

MGT 198 CO-OP INTERNSHIP IN MANAGEMENT I 3-0-15

This course consists of employment in a college-approved business organization to enable the student to gain insight into modern management techniques. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance. (full time students in MGT only - with permission of instructor).

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MGT 210 ETHICAL DECISION MAKING IN BUSINESS 3-3-0

This course emphasizes the complexities of business decision making within an ethical framework. After identifying the wide variety of ethical issues facing individuals in business and the moral philosophies which can be applied, the course will develop an ethical decision-making framework. Both the role of the individual and of the organization in influencing ethical decision making will be emphasized as will the impact of cultural influences on international business ethics. Managing ethics will be proposed as an essential part of the function of organizational leaders.

Pre-requisite(s): MGT 110 or MGT 111

MGT 221 SUPERVISION 3-3-0

Students will develop the skills and knowledge necessary to grow into a supervisory position in a business environment. Students will integrate the knowledge gained in basic business courses and refine the basic supervisory and management skills learned in these courses. Students learn how to supervise effectively in a business environment.

Prerequisite(s): MGT 110 or MGT 111.

MGT 231 PROJECT MANAGEMENT 3-3-0

This course will introduce students to key aspects of contemporary project management. Through hands-on exercises and case studies, students will learn the project planning process in detail, culminating in the creation of a baseline plan and budget using a state-of-the-art project management tool. Topics addressed will be project scope and objectives, deliverables, milestones, tasks, work breakdown structure, responsibility and authority, project network, critical path analysis, costs, resource allocation, and auditing. (Also offered as CIS 231.)

Prerequisite(s): CIS 110 & MGT 111

MGT 298 CO-OP INTERNSHIP IN MANAGEMENT II 3-0-15

This course consists of continued employment in a college-approved business organization to enable the student to gain insight into modern management techniques. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance.

Prerequisite(s): MGT 198 and permission of coordinator.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MARKETING

MKT 111 PRINCIPLES OF MARKETING 3-3-0

Students will learn the principles of marketing strategy planning, including target market and marketing mix variables with emphasis on key strategy decisions in each area. This course will explore organizational marketing activities including: consumer behavior, marketing research, legal and ethical issues and environmental influences. The course will also cover implementation, control, marketing's link with other functional areas and the challenges and opportunities that exist for marketers.

MKT 121 PERSONAL SALES MANAGEMENT 3-3-0

This course focuses on highlighting the sales person as an essential element in providing value to an organization and to the customer. The course emphasizes the importance of securing, building and maintaining long term relationships in sales. This course presents clear and concise

information on successful approaches to selling in the contemporary business environment. Students will learn how to manage and add value to the buyer-seller relationship process. Students will learn to apply the model for relationship selling that is used by firms today.

MKT 131 ADVERTISING AND PROMOTION 3-3-0

Students learn the theory and practice of advertising and marketing promotions, including advertising principles and practices plus the integration of other types of marketing promotions. Focus is on the process of advertising, promotions and media working together for strategic and effective marketing communications. Emphasis is placed on understanding, identifying, evaluating, selecting and planning the various types of promotions.

MKT 141 RETAIL MERCHANDISING 3-3-0

Students learn basic concepts of retailing organizations and their structure. Special emphasis is placed on helping each student to discover an area of retailing which may offer a challenging and rewarding career.

MKT 198 CO-OP INTERNSHIP IN MARKETING I 3-0-15

This course consists of employment in a college-approved distributive organization to enable the student to gain insight into selling and merchandising practices of distributors. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance. (Fulltime students in MKT only-with permission of instructor.)

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MKT 211 DIGITAL MARKETING 3-3-0

This course is designed to provide a structured and comprehensive look at the complex and challenging areas of Digital Marketing. Classic marketing principles will be applied to Digital Marketing. Students will learn how to maximize the power of Digital Marketing in the business world and assess the opportunities available with Digital Marketing. Students will develop proficiency in making critical strategic marketing decisions. Students will learn to appreciate the innovation and technology of this growing Marketing media and acquire the knowledge to implement Digital Marketing solutions into marketing strategies.

Prerequisite(s): MKT 111

MKT 298 CO-OP INTERNSHIP IN MARKETING II 3-0-15

This course consists of continued employment in a college-approved distributive organization to enable the student to gain insight into the selling and merchandising practices of distributors. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance (Full-time students only-with permission of instructor.)

Prerequisite(s): MKT 198.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MATHEMATICS

***MAT 010 FUNDAMENTALS OF ARITHMETIC 0-3-0**

A fundamental course in basic mathematical skills. This course does not offer degree credit. Topics include operations on signed numbers, fractions, decimals, percents, and other arithmetic topics. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): An Arithmetic Accuplacer Test Score of 0 to 72 or an Elementary Algebra Accuplacer Test Score of 20 to 39.

*Accepted Math placement scores include an Arithmetic Accuplacer Test Score of 41 to 72 or an Elementary Algebra Accuplacer Test Score of 20 to 39.

***MAT 010B REVIEW OF THE FUNDAMENTALS OF ARITHMETIC 0-1-0**

A fundamental course in basic mathematical skills. This course does not offer degree credit. Topics include operations on signed numbers, fractions, decimals, percents, and other arithmetic and pre-algebraic topics. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): An Arithmetic Accuplacer Test Score of 41 to 72 or an Elementary Algebra Accuplacer Test Score of 40 to 66.

*Accepted Math placement scores include an Arithmetic Accuplacer Test Score of 41 to 72 or an Elementary Algebra Accuplacer Test Score of 20 to 39.

***MAT 011 BEGINNING ALGEBRA 0-3-0**

A first course in algebra with some review of arithmetic. It introduces the beginning concepts of algebra and is appropriate for students with a weak background or no background in algebra. Topics include signed numbers, algebraic terminology, basic operations on algebraic expressions and exponents, solution of linear equations and inequalities, solutions of quadratic equations, graphing, simple factoring, algebraic fractions, and word problems. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Math placement test recommendation of MAT 011 or MAT 010, with a minimum grade of "C."

*MAT010 or MAT010B with a minimum grade of "C" or Arithmetic Accuplacer Test Score of 73 or higher or an Elementary Algebra Accuplacer Test Score of 40 to 66.

MAT 011B BEGINNING ALGEBRA WITH REVIEW OF ARITHMETIC 0-4-0

This is a first course in algebra with a significant review of arithmetic. The course reviews arithmetic operations with decimals and fractions, measurement and basic geometry. It introduces the beginning concepts of algebra through applications. Algebraic topics include signed numbers, algebraic terminology, basic operations on algebraic expressions and exponents, solution of linear equations and inequalities, simple factoring, algebraic fractions, quadratic equations, slope, graphs of linear and quadratic equations, and word problems. The course is appropriate for students with a weak math background and who need of a review of arithmetic. The TI-30X calculator is recommended for the course. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Math placement test recommendation of MAT 011 or MAT 010, with a minimum grade of "C."

MAT 100 INTERMEDIATE ALGEBRA 3-3-0

An intermediate algebra course which reviews and extends the material taught in MAT 011. It is appropriate for students who have taken MAT 011 or who have had an elementary algebra course in high school. It will prepare students for MAT 125, MAT 131, MAT 140, and/or MAT 161. Topics include a brief review of introductory algebra, factoring, algebraic

fractions, radicals, fractional exponents, the Pythagorean Theorem, function notation, graphing, quadratic equations, logarithms, systems of linear equations, and word problem applications. A graphics calculator is required for class, homework, and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT011 or MAT011B with a minimum grade of "C" or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 0 to 52.

MAT 100B INTERMEDIATE ALGEBRA WITH REVIEW... 3-4-0

An intermediate algebra course which reviews and extends the topics from a beginning algebra or algebra I course. It is appropriate for students who had algebra I in high school but are not prepared for MAT 100, Intermediate Algebra. MAT 100B is an alternative to the sequence MAT 011, MAT 100. MAT 100B covers the same topics as MAT100 by meeting 4 hours a week for 3 credits. It is important to note that the students will pay for four hours, but only receive three credits. It will prepare students for MAT 115, MAT 125, MAT 131, MAT 140 and/or MAT 161. Topics include a review of introductory algebra, introduction of functions, factoring, algebraic fractions, radicals, fractional exponents, the Pythagorean Theorem, function notation, graphing, quadratic equations, logarithms, systems of linear equations, and word problem applications. A graphing calculator is required. Instruction will be presented using a TI-84.

Prerequisite(s): MAT011 or MAT011B with a minimum grade of "C" or Elementary Algebra Accuplacer Test Score of 55 to 66.

MAT 103 FOUNDATIONS OF MATHEMATICS I 3-3-0

This course is to give students an understanding of the foundations of math for Elementary Education students. Topics include sets, logic, number bases and the structure of the number system from naturals to the reals. This course does not satisfy the MAT 100 Prerequisites requirement for MAT 125, MAT 131, MAT 140, or MAT 161.

Prerequisite(s): MAT011 or MAT011B with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer of 0 to 52.

MAT 104 FOUNDATION OF MATHEMATICS II 3-3-0

This is the second course in the sequence MAT 103, MAT 104. Topics include geometry, measurement, probability, statistics and problem solving. This course does not satisfy the MAT 100 Prerequisites requirement for MAT 125, MAT 140 or MAT 161.

Prerequisite(s): MAT103 with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 0 to 52.

MAT 106 MATH APPLICATIONS 3-3-0

This course is designed for liberal arts, social science, humanities, secondary education, and communications majors. It stresses mathematical applications from probability, statistics, math of finance, linear programming and at least one of the following topics: matrix algebra, game theory, graph theory, or an introduction to technology. A calculator is required for this course: see instructor. This course does not satisfy the MAT 100 Prerequisites requirement for MAT 125, MAT 140 or MAT 161.

Prerequisite(s): MAT011 or MAT011B with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 0 to 52.

MAT 108 MATHEMATICS CULTURE AND CONCEPT..... 3-3-0

A course, designed primarily for liberal arts students, which shows how mathematics has developed concomitantly with civilization. The applications demonstrate that mathematics is related not only to the physical sciences but also to the social sciences, to philosophy, logic, religion, literature and the arts. This course does not satisfy the

MAT 100 Prerequisites requirement for MAT 125, MAT 131, MAT 140 or MAT 161.

Prerequisite(s): MAT011 or MAT011B with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer of 0 to 52 may be substituted for MAT011/MAT011B.

MAT 125 DISCRETE MATHEMATICS ... 3-3-0

A course in discrete mathematics with special emphasis on computer science applications. Topics include sets, number systems, the nature of proof, formal logic, functions and relations, combinatorics, recurrence relations, trees and Boolean algebra.

Prerequisite(s): CIS 111 with minimum grade of "C," and MAT100 with a minimum grade of "C" or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85.

MAT 130 PROBABILITY AND STATISTICS4-4-0

A course designed for students in all fields. Topics include organization of data, measures of central tendency, measures of variation, statistical inference, correlation along with some more advanced topics such as analysis of variance and simple/multiple regression. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT100 or MAT100B, MAT104, or MAT106 with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85.

This course has an honors version, MAT 130H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

MAT 131 INTRODUCTION TO STATISTICS I 3-3-0

A basic course designed for students in all fields. Topics include organization of data, measures of central tendency, measures of variation, statistical inference and correlation. This is a self-contained course, or with MAT 132, it is a course with greater depth and applications. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT100 or MAT100B, MAT104, or MAT106 with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85 may be substituted for MAT100/MAT100B/MAT104/MAT106.

MAT 132 INTRODUCTION TO STATISTICS II 3-3-0

A continuation of MAT 131 with business applications including statistical inference and decision procedures, regression, correlation, chi-square distribution, time series, quality control, and index numbers. A graphing calculator is required for classes, homework, and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT 131, with minimum grade of "C"

MAT 140 FINITE MATHEMATICS FOR BUSINESS 3-3-0

A course in finite mathematics with special emphasis on applications to business and related fields. Topics include linear and quadratic equations with applications involving supply, demand, revenue, cost, profit and breakeven points; matrices and systems of linear equations; graphing; linear programming; simplex method; mathematics of finance; and model building. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT100 with a minimum grade of "C" or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85.

MAT 142 CALCULUS FOR BUSINESS & SOCIAL SCIENCE 3-3-0

A one semester calculus course containing an introduction to differential and integral calculus using algebraic, exponential and logarithmic functions. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI 84 Plus.

Prerequisite(s): MAT 140 with a minimum grade of "C," or consent of instructor.

MAT 161 PRECALCULUS I 4-4-0

A comprehensive precalculus course which extends the material taught in MAT 100. Additional topics include: quadratic and absolute value, inequalities, binomial theorem, sigma notation, conic sections, theory of equations, complex numbers, and systems of equations. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT100 with a minimum grade of "C" or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85.

MAT 162 PRECALCULUS II 4-4-0

This is a continuation of MAT 161 including the following topics: exponential and logarithmic functions and trigonometry. The trigonometry topics includes right triangles, functions, graphs, identities, vectors, law of sines, law of cosines, polar coordinates and polar graphing, complex numbers, inverse functions and applications. A graphing calculator is required. Instruction will be presented using a TI-84 Plus.

Prerequisite(s): MAT 161 with a minimum grade of a "C."

MAT 188 CALCULUS WITH A REVIEW OF FUNCTIONS I 4-4-0

A course primarily designed for students who will major in mathematics, science, engineering, or business. The sequence of courses, MAT 188 and MAT 189, is designed for students who have a good background in functions and trigonometry. MAT 188 and MAT 189 cover similar topics as the sequence MAT 161, MAT 162, and MAT 190 but at a faster pace. Together with MAT 189 the course covers all of the material in MAT 190, Calculus I. MAT 188 covers inequalities, Fundamental Theorem of Algebra, basic trigonometry, Law of Sines and Cosines, limits, differentiation, integration, curve sketching and applications for polynomials and trigonometric functions. A graphing calculator is required for class, homework, and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Note: You must pass both MAT 188 and MAT 189 to transfer credits equivalent to Calculus I. You should not take MAT 188 unless you are planning on taking MAT 189 the next semester.

Prerequisite(s): MAT100 or MAT100B with a minimum grade of "B" and high school Trigonometry; or MAT116 and high school Trigonometry, or MAT116 with a minimum grade of "C," or Elementary Algebra Accuplacer Test Score of 67 to 85 or a College Level Math Accuplacer Test Score of 53 to 85.

MAT 189 CALCULUS WITH A REVIEW OF FUNCTIONS II 4-4-0

This course is a continuation of MAT 188. This course completes the coverage of Calculus I, MAT 190. MAT 189 covers limits, differentiation, integration curve sketching and applications for rational and radical functions. Also covered is an introduction to logarithms, exponential functions, and conic sections. The course concludes with a summary of Calculus I. A graphing calculator is required for class, homework, and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): MAT 188 with a minimum grade of "C."

MAT 190 CALCULUS AND ANALYTIC GEOMETRY I 4-4-0

A course designed primarily for students who will major in mathematics, science, engineering, or business. Topics include concepts from analytic geometry, limits, differentiation and integration of algebraic and

trigonometric functions, curve sketching and applications. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-84 Plus.

Prerequisite(s): Elementary Algebra Accuplacer of 67 to 85 or a College Level Math Accuplacer of 86 to 120 math placement score, or MAT 170 with a minimum grade of "C."

MAT 201 CALCULUS AND ANALYTIC GEOMETRY II 4-4-0

This is the second course in the calculus sequence. It is designed primarily for students who will major in mathematics, science, engineering or business. Topics include differentiation and integration of exponential, logarithmic, trigonometric, and hyperbolic functions, integration techniques, improper integrals, sequences and series, Taylor's formula, L'Hopital's rule and applications. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a graphing calculator.

Prerequisite(s): MAT 189 or MAT 190 with a minimum grade of "C."

MAT 202 CALCULUS AND ANALYTIC GEOMETRY III 4-4-0

This is the third course in the Calculus sequence. It is designed primarily for students who will major in mathematics, science, engineering or business. Topics include polar coordinates, vector analysis, solid analytic geometry, partial derivatives and multiple integrals with applications. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-92/Voyage 200.

Prerequisite(s): MAT 201 with a minimum grade of "C."

MAT 211 FOUNDATIONS OF MATHEMATICAL PROOF 3-3-0

This course is designed to introduce students to the foundations of higher mathematics, which includes an introduction to mathematical abstraction and an introduction to the language of mathematical proof. Topics include: logic; the use of quantifiers to assist with logic; set theory; applying appropriate proof techniques; relations and functions, including the Cartesian product and its applications. This course is highly recommended for those students who have not been exposed to mathematical proof and intend to take advanced math courses.

Prerequisite(s): MAT 190 with a minimum grade of "C."

Co-Requisite(s): MAT 201

MAT 220 LINEAR ALGEBRA WITH APPLICATIONS 4-4-0

A one-semester course in linear algebra. Topics include vector spaces, matrices and linear transformations, Eigenvalues and eigenvectors, determinants, function spaces and applications. It can be taken concurrently with MAT 202 or MAT 223. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-92/Voyage 200.

Prerequisite(s): MAT 201 with a minimum grade of "C."

MAT 223 DIFFERENTIAL EQUATIONS 4-4-0

A course primarily in ordinary differential equations and related topics. Topics include differential equations of the first order, linear differential equations of higher orders, systems of differential equations, Laplace Transforms, numerical methods and applications. It can be taken concurrently with MAT 202 or MAT 220. A graphing calculator is required for class, homework and testing. Classroom instruction and programs will be presented using a TI-92/Voyage 200.

Prerequisite(s): MAT 201 with minimum grade of "C."

MEDICAL ASSISTING

MAS 113 CLINICAL ASSISTING PROCEDURES I.....3-2-2

The course builds a solid foundation in Medical Assisting and introduces students to the clinical procedures commonly performed in a variety of medical offices. This course explores asepsis and infection control, nutrition and wellness, pharmacology and medication administration, and assisting the physician and health care providers. Course specific competency evaluations must be successfully completed by the student.

Prerequisite(s): ESL 011, ENG 010A, or ENG 011, REA 011 or ESL/ REA 017, MAT 010 or MAT 010B

Previous or Concurrent: BIO 103, HCP 224, OFM 101 or CIS 110, HCP/MAS 114

MAS 114 MEDICAL LAW AND ETHICS FOR HEALTH CARE PROFESSIONALS 3-3-0

This course provides the student with a deeper understanding of legal and ethical issues in healthcare. Students explore the legal, ethical and moral dilemmas currently faced by healthcare professionals, and identify issues related to potential legal liability in the workplace.

(Also offered as HCP 114.)

MAS 117 MEDICAL OFFICE ADMINISTRATION.....4-3-2

This course builds a solid foundation in Medical Office Administrative skills and introduces students to the administrative procedures and business practices commonly performed in medical practices. Emphasis on operational functions, the application of electronic technology for both practice management and medical records management, and health insurance and reimbursement in professional practice will help prepare the student for entry level office administration. Course specific competency evaluations must be successfully completed by the student.

(Also offered as HCP 117)

Prerequisite(s): MAT 010; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017; OFM 101 previous or concurrently enrolled.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MAS 118 PROFESSIONAL ESSENTIALS FOR THE MEDICAL OFFICE.....3-3-0

This course builds a solid foundation of professional and communication skills required to work within a medical office. It provides students with an introduction to health care organization and administration and, prepares students to utilize therapeutic communication techniques, apply knowledge of legal and ethical issues in healthcare, demonstrate respect for individual diversity, and employ problem solving skills. Course specific competency evaluations must be successfully completed by the student.

(Also offered as HCP 118)

Prerequisite(s): MAT 010; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

MAS 121 LABORATORY PROCEDURES FOR MEDICAL ASSISTANTS.....3-2-2

This comprehensive course introduces the student to the purpose, techniques and recording of diagnostic laboratory procedures commonly performed in the medical office. Subjects covered include general laboratory techniques, phlebotomy, specimen collection, handling and processing, diagnostic testing and performing hematology, chemistry, urinalysis, microbiology and immunology testing. Course specific competency evaluations must be successfully completed by the student.

Prerequisite(s): MAT 010; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017
Co-requisite(s): BIO 103, MAS 113

MAS 123 CLINICAL ASSISTING PROCEDURES II3-2-2

The course continues to build a solid foundation in Medical Assisting and expands knowledge of clinical procedures commonly performed in a variety of medical offices. This course explores anatomy and physiology, medical terminology, common pathology and diseases, diagnostic treatment modalities, and patient care techniques. Course specific competency evaluations must be successfully completed by the student.

Prerequisite(s): MAS 113 with a grade of "C" or better or better

Co-requisite(s): MAS 121, HCP/MAS 117, HCP/MAS 118

MAS 130 MEDICAL ASSISTING PRACTICUM 6-3-12

This capstone course will serve as the culminating point in preparing for the transition from student to practicing Medical Assistant by providing the student with the opportunity to apply the skills learned in the classroom and laboratory to medical assisting practice in the medical office. This important part of the student's total education includes an opportunity to perform various clinical and administrative procedures at the practicum site. These experiences are then shared in the classroom seminar setting. Students must complete a capstone project and course-specific evaluations.

Prerequisite(s): MAS 123

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MEDICAL LABORATORY TECHNICIAN

MLT 106 PHLEBOTOMY4-2-8

A comprehensive one-semester course in the fundamentals and practice of phlebotomy (blood specimen collection). Lecture topics covered include venipuncture, capillary collection, safety, medical terminology, orientation to the clinical laboratory and health care, and specimen handling and processing. Students spend 100 hours in a hospital laboratory practicing blood collection techniques under supervision. Upon successful completion of the course, students are eligible to sit for national certification exams and to seek employment as phlebotomists. Additionally students are trained in adult Cardiopulmonary Resuscitation (CPR).

Prerequisite(s): High School Diploma or GED.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 110 INTRODUCTION FOR THE MEDICAL LABORATORY TECHNICIAN4-2-6

This course introduces the student to varied aspects of Medical Laboratory Technician careers. The course is a combination of classroom and laboratory experiences. Subjects covered include general laboratory techniques, safety, professional issues, an introduction to the role of computers in the laboratory setting, and some basic concepts and analyses from each of the major areas of the medical laboratory.

Prerequisite(s): Attainment of Medical Laboratory Technician Selective Admissions Criteria and Admission into the Program. MAT 011 or MAT 011B; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 123 IMMUNOHEMATOLOGY LECTURE 2-2-0

Comprehensive course in fundamentals of theory and practice in blood banking, including blood group systems, antibody detection and identification, compatibility testing, donor selection and processing, component therapy, and transfusion reactions.

Prerequisite(s): MLT 110 with a grade of "C" or better.

MLT 124 IMMUNOHEMATOLOGY LABORATORY 1-0-3

The student develops proficiency in basic laboratory procedures for the blood bank, including specimen collection and handling, blood typing, neonatal testing, antibody screening and identification and compatibility testing.

Prerequisite(s): MLT 110 with a grade of "C" or better.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 125 HEMATOLOGY LECTURE 2-2-0

Comprehensive course in the fundamentals of theory and practice in clinical hematology and hemostasis, including hematopoiesis of red and white cells, cell function, correlation of test results with pathophysiology, and the principles of routine analyses and instrumentation.

Prerequisite(s): MLT 110, BIO 130, and CHE 131, each with a grade of "C" or better.

MLT 126 HEMATOLOGY LABORATORY 1-0-3

The student develops proficiency in basic laboratory procedures in hematology and hemostasis, including complete blood counts, platelet counts, differentials, basic coagulation tests, cell counts and specimen collection and handling. Instrumentation is introduced.

Prerequisite(s): MLT 110, BIO 130, and CHE 131, each with a grade of "C" or better.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 233 CLINICAL CHEMISTRY LECTURE 3-3-0

Comprehensive course emphasizing the principles and procedures of routine clinical chemistry analyses, including instrumentation, correlation of results with pathophysiology, quality control, toxicology and urinalysis.

Prerequisite(s): MLT 110, BIO 130, CHE 132, each with a grade of "C" or better.

MLT 234 CLINICAL CHEMISTRY LABORATORY 2-0-6

The student develops proficiency in basic laboratory analyses in chemistry (including urinalysis and body fluids). Emphasis is on frequently performed tests, spectrophotometry, manual procedures, developing organizational skills and quality control. Instrumentation is introduced.

Prerequisite(s): MLT 110, BIO 130, CHE 132, each with a grade of "C" or better.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 235 CLINICAL PRACTICUM IN MLT I 3-0-12

The student applies basic skills learned on campus to three clinical areas: blood bank; hematology and microbiology. Students spend 12 hours per week for 4 weeks in each clinical area at an off-campus clinical site, performing routine tests under supervision.

Prerequisite(s): MLT 123, MLT 124, MLT 125, MLT 126, and BIO 141, each with a grade of "C" or better.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 244 PROFESSIONAL ISSUES IN MEDICAL LABORATORY TECHNOLOGY .. 2-2-0

This course is designed for the second year clinical MLT student. It is intended to introduce the student to non-clinical MLT related issues. It explores topics such as health care delivery systems, managed care approaches to reimbursement issues, health care finance, laboratory information systems, professional communication skills, professional documentation and legal-ethical questions. The student explores some of the many challenges facing the MLT profession.

Prerequisite(s): MLT235
Co-requisites: MLT245 or permission from the Program Director.

MLT 245 CLINICAL PRACTICUM IN MLT II .. 6-0-24

This course is a structured practical experience at a clinical site. The

student spends 24 hours per week for three weeks at an off-campus laboratory in each of the following areas: blood bank, hematology/coagulation/urinalysis, microbiology/serology, and chemistry. Emphasis is on supervised performance of routine tests, efficiency, operation of instrumentation and development of professional traits. The student will participate on a blood collection team and tour several off-campus enrichment sites.

Prerequisite(s): MLT 233, MLT 234, MLT 235, and BIO 241, each with a grade of "C" or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MLT 246 MLT SEMINAR 1-1-0

A capstone course with a variety of formats covering topics such as professional issues and job-seeking skills. The student will make oral case study presentations and participate in a group project.

Prerequisite(s): MLT233, MLT 234, MLT 235, and BIO 241, each with a grade of "C" or better.

MEDIA STUDIES PRODUCTION

MSP 107 INTRODUCTION TO VIDEO PRODUCTION AND LITERACY 3-2-2

Students are introduced to the theory and operation of analog and digital cameras, elementary lighting and basic audio equipment, common professional video production, and filmmaking. After instructors explain the theory of production equipment, students complete assignments in basic equipment operation. The fundamentals of visual storytelling are emphasized. Through demonstrations and hands-on experience, students apply the basics of lighting, exposure, composition, sequencing, and non-linear editing techniques used by professionals in visual narrative storytelling. The students develop ideas learned in COM 111 (Mass Media and Society) and apply skills to capture quality images and sound using digital video equipment. Using these skills, they learn to tell stories using video and sound. Projects developed are distributed over student and other community-based media.

Prerequisite(s): COM 111 with a 'C' or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 111 MASS MEDIA AND SOCIETY 3-2-2

Students learn to access, analyze, evaluate and create media and are introduced to the basic building blocks of storytelling and journalism. They identify, research, write, and produce aural and visual packages about key media issues based on their understanding and interpretation of the issues that are then distributed over class, college and community based channels. By doing so they gain an understanding of the media saturated world and the aesthetic, cultural, economic, and political forces that guide the creation and distribution of media messages.

Prerequisite(s): ESL 011, ENG010A, or ENG 011 and REA 011 or REA 017 with a minimum grade of "C"

MSP 112 SURVEY OF MASS MEDIA INDUSTRIES IN THE UNITED STATES 3-2-2

Building on skills and insights obtained in COM 111, students survey the history and evolution of mass media industries in the United States to achieve a basic understanding of current trends that affect the future of the industry. They analyze and evaluate themes and create media that examines the formative history and current issues related to print, motion picture, sound recording, radio, television, the Internet, games,

social media and emerging communication technologies. Projects developed are distributed over class, school and community-based channels. Students are required to research, interview primary and secondary sources, analyze research, write, create and produce media work to build upon their digital portfolio. Students analyze legal, ethical and controversial issues confronting mass media industries.

Prerequisite(s): COM 111 with a 'C' or better

Co-requisite: ENG 101

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 125 INTRODUCTION TO WRITING FOR BROADCAST NEWS.....3-2-2

This course explores the theory and practice to give students a foundation in the principles and practice of broadcast news reporting and writing. The course teaches students to organize, research, and write coherent news stories for broadcast using a variety of professional news styles. Students analyze written formats and styles used in radio and television newsrooms, choose sound bites, write broadcast news copy, and are introduced to professional information-gathering and interviewing techniques. Students write voiceovers and anchor readers and field packages.

Prerequisite(s): COM 111 with a grade of 'C' or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 126 INTRODUCTION TO SCRIPTWRITING.....3-2-2

Students analyze narrative scriptwriting for film, television and radio. Emphasis is placed on the pitch, treatment, and appropriate format. Students apply the foundations of scriptwriting to original and adapted material. Students are encouraged to develop a unique voice by researching, writing, and editing preparatory, and marketing material for completed scripts. Students write scripts to form for television, film, and radio that are also used in advertising, public relations, gaming, animation, and narrative drama.

Prerequisite(s): COM 111 with a grade of 'C' or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 153 CAMPUS RADIO WORKSHOP1-0-2

Campus Radio Workshop focuses on creating and producing original content for radio. As part of this course students conceive, create, produce and distribute productions about the College and College life for WRFM, and other community-based media outlets. The students participate in workshops where they are introduced to radio procedures and operations and work on sound packages including narrative, interview, music, news, and drama. They obtain hands-on industry experience and work to become key members of the student-operated radio station, Montco Radio.

Prerequisite(s): COM 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 169 INTRODUCTION TO ELECTRONIC JOURNALISM3-2-2

This course introduces the basic building blocks of electronic journalism. It builds on basic broadcast writing skills and explains how professionals in mass media tell stories using digital technology. Students explore the reporter's role and the technology involved in news reporting. Students will apply their skills and develop stories, edit words, and produce both the pictures and sound as they prepare their stories and news packages for electronic distribution to a diverse audience over college, student, and community-based media. Students gain a clear understanding of the principles and professional practices of television news production and learn to critically evaluate the ethics and controversies in unbiased storytelling.

Prerequisite(s): COM 125 OR COM 126

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 200 ETHICS, RESPONSIBILITY, MASS MEDIA AND THE LAW3-3-0

Students examine and analyze mass media through case studies and commentaries that focus on a wide spectrum of historical and contemporary legal and ethical issues faced media practitioners in broadcasting, advertising, public relations, publishing and filmmaking. The course builds on information obtained in COM 101 to provide a foundation in the theoretical principles of media ethics and the legal issues surrounding mass media, journalism, and content distribution.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 210 HISTORY OF FILM I3-2-2

This course introduces students to the history, ideas, and vocabulary of modern cinema. Students learn about the various cinematic styles, genres, and techniques used in filmmaking as an art form. Students view, analyze, and critique films from the introduction of sound until the end of WW II. The goal of this course is to teach students how to think and write about early cinema from a historical, cultural, and aesthetic perspective.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 211 HISTORY OF FILM II3-2-2

This course will teach students how to research, analyze and comment on contemporary cinema. Students examine significant aesthetic developments in narrative, documentary and experimental film history since WWII. Students gain a better understanding of the aesthetic, social, economic and technological developments that helped create specific film movements outside of the Hollywood studio system. The course focuses on individual films and filmmakers of the period.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisites: ENG 102, COM 210 or COM 230 (Successful completion suggested).

MSP 213 ROCK AND ROLL, RADIO, AND THE RECORDING INDUSTRY3-3-0

A survey of the history and evolution of Rock and Roll in America and its impact on radio, television, society and the recording industry. Topics range from Rock and Roll's relationship to the birth of AM and FM radio to its influence on society and emerging technologies. Emphasis is placed on understanding Rock and Roll's impact in modern society.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 214 RADIO AROUND THE WORLD.3-3-0

This course surveys the history and evolution of radio in America and around the world and its impact on society and culture. Topics range from the roots of AM and FM to Internet, Satellite and emerging technologies that impact radio. Emphasis is placed on the history of programming styles, marketing, music and news promotion, and job development in the radio industry.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 216 HISTORY OF TELEVISION .. 3-3-0

This course surveys the historical, social, economic, and aesthetic implications of television in American life since WWII. Students learn about the people, personalities, technology, and business decisions responsible for the development of television as an industry. Students explore the development of television and the global impact of the medium, and they learn how American life shapes both the content and

development of the television industry.

Prerequisite(s): Prerequisite: COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 217 HISTORY OF NEW MEDIA 3-3-0

Students study the history of New Media and how computers and emerging technologies have influenced, shaped and changed our culture and society. During their course of study, students interact with various forms of new media and investigate the theories that helped create current digital communications.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 219 INTRODUCTION TO MEDIA OPERATIONS 3-2-2

Students learn about the organizational skills, financial practices, and business operations of mass media facilities. Students analyze the impact of new technologies, research issues, problems and solutions, develop case statements, and prepare plans and strategies to operate, manage, direct, and motivate a workforce of students and volunteers at co-curricular media clubs: CAPG, Montco Radio, Real to Reel and the Scriptwriter's Club. Students develop programming schedules, market and operate campus-based media facilities. They prepare business presentations, operational budgets, and strategies crucial for the success of student media operations.

Prerequisite(s): COM 111 with a grade of "C" or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 225 ELECTRONIC JOURNALISM 3-2-2

Students build on previous production experience to develop more involved techniques of electronic reporting. Students work in production teams using professional audio and video equipment to plan and produce a news or documentary project in a professional atmosphere. Students perform increasingly complex pre-production, production, and post-production techniques while working on individual and team projects. They work to enhance their storytelling knowledge and skills while meeting professional news standards and deadlines. The programs produced are faculty and peer reviewed and presented as news-based productions ready for distribution over student, college, and community-based media.

Prerequisite(s) COM 169

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 226 SCRIPTWRITING 3-2-2

This class builds on scriptwriting skills introduced in COM 126 as students develop an increased ability to present their ideas using a variety of methods and techniques of scriptwriting. Students analyze film and television scripts, styles and genres, and develop their understanding of audience as they work to find a writing voice. Students create a treatment, character bible, and script. They explore copyright, registration, employment, and guild issues and are introduced to the business of scriptwriting. During the workshop students read their work and listen to comments and critiques from their peers and faculty.

Prerequisite(s): COM 112; COM 126 with a 'C' or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 230 THE MOVIES: MEANINGS AND METHODS..... 3-2-2

The popular arts of "the movies" and television are carefully prepared constructions of sights and sounds. Watching them is the chief way our society comes to recognize itself. COM 230 is about learning to get more enjoyment and meaning from these products of the image industries.

The course examines how meaning is created and communicated in non print media. Basic concepts and techniques in constructing and interrelating visual and aural images will be discussed in light of the historical development of film and video technology and techniques.

MSP 235 CURRENT ISSUES IN MASS MEDIA..... 3-3-0

In this survey course students analyze current issues in mass media by examining existing communication technologies, programming, and business models. They explore current issues related to cable TV, emerging technologies, interactive and satellite technologies, the Internet, fiber-optics, digital audio and video, HDTV, and nanotechnology. Students research topics of interest, analyze personal and business uses of emerging technologies, and examine their implications for the audience, users, producers, and distributors.

Prerequisite(s): COM 111 with a grade of "C" or better.

Co-requisite: ENG 102.

MSP 248 DIRECTING ACTORS 3-2-2

This course is designed to inform future directors on the method, vocabulary and decorum for working on stage, television and film. Students become beginning directors who are introduced to the conventions and methods of acting and become better prepared to analyze text, clearly define a vision and communicate successfully with actors. The course consists of readings, discussion, exercises and in-class rehearsals. As part of the course, students are required to direct actors in a series of projects presented in class.

Prerequisite(s): COM 107 and COM 126 or COM 278

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 253 CAMPUS RADIO WORKSHOP II .. 1-0-2

Campus Radio Workshop II builds on the experience, knowledge and skills acquired in COM 153. In this Workshop, students must take leadership roles in creating and producing original content for radio. They help to operate the station and to create sound packages for distribution, including narrative, interview, music, news, and drama. As a result, they obtain an in-depth, hands-on industry experience and take an increasingly active role in operating the student-run radio station, Montco Radio.

Prerequisite(s): COM 153

Co-requisite: SRT 250 or COM 219

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 262 NEW MEDIA PRODUCTION 3-2-2

Students will tell stories using new media production and distribution techniques through emerging technologies. Students create, oversee and participate in productions from the early stages of conception, through the process of distribution. Emphasis is placed on the procedures and processes of preparing for and carrying out production of new media content for distribution to a diverse digital audience.

Prerequisite(s): COM 107 OR SRT 104; COM 125 OR COM 126

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 268 INTRODUCTION TO CIVIC JOURNALISM 3-2-2

Using professional production equipment, students learn journalistic skills by researching, writing, editing, and producing short documentary-style news reports that examine local issues facing Montgomery County communities. They broaden creative styles and techniques for producing documentary style reports while meeting professional news standards and deadlines. Students submit written proposals, review rough-cuts for approval, and digitally edit their final stories for distribution via student,

College and community-based media.

Prerequisite(s): COM 169 with a 'C' or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 278 VIDEO PRODUCTION II3-2-2

This course reinforces basic video and film production skills, while the student is introduced to more advanced video and film production techniques. Emphasis is placed on the procedures and processes of preparing for and carrying out a documentary or narrative shoot. Students act as producers-directors. They pitch stories, write treatments and scripts, evaluate the role of the director and producer, produce a one-minute, three-minute, and five-minute project, and submit production books for review. Students individually produce these projects using professional production equipment and techniques. They are faculty and peer reviewed, evaluated, and presented as productions ready for distribution over various student, College, and community-based media.

Prerequisite(s): COM 107 with a 'C' or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 279 DIGITAL FILMMAKING.....3-2-2

Students assume individual roles on a film crew. Students explore and analyze the theory and practice of narrative video as an art form, entertainment medium, and a creative communication tool. Students learn about film structure as it relates to story development. Students use advanced camera features and increase their understanding of more advanced lighting, and editing techniques. They collaborate to produce and distribute narrative projects for a diverse audience over student, College and community-based media.

Prerequisite(s): COM 107 with a 'C' or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 282 TECHNIQUES IN VIDEO EDITING3-2-2

Students develop a critical understanding of the processes, aesthetics and technical theory involved in non-linear editing for narrative filmmaking and news production. Students examine diverse editing styles and ideas through reading and close analysis of a variety of TV and film examples. They learn new skills and editing techniques by working as the assigned editor on individual student and College-based projects. Students apply their understanding of editing workflow, sound design, screen direction, continuity, and pacing to projects distributed to student, College and community based media.

Prerequisite(s): COM 107 with a 'C' or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 286 LIVE TV PRODUCTION.....3-2-2

Students explore the creative process and aesthetics for producing and directing multi-camera live-studio programming. Students design, produce, direct, light, schedule, and budget for live programs. These projects include serial dramas and comedy, talk shows, sporting events, political debates, public-affairs, and news programs. Students analyze and critique current live television productions, apply theory, identify and discuss aesthetics, and determine trends. Students produce their own creative projects individually and as part of a production team.

Prerequisite(s): COM 107 with a grade of "C" or better OR SRT 104 with a grade of "C" or better OR COM 125 with a grade of "C" or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MSP 291 MASS MEDIA CAPSTONE CAPSTONE.....3-2-2

In this course, students work collaboratively, discuss, conceive, create and produce a body of work that displays the culmination of their knowledge, experience, and writing and production skills. Students develop advanced skills in scripting, journalism, writing, planning, organizing and executing media projects from inception to completion. Students work as producers and directors and lead a production crew on media packages. At the end of the course, students design, organize and complete a portfolio, including a resume, cover letter, personal essays and all professional-level media work. Students also practice mock job placement interviews

Prerequisite(s): COM 107 with a C or better; COM 200 with a C or better

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUSIC

MUS 110 MUSIC APPRECIATION 3-3-0

Music Appreciation is a chronological survey of Western music from classical antiquity through the 20th century. Throughout the course, music will be examined for its own intrinsic characteristics in addition to being used as a means for achieving a greater understanding of the society, politics, philosophies, and aesthetics of each historical period. Whenever possible, relationships between the music of Western culture and the music of other world cultures will be examined. In addition to the in-class activities, every student will be required to attend a live concert (approved by the instructor) and, following specific guidelines, prepare a written review of that concert experience.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 111 HISTORY OF ROCK AND ROLL 3-3-0

This course will explore the origins and development of popular music in America, from ragtime and blues, through rockabilly and the British invasion, to punk, rap, and heavy metal. Students will gain an understanding of a variety of popular styles and artists, as well as discover how popular music reflected and influenced the changing social and cultural norms of America. In addition to the in-class activities and assessments, every student will be required to write a research paper on a specific topic related to the course (approved by the instructor).

Prerequisite(s):ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 112 AFRICAN-AMERICAN TRADITIONS IN AMERICAN MUSIC 3-3-0

African-American Traditions in American Music is an introductory survey of the history of African-American music in the United States. Consideration will be given to the music's origins and practice in West Africa; the relationship of the music's evolution to the major tradition in western music; and examination of the religious, social, political and economic forces which helped to shape the music; and representative musical forms in specific genre of American music.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

MUS 113 MUSIC IN AMERICAN CULTURE 3-3-0

Music in American Culture will examine various styles of music found in United States cultural history. Folk, fine art, and popular music examples drawn from diverse traditions will be examined on the basis of their intrinsic characteristics, as well as in connection with their social, economic, and political contexts.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 114 INTRO TO WORLD MUSIC CULTURES 3-3-0

Introduction to World Music Cultures is an entry-level course in the study of World Music. These musical traditions will be explored both based on their intrinsic characteristics, as well as in connection with their social, economic, and political contexts. Students will also be introduced to the discipline of Ethnomusicology. As a term project, each student will be required to visit and document a local musical culture selected by the student and approved by the instructor.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 120 MUSIC FUNDAMENTALS 3-3-0

A beginning course in music fundamentals for students with little or no musical background, or a review for students in need of additional preparation for advanced studies. Knowledge of notation, intervals, rhythm, melody, and harmony will be developed, as well as sight singing and elementary ear training skills.
Prerequisite(s): MAT 010 or MAT 010B; and REA 011 or REA 017

MUS 133 COLLEGE CHOIR I 1-0-3

A performance course in which students participate in the preparation and production of a program of mixed choral ensemble music. No previous musical training is required, although it is helpful.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 134 COLLEGE CHOIR II 1-0-3

A performance course in which students participate in the preparation and production of a program of mixed choral ensemble music. No previous musical training is required, although it is helpful.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 135 COLLEGE CHOIR III 1-0-3

A performance course in which students participate in the preparation and production of a program of mixed choral ensemble music. No previous musical training is required, although it is helpful.
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 136 COLLEGE CHOIR IV 1-0-3

A performance course in which students participate in the preparation and production of a program of mixed choral ensemble music. No previous musical training is required, although it is helpful.

MUS 140 INTRODUCTION TO DIGITAL MUSIC TECHNOLOGY 3-3-0

Introduction to Digital Music Technology is an entry-level course in modern music production. Students will study the nature of musical sound and the relationship between digital and analog sound processing. Students will also receive an introduction to the basics of MIDI, the fundamental computer music language. Through hands-on projects, students will learn about the various tools of modern audio production with an emphasis on digital tools including synthesizers, midi controllers, sequencers, mixers, effects generators and more. The students will prepare a final project that will demonstrate familiarity with these devices and an understanding of aesthetic choices associated with their use.
Prerequisite(s): MUS 120 with a "C" or better

MUS 141 INTERMEDIATE DIGITAL MUSIC: MULTIMEDIA AND MAX 3-3-0

This course is a continuation of studies begun in MUS 140 and will focus on

Music Technology, Music Composition, and their application to multimedia. Students learn how to score for film, synchronize multimedia and create a resulting DVD of their own design. The second large project will introduce the student to the creation of an interactive object computer programming language called MAX. The student will learn to create an application that will run MIDI and Digital Audio Files in real time. No previous computer programming experience is required.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017, and MUS 140

MUS 146 PRINCIPLES OF PRIVATE MUSIC INSTRUCTION 3-3-0

This course will explore the process of successfully developing and maintaining an independent applied music studio. Students will explore both the pedagogical and entrepreneurial aspects of the private instruction business, applicable to both instrumental and voice disciplines. Concepts discussed will include aesthetic analysis of student performances, teaching methods, learning styles, curriculum, studio technology, professional associations, policies, resume-writing, and business practices.
Prerequisite(s): MAT 011 or MAT 011B; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 150 GUITAR CLASS 1 1-1-2

Guitar Class 1 is a course designed to establish a basic understanding of the guitar as an accompanying and solo instrument. This course will enhance pre-existing skills on the guitar, while providing essential rudiments for those who enroll as beginners. Students will learn or improve their knowledge of standard musical notation as it applies to guitar repertory. Students will be introduced to the fundamental techniques of guitar playing, including strumming and finger-style techniques. Through repertory study and a research project, students will also learn about the history and repertory of the guitar within both western and other cultures.
Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 151 GUITAR CLASS 2 1-1-2

Guitar Class 2 is a course designed to continue to develop skills introduced in Guitar Class 1. The course is also open to students who can demonstrate fluency with the guitar comparable to that achieved in Guitar Class 1. Students will expand their knowledge of standard musical notation as it applies to guitar repertory. Students will be introduced to the more advanced techniques of guitar playing, including strumming and finger-style techniques. Through repertory study and a research project, students will also learn about the history and repertory of the guitar within both western and other cultures.
Prerequisite(s): MUS 150 with a "C" or better
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 152 COMMERCIAL AND JAZZ GUITAR STUDIES 1-1-2

The purpose of this course is to further develop the skills students have acquired on their own or in Guitar I class. This course will introduce intermediate techniques focusing on plectrum style guitar playing in the Jazz/Commercial genres. Students will develop the necessary skills to function as a guitarist by learning to 1) play a variety of accompaniment styles, 2) improvise using scales and arpeggio patterns combined with a knowledge of chord-scale relationships, 3) read chord charts and melody lines and 4) perform a continually expanding repertoire.
Prerequisite(s): MUS 150 with a "C" or better
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 160-163 JAZZ LAB BAND I, II, III, IV 1-0-3

Jazz Lab Band I, II, III, and IV are elective courses in musical performance open to players of woodwinds, brass, keyboard, guitar, bass, and percussion. Students will develop basic foundation skills as jazz soloists and ensemble players. Repertoire will vary each semester based on the strengths, weaknesses, and pedagogical needs of the ensemble. Students will be required to provide their own instrument (a standard drum set, bass and guitar amplifier, keyboard, and keyboard amplifier will be provided). This course is open to all students who possess a basic ability to play their instrument. The ability to read music is required. Students will be evaluated in the first class, and those who are not prepared for ensemble work will be advised to withdraw.

Prerequisite(s): Students should have basic performance ability on their instrument and a basic ability to read music. The instructor will evaluate each student's preparedness in the first week of classes. Prior Jazz experience is helpful but not required.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 170 PIANO CLASS 1 1-1-2

The first in a series of four classes designed to give students a complete orientation to keyboard skills. Piano Class 1 is ideal for those with little or no previous piano study. Students may begin their studies in higher level classes if they pass the prescribed proficiency test. To provide for the proper level of individual attention, the class size will be limited to 16.

Prerequisite(s): MAT 011 or MAT 011B; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 171 PIANO CLASS 2 1-1-2

The second in a series of four classes designed to give students a complete orientation to keyboard skills. Students can begin with Piano Class 2 if they pass the level 1 proficiency test. To provide for the proper level of individual attention, the class size will be limited to 16.

Prerequisite(s): and MUS 170 or success on the Level 1 proficiency exam.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 172 PIANO CLASS 3 1-1-2

The third in a series of four classes designed to give students a complete orientation to keyboard skills. Students can begin with Piano Class 3 if they pass the level 2 proficiency test. To provide for the proper level of individual attention, the class size will be limited to 16.

Prerequisite(s): MUS 171 or success on the Level 2 proficiency exam.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 173 PIANO CLASS 4 1-1-2

The last in a series of four classes designed to give students a complete orientation to keyboard skills. Students can begin with Piano Class 4 if they pass the level 3 proficiency test. To provide for the proper level of individual attention, the class size will be limited to 16.

Prerequisite(s): MUS 172 or success on the Level 3 proficiency exam.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 180-183 APPLIED MUSIC LESSONS I, II, III, IV 1-1-0

Through this course, credit is earned for private instruction on the student's chosen instrument or voice. Lessons are generally available for Piano, Voice, Guitar, and various band and orchestral instruments. Check with the department for current availability. Open by permission of the individual instructor.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 190-193 CHAMBER STRINGS I, II, III, IV 1-1-2

Chamber Strings I, II, III, IV are performance courses for students who want the opportunity to participate in an orchestral strings setting. The course focuses on developing technique and breadth of repertoire for string (violin, viola, cello, bass) students. This course is open to all students who possess a basic ability to play an instrument. The ability to read music is required. Students will be evaluated in the first class, and those who are not prepared for ensemble work will be advised to withdraw.

Prerequisite(s): Each course requires the previous course in the sequence

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 194-197 WIND ENSEMBLE I, II, III, IV 1-1-2

Wind Ensemble I, II, III, IV are performance courses for students who want the opportunity to participate in a symphonic band setting. The course focuses on developing techniques and breadth of repertoire for flute, oboe, clarinet, bassoon, saxophone, trumpet, trombone, French horn, and tuba. This course is open to all students who possess a basic ability to play an instrument. The ability to read music is required. Students will be evaluated in the first class, and those who are not prepared for ensemble work will be advised to withdraw.

Prerequisite(s): Each course requires the previous course in the sequence.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 210 JAZZ HISTORY 3-3-0

Jazz History will explore the history and recordings of American Jazz beginning with the roots of Jazz during the 1800's and progressing to the Hard Bob, Free Jazz, Avant Garde, and Fusion styles of today. The course is designed for the student with some musical background. Students will explore Jazz within its cultural and historical contexts, in addition to learning the basics of jazz theory and analysis. Learn how American History shaped this musical art form that was born in the United States. Students will have the opportunity to see and hear legendary jazz artists such as Louis Armstrong, Benny Goodman, Count Basie, Duke Ellington, Charlie Parker, Dizzy Gillespie, Miles Davis, Thelonious Monk, John Coltrane, and many, many more!

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 211 WESTERN MUSIC HISTORY 1: FROM MEDIEVAL TO RENAISSANCE 3-3-0

An exploration of the music and culture of Western civilization from ancient times to the Renaissance. Students will study both the sacred and secular music of the medieval and renaissance periods, including (but not limited to) Gregorian chant, Troubadour songs, Madrigals, Motets, Masses, and instrumental music. Each musical genre will be examined on the basis of its intrinsic characteristics as well as in connection with the aesthetic, social, philosophical, political, and economic environment in which it was created. Students will be expected to have a basic understanding of standard musical notation. MUS 120 (Fundamentals) is recommended but not required.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 212 WESTERN MUSIC HISTORY 2: THE BAROQUE: FROM MONTEVERDI TO BACH 3-3-0

An exploration of the music and culture of Western civilization from the late 16th Century to the mid 18th Century. Students will study both the sacred and secular music of the late renaissance and baroque periods, including (but not limited to) the late renaissance madrigal, the Venetian polychoral tradition, monody, opera, oratorio, cantata, suite, sonata, and concerto. Each musical genre will be examined on the basis of its intrinsic characteristics as well as in connection with the aesthetic, social,

philosophical, political, and economic environment in which it was created. Students will be expected to have a basic understanding of standard musical notation. MUS 120 (Fundamentals) is recommended but not required.
 Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017.

**MUS 213 WESTERN MUSIC HISTORY 3:
 THE CLASSICAL AND EARLY ROMANTIC ERAS:
 FROM BACH TO BEETHOVEN AND BEYOND..... 3-3-0**

An exploration of the music and culture of Western civilization from the mid 18th Century to the early 19th Century. Students will study both the sacred and secular music of the classical and early romantic eras, including (but not limited to) opera, church music, symphony, sonata, concerto, and chamber music. The music and careers of Haydn, Mozart, Beethoven, Schubert, Berlioz, and others will be examined in some detail. Each musical genre will be examined on the basis of its intrinsic characteristics as well as in connection with the aesthetic, social, philosophical, political, and economic environment in which it was created. Students will be expected to have a basic understanding of standard musical notation. MUS 120 (Fundamentals) is recommended but not required.
 Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

**MUS 214 WESTERN MUSIC HISTORY 4:
 THE LATE 19TH AND THE 20TH CENTURY 3-3-0**

An exploration of the music and culture of Western civilization of the late 19th and 20th centuries.. Students will study both the sacred and secular music of these periods, including the intersections between the Western classical tradition, World music and Popular music, especially jazz. Works will be examined on the basis of its intrinsic characteristics as well as in connection with the aesthetic, social, philosophical, political, and economic environment in which it was created. Students will be expected to have a basic understanding of standard musical notation. MUS 120 (Fundamentals) is recommended but not required.
 Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

MUS 221 MUSIC THEORY 1 3-3-0

For students with some musical background who wish to expand their understanding of music theory. Emphasis will be on the study of Western music harmonic practices of the 18th and 19th centuries. The course will concentrate on musical analysis (melodic, harmonic and formal) and creative application of the concepts studied. Throughout the course, both technical and aesthetic considerations will be given equal attention. Students will also research a composer of choice from the above-mentioned time period and prepare a properly documented presentation on that composer's life and musical style. A working knowledge of musical symbols and notation is required.
 Prerequisite(s): MUS 120 with a C or better.

MUS 222 MUSIC THEORY 2 3-3-0

Directed to students with previous experience in musical analysis (phrase/chord identification) and harmony (four-voice/keyboard style). This course will focus on melody harmonization, form and analysis, modal harmony, modulation. An introduction to instrumentation and composition will be included.
 Prerequisite(s): MUS 221

MUS 231 AURAL THEORY 1 3-3-0

Aural Theory 1 is for students with some musical background who wish to develop their ear training and musicianship skills. The course is designed to prepare students to be successful as music or music education majors, or to hone musicianship skills for non-majors. Individual and group classroom activities and computer-assisted drills will be used to develop the student's aural skills with rhythmic, melodic,

and harmonic materials. A working knowledge of musical symbols and notation is required. Students are encouraged to enroll simultaneously in MUS 221 (Music Theory 1).
 Prerequisite(s): MUS 120 with a "C" or better.

MUS 232 AURAL THEORY 2 3-3-0

Aural Theory 2 is for students who wish to continue developing their ear training and musicianship skills. The course is designed to prepare students to be successful as music or music education majors, or to hone musicianship skills for non-majors. Individual and group classroom activities and computer-assisted drills will be used to develop the student's aural skills with rhythmic, melodic, and harmonic materials. Previous experience in sight singing and dictation is required. Students are encouraged to enroll simultaneously in MUS 222 (Music Theory 2).
 Prerequisite(s): MUS 231 with a "C" or better

MUS 233-236 CHAMBER CHOIR I, II, III, IV. 1-0-3

Chamber Choir I, II, III & IV are performance courses for students who want an opportunity to participate in a small chamber style ensemble. The group will explore repertory from a wide range of stylistic periods. This ensemble is open by permission of the instructor only, normally by audition. Students must also be registered in the College Choir.
 Prerequisite(s): Permission of the instructor (audition required.)
 This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

MUS 240 THE ART AND BUSINESS OF SONGWRITING 3-3-0

The Art and Business of Songwriting is an elective course which teaches the art of musical composition with an emphasis on the genre of contemporary song. It is designed for the student with some knowledge of or background in the basics of music who wishes to apply that knowledge to the creation of music in contemporary popular genres. Students will explore the various musical forms employed by songwriters and apply them to their own compositional projects. The course provides an overview of the historical development of the art of popular song in Western culture, exploring in particular the significant contributions made by America's immigrant and African- American populations. Students will also examine the business of songwriting and its place in the overall music industry.
 Prerequisite(s): MUS 120 with a C or better

MUS 241 THE BUSINESS OF MUSIC..... 3-3-0

Course will provide students with an overview of the current state of the Music Industry. Students will also acquire a set of skills needed to pursue a career in that industry. Topics covered will include music business career opportunities, marketing concepts, management skills and promotion. Throughout the semester, the students will explore various professions in the music field and receive an introduction to music publishing, concert production and touring, management, merchandising and recording, public relations, radio promotion, brick and mortar and internet distribution, merchandising, multimedia advertising, and budgeting.
 Prerequisite(s): MAT 011 or MAT 011B; ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017. Recommended but not required: MUS 140 and/or MUS 240.

MUS 260-263 PERFORMANCE JAZZ ENSEMBLE I, II, III, IV 1-0-3

Performance Jazz Ensemble I,II, III, IV are intermediate-level courses in Jazz performance open to experienced players of saxophone (alto, tenor, and baritone), trumpet, trombone, keyboard, guitar, bass, and drums. Enrollment in these classes is by audition only. Students will be expected to have significant performance experience on their instrument and some experience playing within a jazz ensemble. Students will develop skills as soloists through individual practice, ensemble practice,

and performances. As the lead Jazz ensemble at the college, this ensemble will be expected to participate in a variety of public service events throughout the semester. Repertoire will vary, but will include Jazz Standards, Blues (both major and minor), tunes based on rhythm changes, and student jazz compositions/arrangements. Students will be required to provide their own instrument (a standard drum set, bass, and guitar amplifier, keyboard, and keyboard amplifier will be provided.)

Prerequisite(s): Each course requires the previous course in the sequence.

Co-requisite(s): MUS 160 or MUS 161 or MUS 162 or MUS 163

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NANOFABRICATION

***ESC 211 MATERIAL, SAFETY AND EQUIPMENT OVERVIEW FOR NANOFABRICATION 3-2-2**

This course overviews basic material properties as well as environment, health, and safety (EHS) issues in equipment operation and materials handling in “top down” and “bottom up” nanofabrication. The chemical and physical materials properties underlying nanotechnology are surveyed. EHS topics arising from the processing and disposal of these materials are addressed including: cleanroom operation, OSHA lab standard safety training, health issues, biosafety levels (BSL) guidelines, and environmental concerns. Specific safety issues dealing with nanofabrication equipment, materials, and processing will also be discussed including those pertinent to wet benches, thermal processing tools, vacuum systems and pumps, gas delivery systems and toxic substance handling and detection.

Prerequisite(s): A department recommendation, upon review of appropriate educational background, academic performance and personal interview.

*This course is designed to be one of six capstone courses (ESC 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert Bldg., Research Park. This classroom is dedicated to the Center for Semiconductor Manufacturing Technology and thus has a wide variety of very specialized, “hands-on” materials and facilities continually available to students. The course grade evaluation will use a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving will be stressed.

***ESC 212 BASIC NANOTECHNOLOGY PROCESSES 3-2-2**

This course is an overview of the broad spectrum of processing approaches involved in “top down”, “bottom up”, and hybrid nanofabrication. The majority of the course details a step-by-step description of the equipment, facilities processes and process flow used in today’s device and structure fabrication. Students learn to appreciate processing and manufacturing concerns including safety, process control, contamination, yield, and processing interaction. The students design process flows for micro- and nano-scale systems. Students learn the similarities and differences in “top down” and “bottom up” equipment and process flows by undertaking hands-on processing. This hands-on overview exposure covers basic nanofabrication processes including deposition, etching, and pattern transfer.

Prerequisite(s): ESC 211

*This course is designed to be one of six capstone courses (Esc 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert bldg., Research Park. This classroom is dedicated to the Center for Semiconductor Manufacturing Technology and thus has a wide variety of very specialized, “hands-on” materials and facilities continually available to students. The course grade evaluation will use a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving will be stressed.

***ESC 213 MATERIALS IN NANOTECHNOLOGY 3-2-2**

This course is an in-depth, hands-on exposure to the producing and tailoring of the materials used in nanofabrication. The course will cover chemical materials production techniques such as colloidal chemistry; atmosphere, low-pressure and plasma enhanced chemical vapor deposition; nebulization; and atomic layer deposition. It will also cover physical techniques such as sputtering; thermal and electron beam evaporation; and spin-on approaches. This course is designed to give students experience in producing a wide variety of materials tailored for their mechanical, electrical, optical, magnetic, and biological properties.

Prerequisite(s): ESC 212

*This course is designed to be one of six capstone courses (Esc 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert bldg., Research Park. This classroom is dedicated to the Center for Semiconductor Manufacturing Technology and thus has a wide variety of very specialized, “hands-on” materials and facilities continually available to students. The course grade evaluation will use mixture of tests, presentations, reports and project assignments. Teaming and team problem solving will be stressed.

***ESC 214 PATTERNING FOR NANOTECHNOLOGY 3-2-2**

This course is a hands-on treatment of all aspects of advanced pattern transfer and pattern transfer equipment including probe techniques; stamping and embossing; e-beam; and optical contact and stepper systems. The course is divided into five major sections. The first section is an overview of all pattern generation processes covering aspects from substrate preparation to tool operation. The second section concentrates on photolithography and examines such topics as mask template, and mold generation. Chemical makeup of resists will be discussed including polymers, solvents, sensitizers, and additives. The role of dyes and antireflective coatings will be discussed. In addition, critical dimension (CD) control and profile control of resists will be investigated. The third section will discuss the particle beam lithographic techniques such as e-beam lithography. The fourth section covers probe pattern generation and the fifth section explores imprinting lithography, step-and-flash, stamp lithography, and self-assembled lithography.

Prerequisite(s): ESC 213

*This course is designed to be one of six capstone courses (Esc 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert bldg., Manufacturing Technology and thus has a wide variety of very specialized, “hands-on” materials and facilities continually available to students. The course grade evaluation will use a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving will be stressed.

***ESC 215 MATERIALS MODIFICATION IN NANOTECHNOLOGY 3-2-2**

This course covers the applications of nano-scale devices and systems and the material chemical, physical, biological, or multiple-property requirements necessitated in these applications. Material modifications to meet these requirements will be addressed including structure control, composition control, surface property control, strain control, functionalization, and doping.

Prerequisite(s): ESC 214

*This course is designed to be one of six capstone courses (Esc 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert bldg., Manufacturing Technology and thus has a wide variety of very specialized, “hands-on” materials and facilities continually available to students. The course grade evaluation will use a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving will be stressed.

***ESC 216 CHARACTERIZATION, PACKAGING, AND TESTING OF NANOFABRICATED STRUCTURES 3-2-2**

This course examines a variety of techniques and measurements essential for testing and for controlling material fabrication and final device performance. Characterization includes electrical, optical, physical, and chemical approaches. The characterization experience will include hands-on use of tools such as the Atomic Force Microscope (AFM), Scanning Electron Microscope (SEM), 1 nm resolution field emission SEM, fluorescence microscopes, and Fourier transform infrared spectroscopy.

Prerequisite(s): A Department recommendation, upon review of appropriate educational background, academic performance and personal interview.

*This course is designed to be one of six capstone courses (ESC 211, 212, 213, 214, 215, 216) for the Penn State Semiconductor Manufacturing Technology (SMT) program. The course is lab intensive, leveraging the Nanofabrication Facility on the University Park campus. All lectures will be given in a technology classroom, Suite 114 Lubert Bldg., Research Park. This classroom is dedicated to the Center for Semiconductor Manufacturing Technology and thus has a wide variety of very specialized, "hands-on" materials and facilities continually available to students. The course grade evaluation will use a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving will be stressed.

NURSING

NUR 050 TRANSITION INTO ASSOCIATE DEGREE NURSING ..3-2-3

This course is designed to aid the student who is eligible for advanced standing with socialization from the previous role to the role of the registered nurse. The student will be familiarized with the College's Nursing Program. The emphasis of the course will be on the use of the nursing process in the implementation of the roles of the associate degree nurse. Seminars, videotaping, presentations, independent study and clinical experience are all integral parts of this course.

Prerequisite(s): Practical Nursing Licensure and Nursing Placement Examination for LPNs. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 106 CONCEPTS OF NURSING 3-3-0

This course focuses on those basic concepts which form the foundation of nursing practice, including nursing history, caring, health, wellness-illness, nursing process, communication, teaching- learning, legal-ethical principles of practice, cultural diversity, spirituality, theories of growth and development, and scope of nursing within the health care system. Examination of nursing theories helps introduce the philosophy and conceptual framework of the nursing program. This is a non-clinical course.

Previous or Concurrent BIO 131, BIO 140 and MAT 106 or higher
Prerequisite(s): A composite TEAS score of at least 75% AND placement into BIO 131 OR A composite TEAS score of at least 60% AND (a grade of B or better in BIO 131 OR a grade of B or better in BIO 140)

Co-requisite(s): BIO 131 - Human Anatomy and Physiology I (minimum grade of "C" required), BIO 140- Microbiology and Immunology, MAT 106 - Math Applications
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 110 INTRODUCTION TO NURSING 8-5-9

This course is designed to develop caring attitudes and behaviors towards self and others and to provide a foundation of nursing skills. Application of these skills will occur with clients across the lifespan in wellness-oriented settings. Client needs will be identified using the nursing process, with an emphasis on assessment. Presentations, seminars and laboratory practice are an integral part of the course.

Previous: BIO 131 minimum grade of "C" within 5 years, MAT 106 with minimum grade of "C", BIO 140 minimum grade of "C" within 10 years, and NUR 106 with minimum grade of "C" within 3 years
Previous or Concurrent: BIO 132, PSY 101

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 112 NURSING CARE OF CLIENTS WITH UNCOMPLICATED HEALTH CARE NEEDS8-5-9

This course focuses on the use of the nursing process to assist clients across the lifespan experiencing commonly seen uncomplicated health care needs. There will be an emphasis on developing skills necessary to function as a member of the health care team. Clinical experiences will occur in a variety of settings.

Previous: BIO 132 minimum grade of "C" within 5 years, NUR 110 minimum grade of "C" or NUR 050 with a pass, PSY 101

Previous or Concurrent: PSY 206, ENG 101
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 210 HOLISTIC HEALTH: COMPLEMENTARY AND ALTERNATIVE HEALTH PRACTICES3-3-0

This course will explore the use of complementary and alternative health practices within a holistic framework of care. A spirit of inquiry will be encouraged through sharing of knowledge, demonstration and exploration of selected health practices such as herbal remedies, homeopathy, healing touch therapies, chiropractic and Eastern therapies. Use of complementary and alternative health practices will be evaluated in the context of managing health conditions such as pain, weight, addictions, and gender specific issues. This course will examine use of complementary and alternative health practices in terms of safety, effectiveness and integration into one's own lifestyle and working with others.

(Also offered as ESW 210).

NUR 211 NURSING CARE OF CLIENTS WITH COMPLEX HEALTH CARE NEEDS .. 8-4-12

This course focuses on the use of the nursing process to assist clients across the lifespan experiencing frequently seen complex health care needs. There will be an emphasis on increasing autonomy within an expanded scope nursing practice. Clinical experience will occur in a variety of settings.

Prerequisite(s): NUR 112 minimum grade of "C" or NUR 050 with a pass, PSY 206 and ENG 101.

Co-requisite(s): ENG 102 and SOC 101
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 212 NURSING MANAGEMENT OF CLIENT CARE 8-3-15

This course focuses on the nursing management of clients, across the lifespan, experiencing acute and chronic healthcare needs. Emphasis will be on client advocacy and collaboration, in providing for the continuity of care. Clinical experiences will occur in a variety of settings.

Prerequisite(s): NUR 211 with a minimum grade of "C"
Co-requisite(s): NUR 213, any Aesthetic Sensibility course (THA 105 or THA 114 recommended)

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

NUR 213 PROFESSIONAL ISSUES IN NURSING 2-2-0

This course explores current issues in nursing such as legal-ethical questions, management styles, leadership roles, nursing research and health care delivery systems. It emphasizes transition from student nurse to professional nurse by exploring professional responsibilities and accountability to self, profession and society. This is a non-clinical course.

Prerequisite(s): NUR 211 with a minimum grade of "C"
Co-requisite(s): NUR 212 and any aesthetic sensibility course (THA 105 or THA 114 recommended)

NUR 214 MIND-BODY CONNECTIONS ... 3-3-0

This course provides insights into and an understanding of mind-body connections as they influence one's health. Content will address the powerful ways in which emotional, mental, social, behavior, spiritual and physical health impact on each other. Principles of the emerging field of psychoneuroimmunology will be examined. The impact of stress on health and eliciting of the relaxation response will be explored. Cognitive structuring and dynamics of behavior change will be examined. Students will begin to develop healthy strategies for self-care through use of such modalities as biofeedback, mediation, breathing, journaling, guided imagery, aromatherapy, music and art therapies and humor within a holistic framework. (Also offered as ESW 214)

Prerequisite(s): ENG 010A, ENG 011 or ESL 011, and REA 017 or REA 011

NUR 220 GENERAL PHARMACOLOGY.....3-3-0

Designed for the student who has a basic understanding of the human body and how it works. This course emphasizes the major drug classifications, related legal/ethical considerations, pharmacokinetics, pharmacodynamics, drug toxicity and therapeutic monitoring.

OFFICE MANAGEMENT

OFM 100 COMPUTER KEYBOARDING1-1-0

This course introduces the "touch" method of keyboarding on the computer including the alphabet keys, number and symbol keys, and the keypad. Students work towards developing a keyboarding speed of 30-35 words per minute with accuracy. The course assumes no previous knowledge of keyboarding. It may be taken on a Pass/No Pass (P/NP) basis only. (The final course grade will not affect grade point average.)

OFM 101 BUSINESS SOFTWARE ESSENTIALS3-3-0

This course is designed to introduce students to computer systems and how businesses and offices use these as tools for organization, communication, decision-making and analysis. This course provides students with an overview of the use of business application software and problem-solving using that software. Taking a multimedia approach, topics include business communication tools, scheduling and presentation software, management information systems, operating systems, word processing, spreadsheets, databases, enterprise resource planning (ERP) systems, project management systems and business use of social media and open-source software. Students will evaluate and implement the use of these programs to solve a variety of problems and scenarios via real-world simulation projects that one would encounter in typical business or office environments. Industry standard computer software will be used.

OFM 110 MICROSOFT WORD APPLICATIONS.....3-3-0

This course provides a comprehensive overview of Microsoft Word software features commonly used in business environments. In this hands-on course, students will learn to create and customize documents using editing functions, formatting features, graphics and images, tables, charts, references, mail merge, and forms. This course will also prepare students to manage shared and collaborative documents with the use of the comments, track changes, protection, and sharing features.

OFM 161 MODERN OFFICE MANAGEMENT3-3-0

This course emphasizes the essential skills required for administrative assistants working in a contemporary office environment. Topics include: typical office protocols, time management, office equipment and technology, records management, meeting and travel planning, and proper business communication. Students will develop their customer service, teamwork, and problem solving skills via real-world office simulations.

OFM 198 COOPERATIVE INTERNSHIP IN OFM3-0-15

This course consists of employment in a college-approved organization to enable the student to gain insight into the operation of a modern office. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance.

Prerequisite(s): Permission of coordinator

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

OFM 243 INTEGRATED OFFICE SOFTWARE APPLICATIONS.....3-3-0

This capstone course builds upon prior word processing, spreadsheet, database, presentation, graphics, and multimedia skills, as it further develops and extends the student's ability to integrate and apply the technology needed for particular "job functions". Online and multimedia applications will be used to incorporate images, audio, and video into a variety of document formats. Students will further develop their decision-making, critical thinking, and problem solving skills via simulations of typical job functions found in professional office environments.

Prerequisite(s): CIS 110, OFM 101 or OFM 110

OFM 245 DESKTOP PUBLISHING3-3-0

This course is designed for office professional staff, as well as for personal use. Using Microsoft Office Publisher software, students will reinforce and apply Windows skills, publication design techniques, page set-up and document layout, and work with text and graphic elements in a wide variety of business and personal publications. This is primarily a hands-on course.

OFM 250 PROOFREADING AND EDITING.....3-3-0

This course develops proficiency in proofreading and editing skills for the workplace. Students develop skills to detect and correct spelling, punctuation, and grammatical errors and to ensure the use of audience-appropriate language in written communications including memos, letters, reports, email messages, databases, presentation slides, advertisements, and spreadsheets. Students will learn correct formatting of documents from business, health care, finance, and education.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011

OFM 298 COOPERATIVE INTERNSHIP IN OFM II3-0-15

This course consists of continued employment in a college-approved organization to enable the student to gain insight into the operation of a modern office. The course requires an optimum of 15 hours per week supervised and coordinated by a faculty member. Students are rated by the employer on their job performance.

Prerequisite(s): OFM 198 and permission of coordinator

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHILOSOPHY

PHI 100 INTRODUCTION TO PHILOSOPHY 3-3-0

A general introduction to philosophical issues and the methods of philosophical investigation. The course may be essentially historical in its approach or essentially problem-focused. Readings may be drawn from 'big names' in the history of philosophy (e. g., Aristotle, Plato, Thomas Aquinas, Descartes, Locke, Hume, Mill, and others) or from contemporary state-of-the-discipline sources, or from both. Issues will include some from the following, among others: freewill and determinism; ethical relativism v ethical objectivism; the existence and rationality of belief in the existence of a god; the mind and body problem and the

problem of other minds; the nature of persons and the possibility of artificial persons (thinking computers); applied philosophy issues such as the problem of abortion, the problem of same-sex marriage, the problem of the death penalty.

PHI 101 FUNDAMENTALS OF ETHICS 3-3-0

This course is an introduction to the history of the philosophical examination of ethics from ancient Greece through contemporary thought in Western Philosophy will be examined. Attention will also be given to non-Western ethical traditions (Confucianism, Buddhism, for example) that began even earlier than well-documented Western ethics. The substance of dominant varieties of objectivist views such as virtue ethics, utilitarianism, and deontological ethics will come under our scrutiny. Similar attention will be given to relativist/subjectivist opposition to these various objectivist views. An ongoing focal point for all of the inquiries in the course will be the “debate” between supporters of objectivist views and supporters of “anti”-objectivist views as this “debate” has progressed through history. This course will also include discussion of the proper relation between the government and the diverse substantive ethical perspectives of individuals in a society such as the United States that is intentionally pluralistic.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011.

PHI 110 INTRODUCTION TO LOGIC 3-3-0

This course will discuss and practice the fundamentals of both informal and formal logic: the analysis of arguments, the uses of language, definitions, recognizing and disarming fallacies, and the rules of valid deductive inference in terms of both classical syllogistic logic and a brief introduction to the basics of modern formal logic.

PHI 115 PROBLEMS IN PHILOSOPHY. 3-3-0

An introduction to philosophy and philosophical investigation that is less general, but no more advanced, than PHI 100 (Introduction to Philosophy). Philosophical methods will be used to examine some of the most troublesome ethical/social issues of contemporary life. Among the issues/problems that might be discussed are the following: The issues of cloning and genetic engineering; the issue of drug use and drug addiction; the issue of same-sex sexual relations and same-sex marriage; the issue of the use of non-human inhabitants of this planet for research and for food; the issue of punishment and the death penalty; the issues of euthanasia and assisted suicide; the issues of racism, sexism, ageism, and affirmative action. Alternative versions of this course may focus on topics such as justice, beauty, truth, and ultimate reality.

PHI 120 ETHICAL DECISIONS AFFECTING CONSUMERS AND THE HEALTH CARE PROFESSIONS 3-3-0

This course addresses the needs of the health care consumer and the provider alike. Stemming from a philosophical base, this course will examine controversies emerging from rapid technological advances and modern health care practice. Conflicts discussed range from the person’s right to choose or refuse a particular course of treatment to issues of euthanasia, genetic research, and human experimentation. Students are encouraged to participate in discussions of ethical problems reported in the popular media and to develop a personal decision-making system which can be applied to a variety of ethical issues. Emphasis is on critical analysis and the incorporation of theory to ethical deliberations. The course is interactive, therefore, open discussion format and familiarity with use of the computer is essential.

(Also offered as HCP 120.)

PHI 215 COMPARATIVE RELIGIONS 3-3-0

An examination and study of the historical backgrounds and present-

day vitality of the major living religions of the world. Special attention will be focused on the study of the ideas, cultic and ethical practices, and philosophical systems of: Hinduism, Buddhism, Jainism, Sikhism, Judaism, Christianity, Zoroastrianism, Islam, Confucianism, Shintoism, and Taoism.

PHYSICAL THERAPIST ASSISTANT

PTA 100 FUNDAMENTALS OF PHYSICAL THERAPIST

ASSISTING AND DATA COLLECTION 3-2-4

This course explores common health conditions encountered in the physical therapy discipline and introduces the Physical Therapy Assistant (PTA) student to basic patient and healthcare team considerations critical to the professional role. Evaluative techniques essential to the discipline are stressed while concepts and purposes of therapeutic exercise and treatment strategies are presented. A focus on the characteristics and components of normal movement serve to assist the student in understanding the abnormal. Within the course the development of effective communication and interpersonal skills is fostered. During student-to-student practice in the on-campus laboratory setting students use simulated patient scenarios to demonstrate competency attainment in fundamental assessments, patient care skills and procedures.

Prerequisite(s): Admission to the Physical Therapist Assistant Program

Co-requisite(s): PTA 110

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 110 THERAPEUTIC MODALITIES IN

PHYSICAL THERAPY 3-2-4

This course addresses the basic physical science, data collection, and principles of selected physical therapy interventions to facilitate healing and pain control. Presentation of a wide variety of clinical scenarios and pathologies facilitates the student’s ability to use clinical judgment in selecting applying appropriate modalities. During student-to-student practice in the on-campus laboratory setting students use simulated patient scenarios to demonstrate competency attainment.

Prerequisite(s): Admission to the Physical Therapist Assistant Program

Co-requisite(s): PTA 100

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 200 PATHOLOGY & REHABILITATION OF ORTHOPAEDIC CONDITIONS ACROSS THE LIFESPAN AND CONTINUUM OF CARE 5-4-4

This course emphasizes the etiology, pathology, prevention, data collection, and appropriate physical therapy interventions related to orthopaedic conditions. Application of orthotic devices, braces and splints for orthopedic conditions is discussed. Evidence based practice, clinical research, and justifying interventions based on clinical literature is integrated in the study of musculoskeletal system conditions. Critical thinking skills are developed as the student applies data in clinical decision making. During student-to-student practice in the on-campus laboratory setting students use simulated patient scenarios to demonstrate competency attainment.

Prerequisite(s): PTA 100 and PTA 110

Co-requisite(s): PTA 201

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 201 PHYSICAL THERAPIST ASSISTANT (PTA) ROLES, RELATIONSHIPS AND RESPONSIBILITIES SEMINAR I 2-2-0

First of four seminars designed to foster professional development and prepare the physical therapist assistant student to successfully complete essential competencies and behaviors in the field of physical therapy. Orientation to the profession and the performance and behavioral expectations of the physical therapist assistant are discussed.

Prerequisite(s): PTA 100 and PTA 110
Co-requisite(s): PTA 200

PTA 202 PHYSICAL THERAPIST ASSISTANT (PTA) ROLES, RELATIONSHIPS AND RESPONSIBILITIES SEMINAR II 1-1-0

Second of four seminars designed to foster professional development and prepare the physical therapist assistant student to successfully complete essential competencies and behaviors in the field of physical therapy. Evidenced practice and the role of the PTA as teacher is examined. Building on the first seminar course, discussion of performance and behavioral expectations of the physical therapist assistant continues.

Prerequisite(s): PTA 201
Co-requisite(s): PTA 221

PTA 203 PHYSICAL THERAPIST ASSISTANT (PTA) ROLES, RELATIONSHIPS AND RESPONSIBILITIES SEMINAR III 1-1-0

Third of four seminars designed to foster professional development and prepare the physical therapist assistant student to successfully complete essential competencies and behaviors in the field of physical therapy. Participation in the healthcare environment and practice management of the physical therapy service is examined. Student self-assessment of performance and behavioral expectations met during the concurrent PTA 222 Clinical Education II experience is explored.

Prerequisite(s): PTA 210 P and PTA 220
Co-requisite(s): PTA 222

PTA 204 PHYSICAL THERAPIST ASSISTANT (PTA) ROLES, RELATIONSHIPS AND RESPONSIBILITIES SEMINAR IV 1-1-0

Last of four seminars designed to foster professional development and prepare the physical therapist assistant (PTA) student to successfully complete essential competencies and behaviors in the field of physical therapy. Learning opportunities assist in the transition from student to entry-level clinician. Activities include national board exam review preparation, Pennsylvania State PTA certification application process, job search strategies, resume development, and professional interview skills.

Prerequisite(s): PTA 222 and PTA 203
Co-requisite(s): PTA 223

PTA 210 PATHOLOGY & REHABILITATION OF NEUROLOGICAL CONDITIONS ACROSS THE LIFESPAN AND CONTINUUM OF CARE 5-4-4

This course emphasizes the etiology, pathology, prevention, data collection, and appropriate physical therapy interventions related to neurological conditions. Focus on motor control and motor learning throughout the lifespan serves to assist the student in understanding the abnormal. Application of orthotic devices, braces and splints for neurological conditions is discussed. Evidence based practice, clinical research, and justifying interventions based on clinical literature is integrated in the study of neurological conditions. Critical thinking skills are further developed as the student applies data in clinical decision making. During student-to-student practice in the on-campus laboratory setting students use simulated patient scenarios to demonstrate competency attainment.

Prerequisite(s): PTA 202 and PTA 221

Co-requisite(s): PTA 220

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 220 PATHOLOGY & REHABILITATION OF SPECIAL POPULATIONS AND CONDITIONS ACROSS THE LIFESPAN AND CONTINUUM OF CARE 4-3-4

This course emphasizes the etiology, pathology, prevention, data collection, and selected physical therapy interventions for management of patients with a variety of long term conditions that benefit from rehabilitative services. The physical therapy related needs of the geriatric population are discussed as many of these conditions impact the elderly. Emphasis is placed on wound care and lower extremity amputation physical therapy interventions.

Prerequisite(s): PTA 221 and PTA 202
Co-requisite(s): PTA 210

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 221 CLINICAL EDUCATION I 2-0-16

This integrated 6-week clinical affiliated course of 240 hours affords the beginning Physical therapist Assistant (PTA) student direct patient care experience in applying assessments, procedures and skills under the direct supervision of a licensed practitioner of physical therapy. With a focus on safe, legal, ethical and effective use of physical therapy interventions the acute or out-patient setting affords the student with a variety of clinical experiences with diverse patient populations where professional competency within the scope of practice of the PTA is developed. Supervision of the student at the beginner level is provided by the staff of the affiliating institution and is coordinated by the college faculty.

Prerequisite(s): PTA 200 and PTA 201
Co-requisite(s): PTA 202

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 222 CLINICAL EDUCATION II 2-0-16

This terminal 6-week clinical affiliated course of 240 hours affords the PTA intermediate student direct patient care experience in applying assessments, procedures and skills under the direct supervision of a licensed practitioner of physical therapy. With a focus on safe, legal, ethical and effective use of physical therapy interventions the acute or out-patient setting affords the student with a variety of clinical experiences with diverse patient populations where professional competency within the scope of practice of the PTA is developed. Supervision of the student at the intermediate level is provided by the staff of the affiliating institution and is coordinated by the college faculty.

Prerequisite(s): PTA 210 and PTA 220
Co-requisite(s): PTA 203

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PTA 223 CLINICAL EDUCATION III 2-0-16

This terminal 6-week clinical affiliated course of 240 hours affords the PTA student preparing for entry level practice direct patient care experience in applying assessments, procedures and skills under the direct supervision of a licensed practitioner of physical therapy. With a focus on safe, legal, ethical and effective use of physical therapy interventions the acute or out-patient setting affords the student with a variety of clinical experiences with diverse patient populations where professional competency within the scope of practice of the PTA is developed. Supervision of the student culminating in entry level practice is provided by the staff of the affiliating institution and is coordinated by the college faculty.

Prerequisite(s): PTA 203 and PTA 222

Co-requisite(s): PTA 204

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHYSICS

PHY 115 TECHNICAL PHYSICS.....4-3-3

This course is a one-semester, algebra-based overview of topics in introductory physics designed for students in the life sciences. Topics include basic principles of motion, mechanics, statics, work and energy, fluid mechanics, sound and waves, thermal physics, electricity, magnetism, light, and optics. The weekly laboratory is designed to reinforce material introduced in lecture.

Prerequisite(s): MAT 011 or MAT 011B with a minimum grade of "C"

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 120 INTRODUCTION TO ASTRONOMY 4-3-3

Introduction to Astronomy is a one-semester college-level course in basic astronomy. The course may be used as a laboratory science elective with basic algebraic applications. The course explores a broad range of astronomical concepts and principles in ten major areas: understanding the sky, apparent motions of the planets and the sun, telescopes and accompanying technology, basic structure and behavior of atoms, origin and analysis of light, origin of the solar system, internal structure and behavior of the sun, lifecycle of all stellar classes, origin and structure of galaxies and cosmology. Throughout the course, emphasis is placed on the implementation of the scientific method, the evidence that astronomers use to support their conclusions, and the importance of astronomy. (Night-time observing is required).

(Also offered as AST 120 and GLG 121)

Prerequisite(s): A minimum grade of "C" or better within 5 years in both MAT 011 and ESL 011 or ENG 011.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 121 GENERAL PHYSICS I..... 4-3-3 (ALGEBRA-BASED)

This course, designed for liberal arts and life science majors, is an algebra-based approach to the experimental and analytical study of Newtonian mechanics and thermal physics, emphasizing one- and two-dimensional kinematics, Newton's laws of motion, energy, momentum, conservation theorems, center of mass, rotational dynamics, static equilibrium, thermal properties of materials, calorimetry, the laws of thermodynamics, and heat engines.

Prerequisite(s): High school algebra or MAT 011.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 122 GENERAL PHYSICS II..... 4-3-3 (ALGEBRA-BASED)

This course, designed for liberal arts and life science majors, is an algebra-based approach to the experimental and analytical study of oscillations, wave motion, acoustics, electrostatics, electric fields, basic direct-current circuits, magnetism, electromagnetic induction, light, and optics. The course also introduces the student to the basic concepts of modern physics.

Prerequisite(s): High school algebra or MAT 011. (PHY 121 is strongly recommended, but not required.)

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 151 PRINCIPLES OF PHYSICS I4-3-3 (CALCULUS-BASED)

This calculus-based course, designed for science majors, presents in-depth an experimental and analytical study of Newtonian mechanics and thermal physics, emphasizing one- and two- dimensional kinematics, dynamics, work and energy, conservation theorems, linear and angular momentum, collisions, rotational dynamics, statics, fluid mechanics, thermal properties of materials, laws of thermodynamics, kinetic theory of ideal gases, calorimetry, Carnot cycle, heat engines, and heat pumps.

Co-requisite(s): MAT 189 or MAT 190.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 152 PRINCIPLES OF PHYSICS II.. 4-3-3 (CALCULUS-BASED)

A calculus-based course, designed for physical science majors, presents in-depth an experimental and analytical study of mechanical oscillators, simple harmonic motion, waves, acoustics, resonance, electrostatics, electric fields, DC and AC circuits, magnetism, electromagnetic induction, electromagnetic waves, including the laws of Coulomb, Faraday, Gauss, Ampere, and Kirchoff. The course will also cover the nature of light, and geo-metrical and physical optics, as applied to reflection, refraction, polarization, interference, and diffraction.

Prerequisite(s): MAT 189 or MAT 190 and PHY 151.

Co-requisite(s): MAT 201.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

PHY 153 MODERN PHYSICS 3-3-0 (FOR THE SCIENCE MAJOR)

A one semester course covering an introduction to the basic concepts underlying modern physics. Topics include the theories Special Relativity and Quantum Mechanics with emphasis on the physical phenomena and experiments that led up to the origin of these theories. The course continues through a study of the applications of quantum mechanical theories to specialized areas of solids and nuclear physics. In addition to lectures and problem solving, the course will make use of computer facilities and software to permit the student to observe and experience simulations of realistic numerical problems in the field of modern physics.

Prerequisite(s): MAT 201 and PHY 152.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

POLITICAL SCIENCE

POL 101 AN INTRODUCTION TO POLITICAL SCIENCE3-3-0

This course is an introduction to the field of political science and its various divisions including the study of political systems, institutions, processes and behavior. The purpose of the course is to sensitize the students to the promise and limits of political analysis and prepare them to pursue more advanced courses.

POL 124 AMERICAN NATIONAL GOVERNMENT 3-3-0

An examination of the basic structure and functions of American National Government, with emphasis on the power relationships between the Congress, the President, and the Judiciary. Political parties, pressure groups, civil rights, and the federal structure of our government will be stressed.

POL 125 AMERICAN STATE AND LOCAL GOVERNMENT 3-3-0

The operation of state and local government with analysis of their powers to tax and finance, enforce laws, regulate commerce and business, and promote social and economic welfare.

POL 202 CONSTITUTIONAL LAW: CIVIL LIBERTIES.....3-3-0

A study of constitutional guarantees designed to protect the individual against arbitrary, unreasonable, and oppressive government. Freedom of speech and of the press, religious freedom, freedom of assembly, property rights. Constitutional problems concerning crime and its punishment. POL 124 is recommended.

POL 240 COMPARATIVE POLITICS.....3-3-0

This is a course in the comparative analysis of various contemporary political systems. It focuses on the examination of their political cultures, constitutional foundations, governmental structures, policy-making processes, and capacity to adapt to change.

POL 245 INTERNATIONAL POLITICS.....3-3-0

This course focuses on the study of contemporary relations between states and other international actors. It places special emphasis on the analysis of foreign policy decision-making, diplomatic practices, international systems, international law and organizations, alliance behavior, conflict and conflict resolution as well as current international problems.

POL 250 TERRORISM AND COUNTERTERRORISM 3-3-0

Terrorism in the 21st century is a global phenomenon. This course is designed to provide a comprehensive and interdisciplinary survey of the history, theory, and modern-day political manifestations of terrorism and counter-terrorism. Terrorism will be evaluated in terms of its underlying cultural, economic, political, and psychological root causes. Effective counteraction and profiling requires empathetic explorations and analyses by students into causes and mind-sets. Counter-terrorism strategies and tactics will also be examined specifically in light of the legal and procedural safeguards that are fundamental to the maintenance of liberal democratic social and political values.

(Also offered as EMP 250, SOC 250, and CJS 250.)

Prerequisite(s): One introductory level course in any of the following: CJS, HIS, POL or SOC.

PUBLIC HEALTH

PBH 101 INTRODUCTION TO PUBLIC HEALTH.....3-3-0

This course is designed to provide an overview of public health in the United States and globally as well as engage students in dialogue about the discipline of public health, the profession, and the interdisciplinary approach to addressing population health issues. Students work together in small groups to analyze and evaluate health information, health care systems and the social determinants of health. The history of public health and its five core areas - epidemiology, biostatistics, environmental health, social behavioral health, and health policy - are explored.

Prerequisite(s): Students must have successfully completed or tested out of developmental English and Reading courses.

PBH 102 COMMUNICATION IN PUBLIC HEALTH3-3-0

In this course the critical role of communication within public health is explored. The application of health communication theory to practice including risk communication, health literacy, and cross-cultural issues are examined. Using evidence-based thinking, a foundational understanding of theoretical and applied considerations in developing communication strategies designed to impact health and health behavior is developed.

Prerequisite(s): PBH 101; SPC 110, or SPC 120

PBH 200 PUBLIC HEALTH EDUCATION.....3-3-0

This course addresses the field of health education as it relates to

Public Health. Theories, practices, and principles of health promotion and disease prevention within U.S. and global communities are discussed using an evidence-based thinking approach. The role of the Health Educator in assessing and planning for community based health challenges is explored.

Prerequisite(s): PBH 102

PBH 201 PUBLIC HEALTH ADMINISTRATION IN THE U.S. HEALTHCARE SYSTEM.....3-3-0

This course is designed to provide a foundation for understanding the organization of the U.S. healthcare system. The role of public health in the administration of health care services and strategies to improve healthcare efficiency are critically examined. Also addressed is the quality and cost of health care and how policy, planning, ethical issues, and public and private systems can and do impact the health of individuals and populations.

Prerequisite(s): PBH 200

PBH 202 ENVIRONMENTAL HEALTH3-3-0

This course examines the impact of the environment on human health and explores strategies used by public health professionals to minimize negative environmental effects. Environmental health hazards, exposure pathways and control, and the influence of climate change on individual and population health are discussed.

Prerequisite(s): BIO 115; PBH 102

PSYCHOLOGY

PSY 101 INTRODUCTION TO PSYCHOLOGY..... 3-3-0

An examination of the vocabulary, theories and research methods common to the various branches of the science of psychology. The course surveys psychology from its early history to important new advances in brain research. The principles of psychology are applied to learning, to mental health, and to everyday life.

This course has an honors version, PSY 101H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

PSY 136 PERSONALITY 3-3-0

A comparison of major approaches to the study of the development and structure of normal personality. Topics include the applications of psychological research to understanding and promoting mental health and human resilience. Consideration is given to the role of healthy personality in managing frustration, conflict, adjusting to predictable and unpredictable life changes, and achieving maximum well-being.

PSY 137 INTRODUCTION TO ORGANIZATIONAL PSYCHOLOGY3-3-0

Explores the application of psychological theory and research to understanding and improving work environments in both for-profit and non-profit organizations. Students will gain skills through experiential learning of topics including: enhancing motivation, performance evaluation, job satisfaction, communication, conflict resolution, achievement, and leadership.

PSY 200 CHILD PSYCHOLOGY 3-3-0

This course is a study of human development from concept through adolescence. Physical, psychological, social, and emotional development is examined. The major theories are introduced as the backbone to the course.

Research and its application to child development is also included. Historical relevance and cultural differences are also embedded throughout the course.
 Prerequisite(s): PSY 101

**PSY 203 ASSESSMENT & DOCUMENTATION
 IN HUMAN SERVICES 3-3-0**

This course is designed to teach students the necessary skills to assess and document client interactions in a human services agency or program. Students will explore the nature of the helping relationship, demonstrate their active listening abilities, learn how to gather information, build treatment plans, and write case notes. Students will also understand case management in a managed care environment, and the legal, ethical and regulatory implications of comprehensive assessment and documentation.

(Also offered as HSW 203)
 Prerequisite(s): ENG 101, HSW 101, with a grade of "C" or higher.

PSY 204 ADOLESCENT PSYCHOLOGY 3-3-0

The effect of experiences in childhood and of cultural institutions on puberty is examined. Included are major areas of progression and regression of personality, central conflicts and methods of coping with stress, characteristics of adolescent phases of development.

PSY 206 HUMAN DEVELOPMENT A LIFE-SPAN APPROACH.... 3-3-0

A study of human development from conception to death. The physical, social, psychological and cognitive aspects of life-span development will be examined. The major theories of human development, as well as the age-and age stage-related changes and potential crisis will be given careful attention.

PSY 210 EDUCATIONAL PSYCHOLOGY. 3-3-0

This course investigates three models (Behavioristic, Humanistic, and Cognitive) of human functioning and selected learning strategies derived from each. In addition, a number of traits and behaviors (e.g., motivation, curiosity, creativity, and intelligence) related to children's learning and cognitive development are explored.

PSY 214 SOCIAL PSYCHOLOGY 3-3-0

An examination of the function of the individual in social groups and the mutual influences of one upon the other. Emphasis is placed upon the processes of communication, persuasion, attitude and opinion formation and change, the structure and function of small groups and the techniques employed in measuring these phenomena.

PSY 215 ABNORMAL PSYCHOLOGY... 3-3-0

Biology, behavior and environment interact in complex ways to produce what is defined as abnormal. Historical material, pertinent research and relevant case studies provide an understanding of abnormal psychology and its impact on all of us.

**PSY 216 ASSESSMENT AND TECHNIQUES FOR
 CHILDREN AND YOUTH 3-3-0**

This course is designed to develop knowledge and skills in assessing the risk factors in the current situation of the child and/ or adolescent. The course will focus upon the youth's educational, social, psychological, emotional and physical environment to determine the level of required intervention. Students will learn the techniques needed to assess and reduce risk factors. (Also offered as HSW 216.)
 Prerequisite(s): HSW 101

PSY 217 DRUGS - THEIR USE AND ABUSE..... 3-3-0

This course explores the scientific facts about drugs commonly used and abused and their impact on human life. It details and integrates biological, psychological, social and cultural components of the most popular psychoactive substances. Legal, illegal, prescription, over-the-counter, performance enhancing substances as well as herbal medications is researched and described.

**PSY 219 THE DRUG AND ALCOHOL TREATMENT
 PROCESS: AN INTRODUCTION3-3-0**

To provide a working knowledge of the helping process as it applies to drug and alcohol counseling. Students completing this course should be able to: develop assessment and diagnostic skills; formulate appropriate goals and treatment plans; improve interviewing and intervention skills with drug/alcohol clients; discuss and compare individual, group, and family treatment approaches; describe the levels of service available to drug/alcohol clients and their families; use AA, AL-ANON and other support groups as treatment allies; appreciate the impact of sex, age, ethnicity, race and religion on the treatment process; and understand the American Psychiatric Association's assessment of substance use disorders, anti-social personalities and depression.

(Also offered as HSW 219.)

PSY 231 RESEARCH METHODS IN PSYCHOLOGY 4-3-1

This course provides students with foundational knowledge and skills required to conduct valid research in psychology and other social sciences. Students will learn how to formulate a research study, prepare a proposal, and identify the ethical guidelines for research with human subjects. Approaches to measurement of behavior and experience, analysis and interpretation of results, and preparation of a written report of findings will be included. Three hours per week will be devoted to lecture/class presentation, and one hour per week will be spent in guided small group work on development and implementation of a research project.

Prerequisite(s): PSY 101 and MAT 131

PSY 232 POSITIVE PSYCHOLOGY 3-3-0

This course provides an overview of the field of Positive Psychology. The course is designed to broaden the scope of traditional Psychology by examining the circumstances under which humans, institutions, and communities thrive. It presents theory and research related to strengths, optimism, happiness, and resiliency. A strong emphasis is placed on the application of empirically-based knowledge. Information is delivered through lectures, readings, in-class exercises, out-of-class activities, and class discussion.

**PSY 250 PSYCHOLOGY OF AGING: HELPING SKILLS
 IN WORKING WITH OLDER ADULTS 3-3-0**

This course is an in-depth exploration of psychological theories and their applications to appreciating and working with older adults. Students will have the opportunity to gain an increased understanding of their own personal development and self-knowledge in the context of the life cycle and to explore feelings about the aging process. Classroom experiences that focus on enhancing communication skills will be designed to enable students to translate psychological theories and helping techniques to everyday family and job-related encounters with older adults. Open to all majors.

(Also offered as HSW 250.)

Prerequisite(s): HSW155 or PSY101 or SOC 101.

PSY 255 HUMAN SEXUALITY..... 3-3-0

A survey of the major topics of human sexuality with emphasis on: sexual development, functioning, behavior; gender identification, reproduction, interpersonal relationships, health, historical and cultural sex studies, and sex education.
(Also offered as ESW 255.)

RADIOGRAPHY

RAD 100 INTRODUCTION TO RADIOGRAPHY AND PATIENT CARE..... 3-3-0

This course will provide the student with an overview of the foundations in radiography and the practitioner's role in the health care delivery system. Principles, practices and policies of the health care organizations will be examined and discussed in addition to the professional responsibilities of the radiographer. Communication skills and professional conduct of the radiographer in the clinical setting will also be introduced. Basic concepts of patient care, physical and psychological needs of the patient, and routine and emergency patient care will be described. Human diversity in health care will be discussed and its impact in the treatment of patients. In addition, a self-teaching workbook and self- assessments will be utilized to learn medical terminology.

Prerequisite(s): BIO 131 and BIO 132 minimum grade of "C" on the first attempt within 5 years of enrolling in RAD 100; MAT 100 minimum grade of "C" on first attempt within 5 ears of enrolling in RAD 100
Co-requisite(s) RAD 101, RAD 104 and RAD 111

RAD 102 RADIOGRAPHIC EXPOSURE AND TECHNIQUE 3-2-2

This course is designed to provide the student with the entry-level knowledge base to formulate the applicable factors that influence the production of radiographs. Film and digital imaging with related accessories will be discussed. Demonstrations and student experimentation will be included in the application of the theory.

Prerequisite(s): BIO 131 and 132 with minimum grade of "C" on the first attempt and within five (5) years; MATH 100 Intermediate Algebra or higher with minimum grade of "C" on the first attempt and within five (5) years
Corequisite(s): RAD 100, RAD 104, RAD 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 103 RADIATION PROTECTION AND BIOLOGY 2-2-0

This course is designed to present an overview of the basic principles of radiation protection. Included in this course are the various methods of protecting the radiographer, patient and others from unnecessary radiation exposure and limitation devices used to limit exposure. Basic principles regarding exposure will be discussed. Radiation health and safety requirements of federal and state agencies will also be incorporated.

Prerequisite(s): RAD 124
Corequisite(s): RAD 221 and RAD 214

RAD 104 CLINICAL EDUCATION I 3-0-15

During this first semester of Clinical Education, students will be assigned to clinical areas in the clinical education center, which coincide with didactic information covered during the semester in Introduction to Radiography and Patient Care (RAD 100), Procedures I (RAD 111), and Radiographic Exposure and Technique I (RAD 102). Students will be oriented to ethics and laws as they pertain to radiographers, clinical rules and regulations, the department of radiology to which they are assigned, and the clinical education handbook. Students will attend clinical education for 15 hours per week.

Prerequisite(s): BIO 131 with a "C" or better on the first attempt; BIO 132 with a "C" or better on the first attempt; MATH 100 or higher with a "C" or better on the first attempt
Corequisite(s): RAD 100, RAD 102, RAD 111

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 105 RADIATION PHYSICS 3-3-0

This course is designed to establish a basic knowledge of atomic structure and terminology. The nature and characteristic of radiation, x-ray production and the fundamentals of photon interactions with matter are included. Students will establish a knowledge base in radiographic, fluoroscopic, mobile, and tomographic requirements and design. Basic quality control will also be discussed.

Prerequisite(s): RAD 100, RAD 102, RAD 104, RAD 111
Co-requisite(s): All fifth semester courses in the Radiography Program of Study.

RAD 111 RADIOGRAPHIC PROCEDURES I 3-2-2

Radiographic Procedures I is designed to provide the knowledge base necessary to perform standard radiographic procedures. This course combines didactic coursework along with laboratory demonstration, simulation and practice. Students will learn radiographic procedures of the chest, abdomen, upper extremities and shoulder girth.

Prerequisite(s): BIO 131 with a "C" or better on the first attempt; BIO 132 with a "C" or better on the first attempt; MATH 100 or higher with a "C" or better on the first attempt
Co-requisite(s): RAD 100, RAD 102, RAD 104

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 113 PRINCIPLES OF DIGITAL IMAGING3-2-2

This course focuses specifically on the components, principles and operation of digital imaging systems. Factors that impact image acquisition, display, archiving and retrieval are discussed. Quality control and continuous quality management will also be presented.

Prerequisite(s): RAD 100, RAD 102, RAD 104, RAD 111
Co-requisite(s): RAD 105, RAD 121, RAD 114

RAD 114 CLINICAL EDUCATION II.3-0-15

This clinical course is a continuation of Clinical Education I. Emphasis is place on clinical rotations where students can observe, practice and perform those examinations learned and simulated in the Radiographic Procedures I and II course. Students will be required to perform competency examinations, image evaluations and proper patient care procedures.

Prerequisite(s): RAD 100, RAD 102, RAD 104, RAD 111
Co-requisite(s): RAD 113, RAD 105, RAD 121

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 121 RADIOGRAPHIC PROCEDURES II 3-2-2

This course is a continuation of the Radiographic Procedures I (RAD 111) course. This course is designed to prepare the student to perform certain radiographic procedures of the lower extremities and spine that are of optimal diagnostic quality. Laboratory experience combined with simulations and clinical experience are used to complement the didactic portion of the course.

Prerequisite(s): RAD 100, RAD 102, RAD 104, RAD 111
Co-requisite(s): RAD 113, RAD 105, RAD 114

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 124 CLINICAL EDUCATION III4-0-20

This course is a continuation of the Clinical Education series. Students will spend 300 hours at the clinical education site observing, assisting and performing radiologic examinations. Students will utilize this concentrated time to master positioning, technique and patient care skills that they learned throughout the first year of the program.

Prerequisite(s): RAD 113, RAD 105, RAD 121, RAD 114

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 214 CLINICAL EDUCATION IV 4-0-20

The student will observe, assist and perform radiographic examinations at the Clinical Education Centers that correlate with the didactic courses in those areas. Special attention during this semester will be given to fluoroscopic procedures as well as imaging of the skull and sinuses.

Prerequisite(s): RAD 124

Co-requisite(s): RAD 221, RAD 103

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 221 RADIOGRAPHIC PROCEDURES III .. 3-2-2

As a continuation of Radiographic Procedures, this course will provide the student with the knowledge to perform standard radiographic procedures of the skull and sinuses and contrast media studies. Special studies including, angiography, mammography, CT, MRI and vascular imaging will be included. Coursework will also include pharmacology and cross sectional anatomy. Laboratory simulations as well as student practice will be emphasized in this course.

Prerequisite(s): RAD 124

Co-requisite(s): RAD 214, RAD 103

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 224 CLINICAL EDUCATION V..... 4-0-20

As the last of the clinical education series, students will be completing their clinical competency examinations and will have the opportunity to rotate to various specialty areas in the radiology department. In addition, program officials and/or designees will be completing terminal competency examinations with each student to assure program competency. Terminal competency evaluations must be successfully completed by each student in order to be eligible for graduation and professional practice.

Prerequisite(s): RAD 221, RAD 214, RAD 103

Co-requisite(s): RAD 230, RAD 250

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

RAD 230 RADIOGRAPHIC PATHOLOGY 2-2-0

This course introduces theories of disease causation and the pathophysiologic disorders that compromise healthy systems as applied to the radiographer. Etiology, responses and radiographic manifestations will be discussed. Each major body system will be included to address radiographic appearance of disease and disease management. The major emphasis of this course is how radiographic examinations demonstrate different pathologies.

Prerequisite(s): RAD 221, RAD 214, RAD 103

Co-requisite(s): RAD 224, RAD 250

RAD 250 PROFESSIONAL ISSUES IN RADIOGRAPHY 1-1-0

This culminating course will assist the graduate in preparing for job interviews, career advancement, resume writing and other life skills that the graduate radiographer will need. With the use of guest speakers, representatives from area institutions and career placement counselors, the student will complete the curriculum with the advantage of career advice and counseling. Students will be required to complete a capstone project.

Prerequisite(s): RAD 221, RAD 214, RAD 103

Co-requisite(s): RAD 224, RAD 230

READING AND COGNITIVE DEVELOPMENT

***REA 010 ELEMENTS OF READING 0-3-0**

Elements of Reading is a developmental course designed to help students improve basic academic reading strategies including word

analysis, vocabulary building, literal and interpretative comprehension. An appreciation of reading as a basic tool of learning will be fostered. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Reading placement test recommendation of REA 010.

*Placement into developmental level courses restricts college level course choices.

***REA 011 FUNDAMENTALS OF COLLEGE READING. 0-3-0**

This is a course designed to develop higher level reading comprehension skills necessary at the college level. The course focus is on comprehension strategies, critical reading and thinking, information literacy, and vocabulary development. The development of a more extensive vocabulary is emphasized. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

Prerequisite(s): Students must have successfully completed or tested out of REA 010.

*Placement into developmental level courses restricts college level course choices.

***REA 014 VOCABULARY AND READING COMPREHENSION DEVELOPMENT I..... 0-3-0**

This course is designed to increase the non-native English speaking student's general English vocabulary, so he/she will be better able to comprehend written materials at the post secondary level. Students will use texts of narrative non-fiction to build their knowledge of the American English language. Expanding vocabulary through a study of idioms, roots, and affixes is also included. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

(Also offered as ESL 014.)

Prerequisite(s): Students must have successfully completed or tested out of: ESL 006 - English as a Second Language II Or by permission of the instructor

*Placement into developmental level courses restricts college level course choices.

***REA 017 VOCABULARY AND READING COMPREHENSION DEVELOPMENT II 0-3-0**

Vocabulary and Reading Comprehension Development is designed to prepare advanced non-native English speaking students for the rigors of a college curriculum. The course focuses on comprehension strategies, critical reading and thinking, information literacy, and vocabulary development. There is a strong emphasis on vocabulary development. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

(Also offered as ESL 017.)

Prerequisite(s): REA 014 - Vocabulary and Reading Comprehension Development I with a minimum grade of C.

*Placement into developmental level courses restricts college level course

REA 110 COMPREHENSION STRATEGIES FOR COLLEGE READING I 3-3-0

This course is designed to enhance higher level critical reading and thinking skills through extensive guided practice with academic discipline-based and informational readings. Students learn several appropriate problem-solving strategies: analysis, interpretation, synthesis, and

evaluation. Practice and utilization of discipline- specific vocabulary and lecture related note-taking are also fostered.

Prerequisite(s): Students must have successfully completed or tested out of REA 011 or REA 017 with a minimum grade of a "C."

SOCIOLOGY

SOC 101 INTRODUCTION TO SOCIOLOGY 3-3-0

This course introduces the scientific study of human society. It presents the basic components of sociology, i.e., groups, society, culture, socialization, institutions, collective behavior, stratification, and social change, for review and critique. Social structures, social rules and change within society are explored with respect to the history of societal development as well as current social trends.

This course has an honors version, SOC 101H, which fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

SOC 103 SOCIAL PROBLEMS..... 3-3-0

This course offers a critical examination of major social problems in the contemporary United States within the context of wider global issues. Students will learn to think sociologically about the causes and consequences of contemporary social problems. Course focus is on uncovering the social conditions, forces, and social structures that give rise to social problems. Problems covered include but are not limited to: poverty, gender, homophobia/ heterosexim, race and class inequality, crime, education, environment and health care.

SOC 105 SOCIAL POLICY & ETHICS IN HUMAN SERVICES 3-3-0

This course examines the relationship of social policy, ethics, and the human services field. Students will address ethical dilemmas, particularly as they relate to current and needed social policies on local, state, and national levels. A basic understanding of social welfare theories will assist the student in evaluating, assessing, and advocating for change in both a micro / macro perspective. The Ethical Standards of Human Service Professionals (National Organization for Human Services) will serve as a backbone for students to use in decision- making, assessment of clients and client groups, and promotion of change in a diverse setting.

(Also offered as HSW 105)

SOC 130 INTRODUCTION TO YOUTH AND FAMILY SYSTEMS3-3-0

The introductory course examines children and youths within the context of their familial role. Emphasis is placed upon non-traditional as well as traditional family systems and the impact that issues such as divorce, substance abuse, child abuse and incarceration have on the various units in the family system.

(Also offered as HSW 130.)

SOC 220 CRIMINOLOGY 3-3-0

A study of crime and delinquency patterns, their causes, and remedial measures, emphasizing social, economic, and psychological forces involved, including the role of treatment and law enforcement.

(Also offered as CJS 220)

Prerequisite(s): CJS 100

SOC 224 MINORITIES IN THE UNITED STATES 3-3-0

This course is designed to study the historical and contemporary experiences of major ethnic, racial, religious minorities in the United States. Course examines the reasons for their migrations, problems encountered, and prohibitions preventing some from participating in the mainstream of American life. Focus is both sociological and historical.

Prerequisite(s): SOC 101

SOC 230 SOCIOLOGY OF FAMILIES 3-3-0

This course explores the historical development of families; class, ethnic and sexual variations of family structure in contemporary societies; social issues that impact contemporary families; the division of labor and power in families; and current trends in American family patterns.

SOC 244 SOCIOLOGY OF DEATH AND DYING 3-3-0

The course consists of an investigation of the following topics: individual attitudes on death and dying, social and cultural attitudes on death and dying, socializing the individual into attitudes on death and dying, medical concept of death and dying, legal concept of death and dying, demographic data on death and dying, death and dying and its effect on the economy, the family and death, religion (attitudes and ritual) and death, euthanasia and suicide as well as practical methods for dealing with death and the dying.

SOC 250 TERRORISM AND COUNTERTERRORISM 3-3-0

Terrorism in the 21st century is a global phenomenon. This course is designed to provide a comprehensive and interdisciplinary survey of the history, theory, and modern-day political manifestations of terrorism and counter-terrorism. Terrorism will be evaluated in terms of its underlying cultural, economic, political, and psychological root causes. Effective counteraction and profiling requires empathetic explorations and analyses by students into causes and mind-sets. Counter-terrorism strategies and tactics will also be examined specifically in light of the legal and procedural safeguards that are fundamental to the maintenance of liberal democratic social and political values.

(Also offered as EMP 250, POL 250, and CJS 250.)

Prerequisite(s): Introductory level course in any of the following: CJS, HIS, POL, or SOC

SOC 254 AGING IN THE UNITED STATES 3-3-0

This course is an in-depth exploration of current social issues concerning older adults in U.S. society. Students will examine the social needs which confront all older people and those needs of particular sub-groups of the older population such as the frail elderly, women, and minorities. Emphasis will be placed on reviewing the legislation which has led to the creation of programs and services for meeting the needs of older adults and on analyzing the system of services to detect areas of unmet needs, such as the need for "long-term care." Students will have the opportunity to gain an understanding of techniques of advocacy which can be used on behalf of and in concert with older persons. Open to all majors.

(Also offered as HSW 254)

Prerequisite(s): HSW155 or PSY101 or SOC 101.

SOC 255 ORGANIZED CRIME3-3-0

This course examines the problem of organized crime (OC) from an interdisciplinary perspective, including a series of key legal, law enforcement and social issues, with a focus on American OC and enterprise crime in comparative perspective. Topics will include: the concept and definition of OC; a range of theoretical perspectives on OC; the relationship between white collar, criminal organized crime, enterprise crime and non-criminal economic activity; historical origins; ethnic connections; international linkages; models of organized crime; major organized crime groups; major organized criminal activities; emerging organized criminal activities; the relationship of OC to public corruption; strategies for combating organized

crime; and the future outlook.

(Also offered as CJS 255.)

Prerequisite(s): CJS 100 or SOC 101, or permission of the Division Dean

SOUND RECORDING MUSIC TECHNOLOGY

SRT 100 FUNDAMENTALS OF DIGITAL AUDIO WORKSTATION TOOLS.....3-3-0

This class is an introduction to Pro Tools, the industry-standard software for recording, editing and mixing music. Students acquire basic Pro Tools skills and become familiar with basic recording, editing and mixing skills as well as MIDI concepts and how to import and export audio session data. Students will also learn best practices for the home project studio. While no previous musical training is required, a working knowledge of the Windows or Macintosh operating system is needed.

SRT 104 INTRODUCTION TO SOUND RECORDING TECHNOLOGY.....3-2-2

This course introduces the theory and operation of sound recording equipment for music production, video, filmmaking, animation, and radio. Students are introduced to sound theory and the basics of recording and editing and then complete assignments in basic equipment operation. In addition to production, emphasis is placed on aesthetic analysis of sound through a series of critical listening assignments and workshops where voice, sound effects, and music are combined to create theater of the mind.

Prerequisite(s): MUS 120

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 130 SRT SOFTWARE WORKSHOP I.....1-0-2

SRT Software Workshop I is a breakout course that introduces students to specialized sound recording and music technology software. Students expand upon what they have learned in SRT 104 and MUS/SRT 140 by applying new techniques in recording, editing, sequencing and signal processing in current software applications. The course focuses on sampling, sequencing and processing within software packages such as Ableton Live, Komplete, Reason and ProTools. Students participate in task-oriented workshops where they are introduced to the procedures, methods, and operation of specialized software.

Prerequisite(s): SRT 104, MUS 140

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 131 LIVE SOUND RECORDING AND REINFORCEMENT WORKSHOP I.....1-0-2

Live Sound Recording and Reinforcement Workshop I is a breakout course that introduces students to the principles and practice of live sound recording and reinforcement. The course focuses on system components, set-up, management, mixing and troubleshooting, as well as principles and concepts fundamental to live sound recording and reinforcement. Students participate in task-oriented workshops where they are introduced to the procedures, methods, and operation of live sound equipment. They obtain hands-on industry experience in recording and reinforcement at various local venues featuring live performances.

Prerequisite(s): SRT 104, MUS 140

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 159 INTRODUCTION TO MUSIC PRODUCTION.....3-2-2

The successor to the Artists-and-Repertoire executive of pop's golden era, the producer, stands at the point of intersection between a recording's

human element and its increasingly advanced technological aspect. Often a producer's work results in a signature style or "sound"; if this sound is especially novel or musically persuasive, top recording artists may energetically seek the producer out. SRT 159 will explore the art and history of production as it relates to music past and present. Students will experience the original recordings of great songs recorded by great producers. Emphasis will be placed on the differences between producers and their individual styles, identifying key production techniques, and utilizing them in recordings that students will produce themselves.

Prerequisite(s): MUS 141, SRT 250

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 214 THE EVOLUTION OF SOUND RECORDING TECHNOLOGY.....3-3-0

A survey of the history and evolution of Sound Recording and Music Technology and its impact on the recording industry, music, and society. Topics include the development of sound technology in the U.S. and Europe, the birth of the recording industry, and how recording sound influenced music and created current and emerging technologies. Emphasis is placed on understanding the evolution of sound recording technology and its impact on music and the recording industry.

Prerequisite(s): SRT 104

SRT 230 SRT SOFTWARE WORKSHOP II1-0-2

This breakout course is a continuation of SRT 130 and further explores specialized sound recording and music technology software. Students expand upon what they have learned in SRT 130, SRT 250 and MUS 141 by applying new techniques in recording, editing, sequencing and signal processing in current software applications. The course focuses on sampling, sequencing and processing within software packages such as Ableton Live, Melodyne, Komplete, Waves, Reason and ProTools. Students participate in task-oriented workshops where they are introduced to the procedures, methods, and operation of specialized software.

Prerequisite(s): SRT 130, MUS 141, SRT 250

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 231 LIVE SOUND RECORDING AND REINFORCEMENT WORKSHOP II.....1-0-2

This breakout course is a continuation of SRT 131 and further explores the principles and practice of live sound recording and reinforcement. The course focuses on system components, set-up, management, mixing and troubleshooting, as well as principles and concepts fundamental to live sound recording and reinforcement. Students participate in task-oriented workshops where they are introduced to the procedures, methods, and operation of live sound equipment. They obtain hands-on industry experience in recording and reinforcement at various local venues featuring live performances.

Prerequisite(s): SRT 104, MUS 140

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 242 MUSIC BUSINESS APPLICATION3-3-0

This course is a continuation of studies begun in MUS 241 The Business of Music. Students will focus in the individual elements of the Music Business Marketing Plan created in the previous course and the realization of that plan with an in depth focus in online music marketing, promotion strategies, social media, legal structuring of the business and the financial considerations that go with running a business. Recommended but not required: MUS 140 (Introduction to Digital Music Technology) and/or MUS 240 (The Art and Business of Songwriting).

Prerequisite(s): MUS 241, ENG 010A, ENG011 or ESL011; REA 017 or REA 011; and MAT 011 or MAT 011B

SRT 250 SOUND RECORDING TECHNOLOGY I3-2-2

This course introduces students to the theory and practice of sound recording technology and music production. Students are introduced to sound recording and production techniques including multi-track music recording, mixing, editing, and signal processing. Emphasis is placed on the procedures and processes of preparing for and carrying out a basic production from start to finish. Students act as the sound engineer, producer, director, and embody other production roles. Students work to expand their aesthetic understanding, analyze sound through production, and participate in a series of critical listening assignments and workshops.
Prerequisite(s): SRT 104
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 256 SOUND RECORDING TECHNOLOGY II3-2-2

This course explores the theory and practice of sound recording technology and music production. Emphasis is placed on the technical application of multi-track music recording, mixing, editing, signal processing, equalization, DSP, and MIDI sequencing. Students oversee and participate in productions from the early stages of conception, through the process of distribution. Students expand their aesthetic analysis of sound through a series of critical listening assignments and workshops.
Prerequisite(s): SRT 250
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 259 MUSIC PRODUCTION3-2-2

The sound recording producer, as the person most immediately responsible for making a recording, often needs a strong grasp of various recording techniques as well as interpersonal skills which reflect an understanding of human psychology, as well as technical expertise. In the hip-hop & R&B genre, where the creation of a recording and the act of providing a distinctive sonic quality may be one and the same, therefore, artists are often listed as their own producers. SRT 259 will explore music production from both the artist's and producer's perspective, while distinguishing between the two perspectives. Students will create individual productions using various techniques introduced in class which will build upon what was learned in SRT 159. Emphasis will be placed on individual and group critique where students analyze and discuss the various student productions based on the theory and techniques of production.
Prerequisite(s): SRT 159, SRT 256
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 290 SOUND RECORDING AND MUSIC TECHNOLOGY CAPSTONE1-0-2

Sound Recording and Music Technology Capstone provides opportunity for students to develop, produce and edit a major sound recording based project in this studio/lab workshop. Emphasis is placed on developing advanced skills in pitching, planning, organizing and executing sound recording projects from inception to completion. In this workshop students work collaboratively, discuss, conceive, create and produce a work that displays the culmination of their knowledge, experience and production skills. Students work as producers, engineers and directors as the leader of their production. As part of this course, students organize and finish a complete portfolio of all their work that includes a résumé, reel, personal statement and cover letter.
Prerequisite(s): SRT 159, SRT 256, MUS 241
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SRT 297 SOUND RECORDING AND MUSIC TECHNOLOGY INTERNSHIP I3-0-15

This course is an internship in a college-approved sound recording and

music technology facility. It provides an opportunity for students to both experience and increase their understanding of employment within the Sound Recording and Music Technology industry. The course requires students to obtain an internship at a sound recording facility where they work under the direct supervision of a supervisor in the facility for a minimum of 5 hours per week (to a maximum of 15 hours per week or 255 total hours). In addition the student is required to maintain direct and consistent contact with an assigned Sound Recording and Music Technology Program faculty member. Students are rated by the employer on their job performance as part of the evaluation by the Sound Recording and Music Technology Program faculty member.
Prerequisite(s): SRT 104, MUS140, SRT 159, SRT 250
This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SPANISH

SPA 101 ELEMENTARY SPANISH I 3-3-0

A study of the fundamentals of Spanish language with exercises on communication skills, as well as an introduction to Hispanic culture through various media selections. Open to students with no previous training or one year of high school Spanish.

SPA 102 ELEMENTARY SPANISH II 3-3-0

This course, a continuation of SPA 101, reinforces progress in the four language skills: speaking, writing, listening, and reading. Increased emphasis given to oral communication skills. SPA 102 promotes understanding of Hispanic culture.
Prerequisite(s): SPA 101

SPA 111 THE WORLD OF SPAIN. 3-3-0

Taught in English and open to all students, this course will provide an understanding of the forces that have molded the Spain of today and have influenced many aspects of our society. The student will learn about the complex customs and personalities, the unity and diversity of the Spanish people. Lectures and class discussions will be supplemented by audiovisual materials and individual research.

SPA 112 THE WORLD OF LATIN AMERICA 3-3-0

This course, also taught in English, will introduce the student to a group of neighboring countries which are of vital concern to the United States. The diversity of each country as well as the unifying characteristics of personality, customs and culture in Latin America as a whole will be analyzed. Lectures, class discussion, films and other audiovisuals, as well as individual research, will be used.

SPA 127 SPANISH FOR HEALTH CARE AND RELATED FIELDS3-3-0

A primarily conversational course designed to teach students to communicate with Spanish-speakers in health-related matters, as well as in situations involving emergencies, accidents, family and job problems. Professional manuals, pamphlets, newspaper articles, and other pertinent materials will serve as the basis for instruction.

SPA 201 INTERMEDIATE SPANISH I3-3-0

This course, a continuation of SPA 102, reinforces progress in the four language skills: speaking, writing, listening, and reading. Increased emphasis given to oral communication skills. SPA 201 promotes understanding of Hispanic culture.
Prerequisite(s): SPA 102

SPA 202 INTERMEDIATE SPANISH II .. 3-3-0

A continuation of SPA201 with extensive practice in selected readings, composition and conversation on a more advanced level.
Prerequisite(s): SPA 201

SPA 215 SPANISH CONVERSATION I 3-3-0

Practical use of the language with emphasis on oral-aural techniques, leading toward fluency and correctness in speaking. As a conversation course, most of the activities will be performed by the students.
Prerequisite(s): SPA 202

SPA 216 SPANISH CONVERSATION II . 3-3-0

Practical use of the language with emphasis on oral-aural techniques, leading toward fluency and correctness in speaking. As a conversation course, most of the activities will be performed by the students.
Prerequisite(s): SPA 215

SPA 230 SPANISH: FILMS, CULTURE, AND CONVERSATION 3-3-0

This course explores films representing the broad spectrum of Hispanic experience. Course study includes Hispanic America and Spain as depicted in movies with a cultural, historical and political background. Classes will be conducted in Spanish.
Prerequisite(s): SPA 202, ENG 010A, ENG 011 or ESL 011 and REA 017 or REA 011

SPA 251 ADVANCED SPANISH I 3-3-0

Advanced Spanish I is a course designed to improve proficiency in written and oral Spanish. Students will study the contemporary culture of Spain via authentic materials selected from authentic media as well as from cultural readings. Spanish literature is approached through the study of representative excerpts from the works of major Spanish authors. This class is taught in Spanish. Outside reading is required.
Prerequisite(s): SPA 202

SPA 252 ADVANCED SPANISH II 3-3-0

The History and Culture of Latin America is a course designed to increase students' awareness and understanding of the historical, literary, and artistic development of this geographical area while improving proficiency in oral and written communication skills. This class is taught in Spanish. Outside reading is required

STRATEGIES FOR COLLEGE SUCCESS

SCS 101 STRATEGIES FOR COLLEGE SUCCESS..... 2-2-1

An introduction to academic success strategies, including an orientation to college life, self-assessment and goal setting, study skills and time management, familiarization with college resources, and appreciation of cultural diversity. This course also includes a lab component of individualized academic advising throughout the semester by the course instructor. NOTE: This course is mandatory for all students testing into two or more developmental courses as a result of the placement tests.
Prerequisite(s): Successful completion of ESL 010 is required for students who place into ESL courses

SURGICAL TECHNOLOGY

SUR 105 SURGICAL TECHNOLOGY I. 7-6-4

This course is designed to introduce the student to the role of the surgical technologist in the health practice environment. Fundamental team skills are developed to assist the student to function during the care of patients

having surgery. Communication utilizing medical terminology and basic computer functions is demonstrated and discussed in relation to its role in the operating room. The principles of aseptic technique are introduced and demonstrated with the inclusion of the methods of sterilization, instrument identification, surgical set up, and instrumentation handling. Patient, equipment and supply preparation are demonstrated and applied to the procedural stages with basic concepts of robotics presented in relation to General, Colorectal, and Gynecologic/Obstetric Surgery. Accountability, responsibility and commitment to the surgical technologist profession are discussed. Concurrent clinical laboratory experiences introduce the student to the practice setting in the operating room as well as the sterile processing area.

Prerequisite(s): MAT 011, BIO 131 with a minimum grade of "C" within 5 years, ENG 101, any approved oral Communications course .

Co-requisite(s): BIO 132

Registration requires admission to program.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SUR 106 SURGICAL TECHNOLOGY II 8-6-8

This course is designed to build on the knowledge gained in SUR 105. Fundamental team skills and knowledge of medical terminology are enhanced in SUR 106 and applied in the environment of the operating room and various specialties of surgery. Basic concepts of electricity and specialty equipment are introduced with the emphasis on safe patient care in the operating room. Patient, equipment, and supply preparation are demonstrated in the following types of surgeries: ear, nose, throat, mouth, jaw and eye. The specialty of cosmetic and reconstructive plastic surgery is presented. Students are exposed to neurosurgery of the spinal column and the brain. The actual procedural stages for each basic surgery within the aforementioned specialties are presented and reinforced in the clinical setting. The concurrent clinical laboratory experience during the actual surgical interventions affords students the opportunity to directly apply didactic information.

Prerequisite(s): BIO 132 with a minimum grade of "C" within 5 years, SUR 106

Co-requisite(s): BIO 140

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SUR 205 SURGICAL TECHNOLOGY III 10-6-16

This course is designed to build on the knowledge gained in SUR 105 and SUR 106. Fundamental team skills in the environment of the operating room are applied to various specialties of surgery. Patient, equipment, and supply preparation are demonstrated in the following types of surgeries: genitourinary, cardio-thoracic, vascular and orthopedics. The patient preparation, instrument and equipment set-up and assembly are demonstrated. The actual procedural stages for each basic surgery within the specialties are presented and reinforced in the clinical setting. The concurrent clinical laboratory and site experience afford the student the opportunity to directly apply didactic information. The patient profile is also discussed with consideration given to age specific needs during surgical intervention. Response to death and dying in the operating room is introduced with exploration of various coping strategies. Co-morbidities are described. Employment skills and interview techniques are addressed with development of a professional resume.

Prerequisite(s): SUR 106

Co-requisite(s): ENG 102, ENG 115 or ENG 117

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

SUR 206 SURGICAL TECHNOLOGY IV 7-3-16

This course is designed to extend the knowledge of the Surgical Technologist. It is built on the knowledge gained in SUR105, SUR

106 and SUR 205. Essential team skills in the operating room environment are applied to various surgical specialties and disaster/ public health emergencies. Patient, equipment, and supply preparation are demonstrated in the following types of surgeries: advanced orthopedics, cardiovascular, minimally invasive cardiac, and trauma surgery. The patient preparation, instrument and equipment set up and assembly are demonstrated. The actual procedural stages for each surgery within the specialties are presented and reinforced in the clinical setting. The concurrent clinical experience affords the student the opportunity to directly apply didactic information.

Prerequisite(s): SUR 205

Co-requisite(s): SOC 244

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THEATRE

THA 105 INTRODUCTION TO ACTING I: IMPROVISATION AND FUNDAMENTALS .. 3-2-2

This entry-level course in acting is an exploration of the individual's body, voice, imagination and tools for communication. Through theatre games and exercises, students will explore improvisation and acting as a continuum of dynamic action, of listening and responding to stimuli and action with both the body and the emotional self. These tools will be applied to the presentation of monologues and scenes in class. Students will be required to attend live theatre performances.

Prerequisite(s): REA 017 or REA 011, ESL 011, ENG 010A or ENG 011.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 106 INTRODUCTION TO ACTING II: SCENE STUDY..... 3-2-2

This course is a continuing exploration of an actor's tools, voice, body and imagination. Students will discuss and explore the actor's tools and instruments through exercise work, scene work and personal explorations. Students will be required to attend live theatre performances.

Prerequisite(s): THA105 with a minimum grade of "C", or have prior experience or training in the art of acting (upon permission of instructor).

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 114 INTRODUCTION TO THEATRE . 3-1-2

This course is an entry level course in theatre history, its practice, and the creation of the theatrical event, exploring theatre's role as a central, social communication event. Through group and individual presentations, students will also explore as well as the roles of the various artists who collaborate to create theatre, how ideas are reflected in conception and reading of a play, and explore how ideas about interpretation and aesthetic can be reflected in production. Students will be required to attend live theatre performances.

Prerequisite(s): REA 017 or REA 011, ESL 011, ENG 010A or ENG 011.

THA 150 THEATRE PRODUCTION WORKSHOP I: INTRODUCTION TO STAGECRAFT. 3-1-5

A studio class in which students learn the components of theatre production by participating in producing, staging and mounting a full length stage production.

Prerequisite(s): ENG 010A, ENG 011 or ESL 011 and REA 011 or REA 017

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 151 THEATRE PRODUCTION WORKSHOP II: APPLIED STAGECRAFT3-1-5

A continuation in the participation of producing, staging and mounting a full-length stage production. Students are expected to take greater responsibility and positions of leadership in this endeavor, applying techniques and stagecraft studied to the creation of a theatrical production. Evaluation of the process's strengths and weaknesses and one's performance in it will be evaluated and self-evaluated. Recommendations for future success are encouraged.

Prerequisite(s): Students must complete THA 150 with a grade of "C" or better, or receive permission from the instructor.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 201 ACTING FOR THE CAMERA 3-2-2

This course is an upper level course in acting technique. Through in-class camera work, students explore the principles and acquire the necessary skills to work in the medium of film and television. Students will be required to attend live theatre performances.

Prerequisite(s): Completion of THA 105 and THA 106 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 203 THEATRE PRODUCTION WORKSHOP: PRACTICUM 3-1-5

This studio/lab course stresses the practical application of skills and techniques of applied stagecraft, working directly on production and consisting of practical application and lab hours. Lab hours include both hours spent working on projects during class-time as well as additional hours to be completed throughout the semester outside of class time.

Prerequisite(s): THA 151 with a grade of "C" or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 205 DIRECTING: CREATING THE WORLD OF THE STAGE3-2-2

This course gives theatre artists the tools for moving a story from page to stage. Student directors will study an overview of the role of the director in theatre history, the skills required in analyzing a text for interpretation, and basic organization for creating a production. These skills will then be applied to a scene (directed within class time and using student actors), as well as the presentation of the conceptualization of a full length piece.

Prerequisite(s): THA 105, THA 114 and THA 150 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 250 ACTING SHAKESPEARE... 3-2-2

This course is an upper level course in acting technique, investigating the performance of Shakespeare's plays through scene work and related exercises. Tools of the actor which will be stressed are commitment, simplicity, listening, focus, concentration, play, imagination and openness. Students will be required to attend live theatre performances.

Prerequisite(s): THA 105 and THA 106 with a grade of C or better.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

THA 252 INTERPRETING SONG AND SCENE 3-2-2

This specialized course in theatre will explore the practical aspects of musical theatre performance and introduce the student to the history of the genre. Through the study of this American art form, students will expand their performance repertoire as well as their knowledge of groundbreaking shows and prolific composers. Students will workshop material throughout the semester in class in front of their peers, rehearse and present songs and scenes, and will be required to attend live theatre performances.

Prerequisite(s): THA 105 and MUS 120 with a grade of "C" or higher.

This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

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The Foundation's mission is to create awareness and promote philanthropy within the community and College in order to provide private support for scholarships, teaching and learning initiatives, student support programs, community outreach and facility improvements so that our students have access to a quality higher education in order to become good citizens.

Foundation objectives:

- To identify and develop meaningful long-lasting relationships that result in first and increased levels of private philanthropy from individuals, corporations, and foundations primarily through annual, major and planned gifts
- To create and grow an engaged constituency of volunteer leadership, alumni, faculty and staff, the business community, and friends in Montgomery County and beyond who desire to invest in the College through the Foundation
- To raise funding primarily for the support of scholarships and internships for deserving students, teaching and learning initiatives, facility enhancements, community outreach, and student support programs

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MONTGOMERY COUNTY COMMUNITY COLLEGE ALUMNI ASSOCIATION

The Alumni Association has over 65,000 members and counting. Students that have either graduated or have taken 30 credits or more are considered alumni. In the spring of 2015, the Alumni Association launched its brochure which offers benefits to alumni, which includes home and auto insurance discounts. Alumni are encouraged to stay engaged with the College by attending events, volunteering, and making a gift to the Annual Fund. Alumni are also encouraged to contact the Alumni Office with changes of address notifications at 215-461-1139 or alumni@mc3.edu.

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 School Nurse Certificate, LaSalle University

Jason A. Wertz, Assistant Professor of Computer Science

B.A. Elizabethtown College
 M.S. Philadelphia University

David M. Whalen, Assistant Professor of Biology

B.A., M.S. College of William and Mary

Michael Whistler, Assistant Professor of Theatre

B.A. University of Pennsylvania
 M.F.A. New York University

Erin White-Mincarelli, C.S.T., Assistant Professor of Surgical Technology

B.S. Delaware Valley College
 Certification, Surgical Technologist, The Reading Hospital
 and Medical Center School of Surgical Technology
 M.S. West Chester University
 Ph.D. Alvernia University

Mary Louise Whitehill, Professor of Psychology and Human Services

B.A. Arcadia University
 M.A. Temple University
 Ed.D. University of Pennsylvania

Darryl O. Williams, Assistant Professor of Strategies of College Success

B.A. Bloomsburg University
 M.S. West Chester University

Gary Winchester, Assistant Professor of Mathematics

B.A. Richard Stockton College of New Jersey
 M.A. University of Pittsburgh

Patrick H. Winston, Professor of Fine Art

B.F.A University of Miami
 M. Ed. Temple University Tyler School of Art
 M.F.A. School of Visual Arts

Paul R. Winterbottom, Associate Professor of Mathematics

B.S. Philadelphia College of Textiles and Science
 M.A. Beaver College
 M.A., M.S. Villanova University

Lee J. Wood, Associate Professor of Sociology

B.A. Cedar Crest College
 M.A. Lehigh University

Amanda Wooldridge, Assistant Professor of Exercise Science
 and Wellness

B.S. Ursinus College
 M.S. West Chester University

Michael Wyant, Instructor of Geology

B.S., M.S. Temple University

Dianne Zotter-Mill, Assistant Professor of Art

B.A. Pennsylvania State University
 M.F.A. Temple University Tyler School of Art

BIOTECHNOLOGY

Maggie Bryans
 Jill Carton
 Sheryl L. Fuller-Espie
 John Hasyn
 Karin Abarca Heideman
 Frank Hollinger
 Laura McAtee
 Michele Myers
 Linda Rehfuss
 Cynthia Sarnoski
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 Suzanne Holloman
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 Richard Kelly
 Kimberle Levin
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 David Green
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 Jackie Hill
 Brenda Kieffer
 Joseph Koye
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EARLY YEARS EDUCATION

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 Gary Landes
 Gayathri Moorthy
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 Douglas Clautice
 Emily Coffman
 Dorothy Collison
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 Cheryl DiLanzo
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 Nancy Glinecke
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 Maria Jones
 Elizabeth Keene
 Patricia King
 Susan Kreiner
 Shauna LaMagna
 Briana Lunden
 Kathleen Lynn
 Donna Madden
 Jaclyn Murphy
 Gina Nash
 Bridget Rapp

Nanette Roberts
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 Kathleen Schreiner
 Carissa Skitt
 Karen Slater
 Kim Slifer
 Gregory Soltner
 Rosalyn Witter

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 TECHNICIAN**

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 Lauren Bailey
 Jamie Boyer
 Karlene Brintzenhoff
 Sharon Connolly
 Megan Daly
 Patricia Daly
 Debra Lynn Eckman-Drabick
 Teresa England-Lewis
 Barbara Giannini
 Heather Gordon
 Joyce Hill
 Irwin Hollander
 Ashley Johnson
 Maryann Kirschner
 Len Levin
 Andrea Mealey
 Kathleen Perlmutter
 June Rushmore
 Frank Stearns
 Toni Summers
 Elaine Venuti

NURSING

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 Judy Davis-Radich
 Denise Connolly
 Carol Duell
 Mary Hanson-Zalot
 Aimee Hess
 Andrea Hollingsworth
 Brenda M. Holtzer
 Virginia Jones
 Theresa Kelly-Peirce

Sandra Larson
 Margaret Lyons
 Lynn Michele
 Pamela Roberts
 Linda Roy
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 Karey Ciano
 Debra Eckman-Drabick
 Joanne Katarynick
 Maryann Kirschner
 Tara Moyer
 Kathleen Perlmutter
 Diane Serratore

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 Amanda Wooldridge
 Tiffany Weaver

RADIOGRAPHY

Cheryl DiLanzo
 Akayla Dowling
 Merryl Fulmer
 Bryan Hill
 Maria Kelly
 Beth Maynard
 Jacob McAuley
 Kathleen McElvenny
 John McKillip
 Michelle Neckien
 Tricia Price
 Sherita Rooney

Kathy Schreiner
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 Paige Taylor
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**SURGICAL
 TECHNOLOGY**

Thomas Baker
 Erica Barfield
 Edith Del Mar Behr
 Janet Dizenzo
 Donna Freed
 Laura Ickes
 Jeffrey Gruninger
 Carole Levesque
 Emily Rubendall
 Beverly Siftar
 Denise Thren
 Helen Weaver
 Erin White-Mincarelli

ACADEMIC CALENDAR

FALL SEMESTER 2018

Day and Evening Classes Begin	8/29/18
Labor Day – No Classes	9/3/18
Thanksgiving Holiday – No Classes	11/21 - 11/25/18
Classes End	12/10/18
Reading Day for Finals	12/11/18
Final Examinations	12/12 - 12/18/18

FALL SESSION DATES:

15-Week Session.....	8/29 - 12/18/18
1st 7-Week Session.....	8/29 - 10/17/18
10-Week Session.....	9/26 - 12/9/18
2nd 7-Week Session	10/24 - 12/16/18

WINTER SEMESTER 2018-19

Classes Begin	12/20/18
New Year's Day Holiday – No Classes	1/1/19
Classes End	1/13/19

WINTER SESSION DATES:

Winter Session.....	12/20/18 - 1/13/19
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SPRING SEMESTER 2019

Day and Evening Classes Begin	1/16/19
Spring Break – No Classes	3/18 - 3/24/19
Classes End	5/1/19
Reading Day for Finals	5/2/19
Final Examinations	5/3 - 5/9/19
Commencement	5/16/19

SPRING SESSION DATES:

15-Week Session.....	1/16 - 5/9/19
1st 7-Week Session.....	1/16 - 3/6/19
10-Week Session.....	2/13 - 4/30/19
2nd 7-Week Session	3/25 - 5/10/19

SUMMER SEMESTER 2019

Day and Evening Classes Begin	5/13/19
Memorial Day Holiday – No Classes.....	5/27/19
Independence Day Holiday – No Classes.....	7/4 - 7/6/19
Classes End	8/22/19

* No final exam period possible.

SUMMER SESSION DATES:

14-Week Session.....	5/13 - 8/22/19
1st 6-Week Session.....	5/13 - 6/24/19
10-Week Session.....	6/3 - 8/13/19
2nd 6-Week Session	7/8 - 8/18/19



For more than 50 years, Montgomery County Community College has grown with the community to meet the evolving educational needs of Montgomery County. The College's comprehensive curriculum includes more than 100 associate degree and certificate programs, as well as customized workforce training and certifications. Students enjoy the flexibility of learning at the College's thriving campuses in Blue Bell and Pottstown, at the Culinary Arts Institute in Lansdale, and online through a robust Virtual Campus.

An Achieving the Dream (AtD) Leader College, the institution is positioned at the vanguard of national efforts to increase completion, improve learning outcomes, and remove barriers to access. The College is also recognized regionally and nationally for its sustainability leadership, work with military veterans, community service and service learning opportunities, and use of classroom technology.

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