WESTMORELAND COUNTY COMMUNITY COLLEGE

2024-25 COLLEGE CATALOG

westmoreland.edu

Westmoreland County Community College

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Notice of Nondiscrimination

Westmoreland County Community College will not discriminate in its educational programs, activities or employment practices based on race, color, national origin, sex, sexual orientation, disability, age, religion, ancestry, union membership or any other legally protected classification. Announcement of this policy is in accordance with state law including the Pennsylvania Human Relations Act and with federal law, including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Section 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990. Inquiries should be directed to the Affirmative Action Officer (Kimberly Bush) at 724-925-4079 or in Room 250, Westmoreland County Community College, Student Achievement Center, Youngwood, PA 15697.

Westmoreland County Community College

2024-2025 Academic Calendar

Fall 2024

Classes Begin	Aug. 19
Labor Day (College Closed)	Sept. 2
No Classes	Oct. 8
Thanksgiving Break	Nov. 27 - Dec. 1
Last Day of Classes/Final Exams	Dec. 14

Spring 2025

Classes Begin	Jan. 13
Dr. Martin Luther King Observance (College Closed)	Jan. 20
No Classes	Mar. 4
Spring Break	Apr. 16-20
Last Day of Classes/Final Exams	May 10
Commencement	May 9

Summer 2025

First 5-Week Session Classes Begin	May 27
10-Week Session Classes Begin	May 27
Memorial Day (College Closed)	May 26
8-Week Session Classes Begin	June 9
First 5-Week Session Classes End	June 27
Second 5-Week Session Classes Begin	Jun 30
Independence Day Observed (College Closed)	July 4
8-Week Session Classes End	Aug 1
10-Week Session Classes End	Aug 1
Second 5-Week Session Classes End	Aug 1

Mission/Vision/Values & Priorities

WESTMORELAND'S MISSION

Westmoreland County Community College improves the quality of life in the communities we serve through education, training and cultural enrichment.

WESTMORELAND'S VISION

Westmoreland County Community College is recognized as a premier institution of higher learning focused on student success, workforce development, economic growth and cultural experiences.

WESTMORELAND'S VALUES

1. Teaching and Learning: We are committed to excellent instruction and lifelong learning.
2. Innovation and Creativity: We are committed to creativity, new ideas and the advancement of art, culture and technology.
3. Equity and Inclusion: We are committed to an educational and workplace environment where all are treated with dignity and respect.
4. Collaboration and Teamwork: We are committed to cooperation within our college and to strong relationships with employers, school districts and other community partners.
5. Accountability and Integrity: We are committed to high, ethical educational standards.
6. Social Responsibility and Stewardship: We are committed to principles of service and good citizenship.

WESTMORELAND'S PRIORITIES

1. Become more student focused.
2. Improve our systems and processes to achieve operational excellence.
3. Align our culture with our values by empowering our employees and by providing the systems they need.
4. Place Westmoreland County Community College on a firm financial footing to deliver on the long-term promise of our mission.

Accreditation

Westmoreland County Community College is accredited by the Middle States Commission on Higher Education (MSCHE), 1007 North Orange Street, 4th Floor, MB #166, Wilmington, DE 19801, 267-284-5011. The Commission on Higher Education is an accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

Programs at the college are approved by the Pennsylvania State Department of Education for veteran's educational benefits. In addition, the following programs carry specific accreditation/approval by certifying/accrediting organizations:

- The Culinary Arts, AAS and Baking and Pastry, AAS programs (Apprenticeship and Non-Apprenticeship) are accredited by the Accrediting Commission of the American Culinary Federation Education Foundation (ACFEF). These programs have been identified by the ACFEF as "Exemplary" and have received a Grant of Accreditation and Exemplary status through December 31, 2027.
- The Dental Assisting and Dental Hygiene programs are accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.
- The Medical Assisting Diploma, Youngwood campus, is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) (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 N, Suite 158, Clearwater, FL, 33763, 727-210-2350.
- The Nursing AAS program is approved by the Pennsylvania State Board of Nursing. The Nursing AAS program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326; 404-975-5000; www.acenursing.org.

This catalog reflects the most current information about Westmoreland County Community College and does not constitute a contract between the student(s) and Westmoreland. The college reserves the right to amend any provisions or requirements at any time. Admission to Westmoreland acknowledges notice and acceptance of the college's reservation of this right.

Profile

Founded: 1970

Location: Youngwood, Pa., approximately 6 miles south of Greensburg, off Route 119

Phone: 724-925-4000

Online: www.westmoreland.edu

Programs: Westmoreland offers the associate of arts degree (AA), the associate of fine arts degree (AFA), the associate of applied science degree (AAS), the associate of science degree (AS), diploma and certificate programs. More information can be found at https://westmoreland.edu/academics/programs/index.html

Degrees Granted: associate of arts degree, associate of fine arts degree, associate of science degree, associate of applied science degree, diploma and certificate

Campus: The main campus is located in a rural setting a short distance from the New Stanton Interchange of the Pennsylvania Turnpike off Route 119. The 80-acre campus comprises four buildings. The Student Achievement Center, Health and Culinary Center, and Science Innovation Center house general classrooms, science laboratories, computer and desktop publishing laboratories, multimedia technology laboratory, culinary arts laboratory with dining facility, dental hygiene clinic, radiology technology laboratory, theater, art gallery, library, Enrollment Center, Tutoring and Learning Services, College Store, student lounges, cafeteria, gymnasium, fitness center, and indoor running track. The Business & Industry Center contains classrooms, laboratories, offices and training facilities for area employers. In addition, there are athletic fields for baseball, softball and other sporting activities. All buildings are ADA accessible with designated ADA parking spaces. The Westmoreland smoking policy designates all buildings at the Youngwood campus and the education centers as smoke-free.

Off-Campus Centers: In addition to the main campus in Youngwood, Westmoreland provides access to quality educational opportunities in Indiana, Latrobe, Mt. Pleasant, Murrysville, New Kensington and Uniontown. The college also offers public safety training for fire, police and emergency service responders at the Public Safety Training Center located near Smithton.

Academic Calendar: two 15-week semesters (fall, spring); two 12-week sessions (fall, spring); and one 10-week, one 8-week and two 5-week summer sessions. Classes are conducted weekdays, evenings, Saturdays and online.

General Institutional Information: For General Institutional Information, please visit the College Navigator website. This federal Department of Education website allows students to view information that colleges are required to report and allows you to compare colleges on factors such as size, student body characteristics, academic programs, tuition and other costs, athletics, and other factors.

Education Centers

Westmoreland County Community College has eight locations serving Westmoreland, Fayette and Indiana counties. Each semester, more than 1,100 students attend class close to home at a Westmoreland location right in their own community. In addition to the main campus in Youngwood, Westmoreland provides access to quality educational opportunities in Latrobe, Murrysville, New Kensington, Indiana and Uniontown. Plus, the college's Advanced Technology Center and Public Safety Training Center offer specialized training in specific areas of study. In addition, online courses are available to students at these sites. Student services such as counseling, advising and financial aid are also available at scheduled times. Students can also pay tuition and fees and purchase textbooks at the centers.

Westmoreland-Advanced Technology Center

Westmoreland's Advanced Technology Center (ATC) offers state-of-the-art labs and classrooms for a variety of careers in manufacturing and other technically oriented areas. The facility occupies 73,500-square-feet of space at RIDC-Westmoreland in Mt. Pleasant (the former Sony plant) features technology equipped classrooms; specialized labs for hands-on training; open, flexible instructional space that allows for collaborative learning; administrative offices; and a student lounge.

Westmoreland-Fayette County

Westmoreland-Fayette County center is located at 140 North Beeson Blvd, Uniontown, in the Fayette County Community Action Agency (Family Service) building. The center houses traditional classrooms, a computer classroom, a videoconferencing and multiple purpose classroom, a student lounge area and free parking for students.

Westmoreland-Indiana County

Westmoreland-Indiana County is located next to the Indiana County Technology Center at 439 Hamill Road in Indiana. It is easily accessible from Route 286 and Route 119.

Westmoreland-Latrobe

Westmoreland-Latrobe is located at 130 Depot Street, Latrobe. The center houses general and computer classrooms; a collaborative classroom; labs for biology, chemistry and allied health; faculty and administrative offices; a conference room; student study areas; and multipurpose rooms for student and community activities.

Westmoreland-Murrysville

Westmoreland-Murrysville is located at 6707 Mellon Road near Murrysville. The center houses technology-equipped classrooms, a distance learning classroom, a computer laboratory, a science laboratory, accommodations for workforce development training, a student lounge with Wi-Fi and plenty of parking.

Westmoreland-New Kensington

Westmoreland-New Kensington is located at 1150 Fifth Avenue in downtown New Kensington. This college location houses traditional and technology equipped classrooms; science labs for biology, chemistry and healthcare related programs; a video conferencing classroom; computer labs; accommodations for workforce development training; a student lounge with Wi-Fi; multipurpose rooms for large college and community activities; and free parking. The site is also home of PA CareerLink Alle-Kiski, which provides career and workforce development services to employers as well as job-seekers.

Westmoreland-Public Safety Training Center (PSTC)

The Westmoreland-Public Safety Training Center is designed to serve as the premiere source for keeping the region's first responders up-to-date with essential skills by providing realistic fire service, rescue, hazardous materials, emergency medical services and law enforcement training. The facility features a two-story Class A burn building and six-story tower with an attached residential building that simulates industrial, commercial and residential structures. Also onsite are an administration/classroom building, outdoor firing range, rope rescue and confined space rescue areas, structural collapse area, chlorine railcar, ponds and additional training props.

Enrollment Services

High school graduates or those who hold a GED high school equivalency, HiSet, or DD 214 (certificate or discharge from active duty) are granted admission to the college. Individuals 18 years of age and older who have not earned a high school diploma or a GED, HiSet, or DD 214 are admitted to the college if they can demonstrate their ability to benefit from the college experience. After successfully completing 30 credits at Westmoreland County Community College (Westmoreland), they may be eligible to petition for a Commonwealth Secondary School Diploma. Forms for Commonwealth Secondary School Diplomas are available at the Department of Education, GED, Harrisburg.

Requirements for Admission

1. If you are a new student, submit the online Application for Admission at westmoreland.edu. If you have previously attended Westmoreland for college credit, then please contact the Information Center to update your academic record.
2. Upon receipt of the Application for Admission, the Admissions Office will send information on placement assessment and registration.
3. Submit official transcripts to transcripts@westmoreland.edu. This includes:.
    A. High school transcripts for first-time college students (includes home school).
    B. GED scores.
    C. Transcripts from any post-secondary institution previously attended.
4. Complete an Educational Planning session and register for classes.

Readmission

Former students who wish to return after a lapse of two years must submit a new Application for Admission. A re-entering student who has attended any other institution since leaving Westmoreland must request that an official transcript from each school be sent directly to transcripts@westmoreland.edu.

A student who interrupts residence for two or more years must meet the graduation requirements at the time of readmission and may not be readmitted to a degree, major and/or minor that is no longer active.

International Students

International students are encouraged to apply as early as possible to ensure timely acceptance and arrival. Students seeking to study on an F-1 visa status must apply for admission to Westmoreland online.

For additional information, please refer to the International Student page on the WCCC website: https://westmoreland.edu/admissions_aid/apply/international-students.html.

If you are an international (F-1) student who is already in the United States and you wish to transfer to Westmoreland, then please complete the Student Transfer Status Report and call our Admissions Office at 724-925-4000. For more information, please visit https://westmoreland.edu/admissions_aid/apply/international-students.html.

Admission to Specific Programs

In addition to the general requirements, some programs have specific admission requirements. Students who do not meet the requirements for a specific program may become eligible after completing appropriate coursework, however, they must finish the selective process.

Full- and Part-time Students

Full-time students register for 12 or more credits a semester; part-time students register for fewer than 12 credits a semester.

Since many programs and courses fill to capacity well before the beginning of each semester, early inquiry is advised.

Students interested in attending Westmoreland are encouraged to contact the Admissions Office at 724-925-4000 for more information, an interview or a campus tour.

College Now!

High school students who are 16 years or older and in their junior or senior years may earn college credit at Westmoreland by demonstrating potential for college-level work and securing a recommendation from their high school guidance counselors or principals.

Early College

This program is designed for motivated high school students with good academic and attendance records who wish to get a head start on college. While still in high school, students can complete up to 30 semester hours of general education coursework or even earn a college certificate by enrolling in regularly scheduled online and/ or on-campus courses at Westmoreland. Students considering the Early College Program must be in their junior or senior year of high school, have a 2.5 cumulative grade point average on a 4.0 scale and meet the college's requirements for entry into the course.

College in the High School

Students can receive college credit for specific classes without even leaving high school. Unlike the Early College Program, students take dual enrollment classes in their regular school with high school teachers who have been certified to teach the course. This program allows high school students to fit Westmoreland college courses into a busy schedule while taking classes in a familiar environment. Interested students must be a sophomore, junior or senior with a 2.5 cumulative grade point average on a 4.0 scale, and meet the college's requirements for entry into the course. Permission from a high school administrator is also required.

Enrollment Services

Credit for Prior Learning

Students may receive academic credit for prior learning, enabling them to begin college work at advanced levels and shorten the time required to obtain degrees, diplomas or certificates. Prior learning is experience-based learning obtained outside the sponsorship of an accredited postsecondary educational institution (college or university). Credit for Prior Learning may be awarded for learning acquired from:

- Work and life experiences
- Community and volunteer extension courses
- Individual study and reading
- Civic, community, and volunteer work
- Military
- Participation in informal courses and in-service training sponsored by associations, business, government, and industry

Credit for Prior Learning is not awarded for the experience, but for demonstration of equivalent knowledge, skills or competencies that were a result of the experience.

Advanced Placement (AP)

A program authorized by the College Board that allows a student to study college-level subjects while enrolled in high school and to receive advanced placement and college credit for earning a qualified score on the course-related Advanced Placement Program exam. Credit may be awarded to students who attain a score of three or higher on the College Board Advanced Placement Examination. Students must have official Advanced Placement Examination scores sent directly to the Westmoreland Admissions Office to be considered for credit.

College-Level Examination Program (CLEP)

A set of standardized tests developed by the College Board for various subjects, and on which a qualifying score can be used to earn college credit.

Defense Activity for Nontraditional Educational Support (DANTES/DSST)

A set of subject exams approved by the American Council on Education (ACE) that tests knowledge of both lower-level and upper-level college material. Credit may be awarded to students who take the DANTES exam for skills acquired during military service. Also, military courses may be submitted for review on an individual basis. Credit is normally awarded based upon the recommendations of the ACE.

International Baccalaureate (IB)

The "International Baccalaureate Diploma Program'' is an academically challenging two-year pre-college diploma program comprising three core requirements and six academic subject areas with final examinations that prepare students, 16 to 19 years of age, for higher education and life in a global society.

Cambridge Advanced

The Cambridge AICE (Advanced International Certificate of Education) program is an international, advanced secondary curriculum and assessment program equivalent to the British system of “A-Levels.” To qualify for college credit, students must earn an appropriate passing score on the nationally administered exam.

Departmental Examinations

Enrolled students who wish to demonstrate learning that is equivalent to a Westmoreland credit course may request to be examined and have their learning evaluated by a Westmoreland subject matter expert. The examination method may be written, oral, skill demonstration or a combination of all three at the discretion of the examining discipline.

Students may demonstrate mastery of Westmoreland courses and obtain credit by taking examinations except for the following:

1. Developmental courses
2. A course previously completed
3. A course which is a prerequisite for a course previously completed
4. A course currently registered for.

Students must complete the Petition for Credit by Examination form to apply. This form is available in the division offices and at the Student Services Success Center. A fee is charged for each exam. See Tuition & Course Fees for current costs.

Portfolio Assessment

Portfolio assessment allows students to present prior learning experiences in portfolio format. Check with the division dean to verify availability of portfolio assessment for the course. A fee is charged for portfolio assessment. See Tuition & Course Fees for current costs.

Career and Technology Center Courses

Students may receive credit for approved occupational courses completed at area career and technology centers.

SOAR

SOAR (Students Occupationally and Academically Ready) is a career and technical educational plan that prepares students for college and careers in a diverse, high-performing workforce through articulation with the Pennsylvania Department of Education and local Career and Technology Centers (CTC). Students who have completed their Program of Study (POS) at a CTC with a minimum 2.75 cumulative grade point average are eligible for college credit for up to three years after graduating from high school. Students interested in this program are encouraged to work with their CTC teachers to complete the official POS paperwork.

The SOAR logo on an academic program description in this catalog indicates that for that degree, the college offers to award free college credit to qualifying graduates of Pennsylvania secondary Career and Technical Programs of Study according to a statewide articulation agreement with the Pennsylvania Department of Education (PDE). Under these Perkins IV Statewide Articulation Agreements, the college will award college credits to students who have met all of the criteria for qualification and have submitted all required documentation under the terms and conditions of the agreement. High school seniors and graduates who are completers of PDE Bureau of Career and Technical Education-approved secondary SOAR POS, should submit the required documentation to the Admissions Office to receive the advanced placement credits.

Requirements for receiving advanced placement credits include:

- Earn a high school diploma, achieve a 2.75 or higher grade point average on a 4.0 scale in the aligned technical course, and complete the secondary school component of the PDE- approved Program of Study
- Achieve competent or advanced level on the secondary end-of-program assessment (e.g., NOCTI)
- Achieve proficiency on all the PDE-approved Program of Study secondary competencies

- Furnish documentation as required by the agreement
- Copy of high school diploma
- Official student transcript
- Completed secondary competency task list indicating proficiency on each task, with the official PDE competency cover sheet signed by your secondary program instructor
- PA Skills Certificate of PA Certificate of Competency from the technical end-of-program assessment
- Copies of any industry certifications earned
- The POS Perkins Statewide Articulation Agreement Documentation Cover Sheet completed by your secondary school

Credit for Certification Based on Published Guides

Enrolled students who can document completion of an approved apprenticeship or industrial/corporate training program may request credit by certification by contacting the Enrollment Center.

Industry Credentials

Enrolled students who have current industry credentials that are not addressed by the ACE guides may request credit by certification. To request credit, contact the division dean of the course.

Placement Assessment & Educational Planning

Pathways Advisors help students in choosing an appropriate program of study and develop a schedule of classes for their first semester based upon placement assessment scores and life goals. Students receive information about the advising sessions after they submit their application for admission to the college.

Students will be assigned either a counselor or Pathway Advisor. That student will remain with the person assigned until they complete 24 credit hours. After the completion of 24 credit hours, students will be assigned a faculty advisor. In some degree programs, students will have a counselor/advisor and faculty advisor from the beginning. The student and faculty advisor relationship should focus upon completion of degree requirements and helping the student to achieve their career goals.

Counseling

The counseling staff at Westmoreland helps students adjust to college life. Counselors are available to provide assistance with academic or personal difficulties, which may hinder students' educational progress. Among the most common reasons students seek counseling are:

- Academic advising and planning
- Assistance in transferring to a four-year college or university
- Career information and planning
- Services for students with disabilities
- Personal concerns
- Crisis management

Counseling is confidential and free.

Career Planning

The Career Connections Center team is available to assist students in career planning and decision making. The center has online assessment and planning tools to help students with decision making. The student can review the test results and develop an educational plan with a Career Connections Center team member, or with enrollment staff when choosing a program of study, that will assist students as they work toward their career goals. In addition, students are encouraged to work with faculty, counselors and pathway advisors who can assist with career planning and educational goals.

Transfer Services

A transfer counselor's role is to help you determine the academic requirements of the transfer institution and to select coursework at Westmoreland that will meet those requirements. It is important to make sure you communicate with a transfer counselor every semester to ensure you have access to the most recent information. Those who plan to continue their education after completing coursework at Westmoreland should contact a transfer counselor in the Student Services Success Center. In addition, students should be in contact with the admissions department where they hope to transfer to determine appropriate coursework.

Registration

Registration for fall sessions begins the previous spring. Registration for winter, spring, and summer begins the previous fall. Check the school website for specific dates and class schedules. New students who have completed the Application for Admission will receive communication from the college via email and letter explaining the placement assessment and educational planning process, advising and registration procedures. Advisors and counselors are available to assist students in planning coursework for the first semester.

Students intending to transfer should consult the catalog of the college they wish to attend or consult with a counselor at that college. Transfer students may also receive assistance from a Westmoreland counselor.

All students, new and returning, have several opportunities to register for classes and receive academic advising. Although returning students may register themselves via the student planning portal, they are encouraged to discuss their academic plan with their assigned advisor.

Priority Registration for Veteran Students

Act 46 of 2014 requires public institutions of higher education in Pennsylvania to provide veteran students, as defined in the Act, with preference in course scheduling. Non-compliance may be reported to the Pennsylvania Department of Education by submitting the Higher Education Student Complaint form found at www.education.state.pa.us (Note: Act 46 applies to veteran students admitted to credit courses and programs offered at the institution).

For purposes of this policy, a veteran student is defined as an individual who:

- Served in the United States Armed Forces, including a reserve component and National Guard and was discharged/released from service under conditions other than dishonorable.
- Has been admitted to Westmoreland County Community College.
- Resides in Pennsylvania while attending Westmoreland County Community College.

Veteran students who have met all other registration requirements will be given course-scheduling preference. Course scheduling preference means that veteran students are permitted to register for classes prior to the regular registration periods as published in the Academic Calendar.

Eligibility of veteran students for course scheduling preference will be identified through college database records. Veteran students must verify status by submitting documentation to

the VA Certifying Individual at militarybenefits@westmoreland.edu. Documentation may be either a DD-214 form or NGB-22 form, which needs to be submitted one-time only.

Continuing veteran students who are eligible for course scheduling preference will be made aware of the earlier registration time through an email and the My.Westmoreland student portal; no additional action must be taken by the veteran student.

New veteran students are offered course-scheduling preference through participation in new student orientation sessions; prospective students are apprised of course scheduling preference through email communication and the college portal. Course registration is required and offered one week prior to early advising for returning students each semester. Interested veterans should visit https://westmoreland.edu/admissions_aid/apply/register-for-classes.html for more information.

Title 38 United States Code Section 3679(e) School Compliance

As part of the Veterans Benefits and Transition Act of 2018, section 3679 of title 38, Westmoreland County Community College (the College) complies with the requirements as outlined below:

Note: A "Covered Individual" is any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits.

- Westmoreland permits any covered individual to attend or participate in the course of education during the period beginning on the date on which the individual provides the certifying official at the College a certificate of eligibility for entitlement to educational assistance under chapter 31 or 33, or a Statement of Benefits from the VA website e-benefits, or a VAF 28-1905 form for chapter 31 and ending on the earlier of the following dates:
  - The date on which payment from VA is made to the College.
  - 90 days after the date the College certified tuition and fees following receipt of the certificate of eligibility.
- The College will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the College due to the delayed disbursement funding from VA under chapter 31 or 33.
- In addition, the statute allows the College to require chapter 31 and chapter 33 students to take the following additional actions:
  1. Submit a certificate of eligibility for entitlement to educational assistance no later than the first day of a course of education.
  2. Submit a written request (Certification Request Form) to use entitlement.
  3. Provide additional information necessary to the College for the proper certification of enrollment.
  4. Make payment for a difference between the amount of the student's financial obligation and the amount of the VA education benefits disbursement.
- The College will hold a student responsible for any portion of tuition and other fees not covered by the VA by the published fee payment deadline.
- A late fee may be assessed for account balances not covered by the VA education benefit disbursement.
- If students do not turn in a COE, or Statement of Benefits, and/or CRF by the first day of class, a late fee may be assessed
- VA Chapter 30 will follow standard student guidelines for payment or payment arrangements by the fee payment deadline.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website (https://www.benefits.va.gov/gibill/).

Overload

Students who wish to take more than 19 credits must submit a Credit Overload Petition prior to registration. The request will be forwarded to the Vice President of Academic Affairs for approval. Students must indicate their reason for request, proposed class schedule with overload, and if they are working. Unofficial transcripts and anticipated class schedule must also be attached to the petition.

Developmental Education

Westmoreland is dedicated to the success of students in higher education and in the workforce. All students are required to attend a Placement Assessment and Educational Planning Session to determine appropriate course and program selection. Upon completing the placement assessment, some students may be required to take one or more preparatory courses in mathematics and/or English. The developmental mathematics courses are:

- MTH 050 - Basic Mathematics
- MTH 050A - Basic Mathematics Emporium
- MTH 052 - Foundations of Algebra.
- MTH 052A - Foundations of Algebra Emporium

The developmental English courses are:

- ENG 085 - College Literacy I
- ENG 095 - College Literacy II
- ENG 099 - Fundamentals of College Writing

Students who place into ENG 095 may co-enroll in ENG 161 - College Writing, which is a required general education course. Students who place into ENG 099 take ENG 161 at the same time with the same instructor.

First Year Seminar Course

First-time, credential-seeking students are required to complete PDV 101–First Year Seminar. This is a one-credit course designed to help students succeed in college by exploring such topics as academic culture; processes, procedures and resources at the college; and personal and academic goal setting. Students who have transferred 12 or more credits into Westmoreland from another institution are exempt from this course.

Auditing Courses

Auditing is the practice of registering for a course, paying the associated tuition and fees and waiving the receipt of credit and a letter grade. Students may audit a course with the approval of the instructor. Forms for this purpose are available in the Student Services Success Center and must be submitted no later than the end of the second week of a semester. Those currently receiving financial aid should contact the Financial Aid Office before changing a course from credit to audit. Courses taken for audit are not included in determining academic load for veteran certification or eligibility for financial aid. Course audits are indicated on

student transcripts with the designation "AU."

Change of Schedule

Students are fully responsible for completing schedule changes according to instructions and making certain that changes in their schedules will not adversely affect their progress toward graduation. Students may not add/register/switch any course after the course has met for the first time. Students should review their class schedule and make any revisions before the start of the semester.

Students should note that adding courses may increase the amount due for tuition and fees, while dropping courses may make them eligible for refunds. Those receiving financial aid should contact the Financial Aid Office to determine if their aid award is affected by the change in their schedule.

Change of Major

Students who wish to change their major program must complete a Change of Major Form, which can be found under Student Resources in the My.Westmoreland portal. Course substitutions approved under the former major must be resubmitted for approval in the new program of study.

Unregister

Unregistering is the process of un-enrolling in one or more course(s) after students have completed their registration. This can occur from the point of registration up to the 20% point in the course. No record of the course will appear on the transcript.

Withdrawal Policy

A student who wishes to initiate the course withdrawal process should talk with their instructor and/or their advisor or counselor. The withdrawal period begins at the end of the drop period that is typically after the third week of class, or at the 20% point in their course. From the 20-75%, a student may withdraw from a course by completing an official withdrawal form. An official W (withdrawal) grade will be noted on the transcript. After 75% of the course, students may only withdraw with the exception of an excused withdrawal.

For an excused withdrawal, such as a medical withdrawal or a withdrawal due to extenuating circumstances, a student may request a withdrawal at any point in the semester with supporting documentation. The Director of Student Success, Director of Admissions and Registrar, or Dean, must review the documentation, and provide a recommendation to the appropriate Vice President.

Students should note the following:

- The student is responsible for initiating and completing the withdrawal process.
- If a student does not want to remain in a class, they must follow the official withdrawal process.
- Failure to officially withdraw will result in a financial obligation to the college, regardless of the student's class attendance. You (the student) are still responsible for your financial obligations despite:
- Not receiving financial aid
- Not attending class
- Not fulfilling your payment plan obligations
- Receiving a notice that you will be dropped from your classes due to nonpayment
- On vacation, out of the country, or otherwise away from the college's physical site
- Not receiving your bill in the mail
- Method by which you register for classes
- Not paying your bill
- It is highly recommended that you communicate with your instructors prior to withdrawing from a course
- For institutional purposes, the day that you initiate the withdrawal will be the date that is entered as withdrawing
- A partial or total withdrawal by a student receiving Pell, SEOG, Work Study or student/parent Direct Loans may affect the student's Financial Aid Satisfactory Academic Progress (SAP) standing

Please review the Financial Aid SAP Policy for information. Additionally, you may be subject to a Return to Title IV calculation. Students who receive failing or incomplete grades may also be subject to this calculation. In some cases, this calculation results in a charge back of Title IV (federal) financial aid for which the student is responsible. When the Return to Title IV calculation results in a charge back of Title IV financial aid, the student will receive a letter to their home address indicating the amount charged back, the current account balance and the student's option for repayment. The Financial Aid Office can answer questions about Return to Title IV calculations.

Military Withdrawal

Whenever any member of the PA National Guard or other reserve component of the armed forces of the United States shall be called or ordered to active duty, other than active duty for training, including, in case of members of the PA National Guard, active State duty, the college shall grant the member or member's spouse a military leave of absence from their education. The member or member's spouse shall receive an "M" (Military Withdrawal) on their transcript for all classes they are unable to complete due to a military leave of absence.

Medical Withdrawal

Students may apply to withdraw from courses for medical reasons. Failure to officially withdraw may result in recording of failing grades. Students who wish to withdraw due to medical reasons should complete the Medical Withdrawal form, which can be found under Student Resources in the My.Westmoreland portal or on the website at westmoreland.edu. All approved requests for medical withdrawals will result in the assignment of "MW" grades for each course. Requests must be submitted no later than the dates published on the request form.

Transfer Information

Transfer of Credit

Credits earned at other institutions may apply to programs at Westmoreland as long as the grade is "C" or higher. Students must complete an Application for Admission and must have official transcripts sent directly to the Westmoreland Admissions Office with descriptions of courses to be considered for transfer. The consideration of transfer credits or recognition of degrees will not be determined exclusively on the basis of the accreditation of the sending institution or the mode of delivery but, rather, will consider course equivalencies, including expected learning outcomes, with those of the College's curricula and standards. Evaluation and acceptance of credits completed 10 years prior to the transfer request date shall be made at the discretion of the college

Transfer to Four-Year Colleges and Universities

Westmoreland County Community College offers courses, which parallel those offered at four-year colleges and universities during the freshman and sophomore years and lead to the baccalaureate degree. Therefore, it is possible to complete the first two years of a baccalaureate program at Westmoreland and transfer to a four- year institution. Students can be assured that with appropriate planning the transfer experience will be a successful one. The Westmoreland counseling staff will help to develop a plan to make the transfer process smooth.

Students who plan to transfer should realize that it is usually not necessary to select a major until sophomore year. This gives students some time to explore different areas of study during the freshman year. However, by the sophomore year students will want to select courses, which meet the requirements of the program at the four-year college to which they plan to transfer.

If there is a senior institution being considered, Westmoreland will help students select the courses, which will work best at that institution. If a student has not selected a four-year institution, the counseling center at Westmoreland has a large collection of college catalogs and other materials to help in the selection. Many senior institutions will visit Westmoreland to talk with prospective students. Once a major and a senior institution have been chosen, students are able to select the remainder of their courses with more specific requirements in mind.

Westmoreland County Community College offers the AA, AS AFA degrees, which are designed for students planning to transfer.

Career degree (AAS) programs prepare students for employment and therefore concentrate on job-related courses. AAS degree students who decide to transfer to four-year colleges or universities may find some courses cannot be applied toward the baccalaureate degree. Transfer of credit to a baccalaureate program is not the primary purpose of career programs even though some courses may be acceptable as electives at a transfer institution.

Westmoreland Graduate Transfers

Westmoreland County Community College maintains transfer articulation agreements with many four-year colleges and universities in the region. The agreements denote program requirements and course equivalencies to facilitate student transfer to senior institutions. In consultation with a counselor, students can use the agreements as guides to plan a program of studies most appropriate for transfer to a senior institution. Westmoreland graduates have successfully transferred to many colleges and universities.

Degree Completion Programs

Some colleges and universities have programs that require an associate of arts, associate of science or associate of applied science degree prior to admission. These programs guarantee junior status to associate degree holders and require two years of additional study. These programs are sometimes referred to as capstone programs. Degree completion programs do not necessarily require students to obtain a bachelor degree in the same field as their associate degree.

The colleges and universities listed below have degree completion program agreements that require students to complete an associate of arts, associate of fine arts, associate of science or an associate of applied science degree at Westmoreland.

- Bellevue University
- Bloomsburg University
- California University of Pennsylvania
- Carlow University
- Chamberlain College of Nursing
- Chatham University
- Concordia University
- Duquesne University
- Edinboro University
- Franklin University
- Indiana University of Pennsylvania
- Kaplan University
- LaRoche College
- LECOM
- Millersville University
- Mt. Aloysius College
- Pennsylvania College of Technology
- Pennsylvania State University/Regional Campuses
- Pittsburgh Technical College
- Point Park University
- Potomac College
- Robert Morris University
- Saint Francis University
- Saint Joseph University
- Saint Vincent College
- Seton Hill University
- Slippery Rock University
- Strayer University
- Southern New Hampshire University
- University of Phoenix
- Waynesburg University
- Western Governors University

Articulation Agreements

An articulation agreement written between two institutions allows course credit at one college/university to be accepted or transferred and applied toward a degree or certificate at another college/university. Admission into a particular major could have a GPA requirement higher than admission to the college.

- Pennsylvania State System of Higher Education Universities
- PaTRAC Participating Institutions
- Bellevue University
- Bethany College
- Bloomsburg University
- Burlington College
- California University of Pennsylvania
- Carlow University
- Chamberlain School of Nursing
- Chatham University
- Clarion University of Pennsylvania

- Concordia University
- Duquesne University
- Edinboro University
- Franklin University
- Indiana University of Pennsylvania
- Kaplan University
- LaRoche College
- Lake Erie College of Osteopathic Medicine
- Millersville University
- Mount Aloysius
- Palmer College of Chiropractic
- Pennsylvania College of Technology
- Pennsylvania State University/Regional Campuses
- University of Pittsburgh/Oakland
- University of Pittsburgh/Greensburg
- Point Park University
- Potomac College
- Robert Morris University
- Saint Francis University
- Saint Vincent College
- Seton Hill University
- Slippery Rock University of Pennsylvania
- Strayer University
- Southern New Hampshire University
- University of Phoenix
- Washington and Jefferson University
- Waynesburg University
- West Virginia University
- Western Governors University
- Youngstown State University

Program-to-Program Agreements

Pennsylvania's Public School Code of 1949 requires the colleges and universities that participate in the commonwealth's Statewide College Credit Transfer System to develop agreements that will allow students to transfer full associate of arts (AA) degrees, and the associate of science (AS) degree, into parallel bachelor's degree programs at the participating institutions with junior standing. Westmoreland County Community College has also negotiated program-to-program agreements with several additional universities listed below. These agreements allow Westmoreland graduates to move to a senior institution and have all their credits transfer and be counted toward graduation.

- Pennsylvania State Systems of Higher Education Universities
- PaTRAC Participating Institutions
- AA Business
- AA Criminal Justice
- AA Psychology
- AS Biology
- AS Chemistry
- AS Computer Science
- AS Mathematics
- AS Physics
- AA Elementary Education PreK–4

Course-to-Course Agreements

Course-to-course articulation is when one college or university compares the content of courses to the content of courses at another college or university and determines transferability. Students use course articulation to ensure that the courses they complete will not have to be repeated at the institution to which they are transferring. Course articulation is usually completed when a student actually decides to transfer and may or may not be explained in a written document between the two institutions.

- Pennsylvania State System of Higher Education Universities
- PaTRAC Participating Institutions
- Pennsylvania State University
- University of Pittsburgh
- University of Pittsburgh/Greensburg
- University of Pittsburgh/Johnstown
- Duquesne University
- Grove City College
- LaRoche College
- Millersville University
- Penn College of Technology
- Point Park College
- Saint Vincent College
- Seton Hill University
- Washington and Jefferson College
- West Virginia University

Reverse Transfer Agreements

The reverse transfer agreement is designed to support students who earned college-level credits toward an associate degree while enrolled at Westmoreland, but did not complete sufficient credits to earn their community college certificate, diploma or degree.

Reverse transfer agreements streamline the process of transferring credits earned by students working toward their bachelor's degree back to Westmoreland to be evaluated for credit toward completion of certificate, diploma or associate degree.

- California University of Pennsylvania
- Indiana University of Pennsylvania
- Saint Vincent College
- Point Park University
- University of Pittsburgh/Greensburg

Dual Admissions Agreements

The purpose of the Dual Admission Agreements is to establish a program that promotes pathways for students to complete a bachelor's degree through seamless transfer from the community college. Our dual admission programs utilize the Transfer and Articulation Oversight Committee's approved Associates of Arts and Associates of Science degrees, as well as, additional program to program agreements which have been identified by the senior institutions. These programs strive to eliminate barriers for students in attaining their educational goals and to improve student success and retention. Seamless pathway guides have been developed for students to provide ease and transparency in transfer planning.

- Indiana University of Pennsylvania
- Robert Morris University
- Carlow University
- Penn State University Commonwealth Campuses

Expenses, Financial Aid & Scholarship

Residency Policy

Residency requirements are established for the purposes of assessing tuition and fees. Residency is determined on a student's true and fixed home, and for a dependent student (as defined by the IRS) is determined by the parent's residence.

Commonwealth of Pennsylvania Residency

To establish residency in the state of Pennsylvania, you must demonstrate continuous residence for 12 consecutive months prior to registration at Westmoreland County Community College. Documentation must be received prior to the start of the term.

Westmoreland County Residency

To establish residency in Westmoreland County, a student must demonstrate continuous residence for at least four months. Documentation of proof of residency must be received prior to the start of the term.

Exceptions may be made for students moving into Westmoreland County if they can provide documentation that demonstrates an intent to remain in Westmoreland County. These exceptions may include a move due to employment, or parent's employment or for other purposes than attending college full-time. All documentation of proof is necessary. Further, a student may also need to demonstrate financial independence as a part of establishing residency. Additional exceptions can be made whose status indicates that they are in or transitioning out of child welfare or juvenile justice systems.

Veterans and Their Dependents (House Bill 131)

Westmoreland County Community College allows veterans, their spouses, and dependent children; military personnel, their spouses, and their dependent children; and civilian personnel working on a military base, their spouses, and their dependent children, who are admitted to a community college, to be charged the in-state, in-county rate, provided that the student is a resident of the state on the first day of the semester.

County Corporate Sponsorship

Westmoreland County Community College allows students whose residency is out-of-county, but who are employed by a company located in Westmoreland County that offers a tuition payment plan, to pay in-county rates as long as the Human Resources department of the company verifies this each semester by letter on company's letterhead and tuition payment plan.

Documents of Residency:

- PA Driver's License showing current address
- PA State ID Card with current address and issue date
- Voter Registration Card
- Utility bills in student's name
- Documentation from employers

Tuition and Course Fees

Tuition and fees are subject to change by the Board of Trustees. When changes are made, notice will be given as far in advance as possible. For current Tuition and Course Fees, please visit our website at https://westmoreland.edu/admissions_aid/tuition-and-fees/index.html

Tuition Reduction for Older Adults

If you are a Pennsylvania resident age 60 or older you are eligible for a 50 percent reduction in tuition when you enroll in credit classes. Enrollment with a tuition reduction is contingent upon space availability in class. This reduction applies only to tuition charge and not to general fees, capital fees, textbooks, equipment/supplies or lab fees. To enroll, call the Registration Center at 1-800-262-2103.

Expenses, Financial Aid & Scholarship

Payment Policy

The college accepts payment in the form of check and Discover, MasterCard or Visa. Payments may be made:

- Online via the student portal with a credit card
- Over the phone with a credit card
- By check or credit card at the Student Services Success Center
- By check at the education centers
- Check and credit card payments may also be made by mail.

Checks should be made payable to Westmoreland County Community College, and the student ID number must be written on the check. You remain obligated for all tuition and fees unless you officially drop during the refund period.

Students cannot register for classes, receive grade reports, obtain transcripts or graduate until all financial obligations to the college have been satisfied. If payment is not received by the due dates established each term, your registration is subject to deletion.

Tuition Payment Plan

The tuition monthly payment plan allows students to pay for tuition and fees over a period of five, four, or three payments depending on the time of enrollment with CashNet. The amount contracted is only for tuition and fees. Books are not to be included in this total. Only accepted/finalized financial aid amounts may be deducted from the amount contracted with CashNet.

The tuition payment plan is offered by Westmoreland County Community College in conjunction with CashNet. Payment plan payments are made directly to CashNet. Payments will be posted to the student's Westmoreland County Community College account within two weeks.

Payment plans can be canceled if the student account with Westmoreland is paid in full. Students should not stop paying on the payment plan without first contacting CashNet.

Enrollment in the CashNet Payment Plan must be finalized by the payment due date indicated on your student portal.

More information about tuition payment plans can be found on the website at Westmoreland.edu.

Refund Policy

All refunds to students or payers are calculated from the official starting date of the course. The number of weeks to determine refunds is calculated by counting the actual days (including weekends) from the starting date of the course and not by counting the course meeting dates.

All refund checks will be mailed to students and will not be held for pick-up.

For courses meeting for one week or less — If you officially drop before the course starts, you may be eligible to receive a 100% refund of tuition and fees. There are no refunds after that date.

For courses two-weeks through four-weeks long — If you officially drop through the first three days of the course, you may be eligible to receive a 100% refund of tuition and fees. There are no refunds after that date.

For courses five-weeks through nine-weeks long — If you officially drop through the first week of the course, you may be eligible to receive a 100% refund of tuition and fees. There are no refunds after the first week of the course.

For courses of 10-weeks through 19-weeks long — If you officially drop through the second week of the course, you may be eligible to receive a 100% refund of tuition and fees. There are no refunds after the second week of the course.

For courses 20-weeks through 29-weeks long — If you officially drop through the second week of the course, you may be eligible to receive a 100% refund of tuition and fees. If you officially drop during the third or fourth week of the course, you may be eligible to receive a 60% refund of tuition. There are no refunds after the fourth week of the course.

For courses of 30-weeks or longer — If you officially drop through the third week of the course, you may be eligible to receive a 100% refund of tuition and fees. If you officially drop during the fourth, fifth or sixth week of the course, you may be eligible to receive a 60% refund of tuition. There are no refunds after the sixth week of the course.

You must contact the Registration Center during the refund period to officially drop a course. If you do not officially drop, you remain obligated for all tuition and fees.

Financial Aid

Financial aid includes grants, scholarships, loans and part-time employment through work study. In general, the amount of assistance that a student may receive depends on their financial need. This need is determined through the U.S. Department of Education and is based on the information submitted in the Free Application for Federal Student Aid (FAFSA). Financial Aid is to be used for tuition, fees, books, housing and commuting expenses.

Types of Financial Aid

The types of financial aid available at Westmoreland County Community College include Grants, Student Employment, Loans and Scholarships. Grants are typically awarded based on need and generally do not have to be repaid.

- Federal Pell Grants are usually awarded to undergraduate students who have not yet earned a bachelor's degree. The actual award depends on the student's financial need; the college cost of attendance, the student's enrollment status and the length of the academic year in which the student is enrolled. Students can receive the Federal Pell Grant for up to the equivalent of 12 full-time semesters.
- Federal Supplemental Educational Opportunity Grants (FSEOG) are awarded to undergraduate students with exceptional financial need. The amount of the award is determined by the student's need.

The Federal Work-Study Program enables students to earn money during the school year while also gaining valuable work experience, typically in part-time, career-related jobs. A student may work up to 19 hours per week and receive $12 per hour for starting positions. Work-Study jobs based on unique skills or seniority may receive wages as set by the department or institution. Work-Study jobs are federally funded.

Loans consist of money that the student borrows to help pay for college, and must be repaid (plus interest). The Direct Loan Program includes Direct Stafford Loans, which are available to undergraduate students, and Direct PLUS Loans, which are available to parents of dependent students. A Direct Stafford Loan might be subsidized or unsubsidized. Direct PLUS Loans are always unsubsidized. Subsidized loans are based on financial need and are available only to undergraduate students. The federal government pays the interest on subsidized loans while the borrower is in college and during deferment. Unsubsidized loans are based on the

student's education costs and other aid received. The borrower must pay all accrued interest on unsubsidized loans. Completion of a Master Promissory Note and Entrance Counseling is required before funds can be received.

Scholarships

A scholarship is financial aid awarded primarily on the basis of scholastic achievement. As with grants, scholarships do not have to be repaid. The Westmoreland County Community College Foundation coordinates a large number of scholarships established by private donors, area businesses and professional organizations. Scholarships vary in availability from year to year, and eligibility for each scholarship program varies. In general, these scholarships are based on criteria that may include field of study, financial need, credit hours earned, academic and individual achievement, and/or recent high school graduation.

Scholarship Application Process

Each application has specific criteria for eligibility and all applications require the completion of an essay. Students may be directed to complete additional information for other scholarship opportunities such as the President's and Trustees' Meritorious and the Edward Hutchison Memorial Firefighters Scholarship. The Financial Aid Office will notify scholarship recipients through their Westmoreland email. Scholarship awards are applied directly to the recipient's student account for tuition and fees. Foundation recipients will be asked to: 1) Complete a Free Application for Federal Student Aid (FAFSA), 2) Acknowledge receipt of your acceptance letter, 3) Write a thank you note to the donor(s) 4) Remain in good academic standing and continue to meet the specific criteria of the scholarship. Scholarship opportunities and important deadline dates are available online.

Begin your scholarship application now at https://westmoreland.academicworks.com/users/sign_in. Students should sign in using their Westmoreland username and password. Additional scholarship information can be found at www.studentaid.ed.gov under the "Understanding Aid" tab.

If you have been awarded a scholarship from an outside agency or organization, you are responsible for notifying the Financial Aid Office of this award.

State Grant Eligibility

The Pennsylvania State Grant Program is a financial assistance program that provides funding to eligible Pennsylvanians and helps them afford the costs of higher education at the undergraduate level.

To be considered for a Pennsylvania State Grant, you must complete the Free Application for Federal Student Aid (FAFSA) and complete the Pennsylvania State Grant Form. PHEAA's Board of Directors annually review and approve the formula for determining need. If the student meets all of the eligibility requirements, an award is calculated along with the federal need analysis, Pennsylvania State Grant policies and the Board- approved formula.

PHEAA Eligibility requirements include the following:
- Are a high school graduate as stipulated in the Pennsylvania State Grant law.
- Attend a postsecondary school approved by PHEAA for Pennsylvania State Grant purposes.
- At least half-time enrollment (defined as at least six semester credits, but less than 12 semester credits per semester, or the equivalent).
- Unconditionally admitted and enrolled in an approved program of study of at least two academic years in length.
- Have made satisfactory academic progress (as defined by PHEAA).
- Have not already earned a bachelor's degree or its equivalent.
- Are a Pennsylvania resident, as stipulated in the Pennsylvania State Grant law.
- Satisfactory character (for example, not be incarcerated).

Federal Aid

Application Procedures
1. Students, parents of dependent students, are required to use an FSA ID, made up of a username and password, to access certain U.S. Department of Education websites. Apply for an FSA ID at www.studentaid.gov
2. Complete the FAFSA online at www.studentaid.gov as soon as possible after October 1. In order for the Financial Aid Office to receive the application information from the federal processor, students must include Westmoreland as one of the colleges they plan to attend. Westmoreland's Title IV code is 010176.
3. It is recommended that the student/parent while completing the FAFSA utilize the Data Retrieval Tool (DRT) to download IRS tax information directly into the required student/parent financial data. If DRT is not utilized, please submit tax return transcripts, corrections and any other requested documentation to the Financial Aid Office in a timely manner.
4. To ensure timely consideration, students should have all requested documentation paperwork on file in the Financial Aid Office by April 15 for the upcoming fall term. The FAFSA is available online at www.studentaid.gov.
5. Approximately 5 to 7 days after your FAFSA has been processed by the Department of Education, you will receive a Student Aid Report (SAR). Review the results. If corrections to your FAFSA are necessary, you may submit them electronically at www.studentaid.gov.
6. When the Financial Aid Office has received your FAFSA results, we will review your file. Once it is determined that your file is complete, an award letter will be posted in your Westmoreland portal indicating the types of financial aid you are eligible to receive.

Basic Eligibility Requirements

To be eligible for financial aid, you must demonstrate that you are both qualified to enroll and have the ability to benefit from a post-secondary education. The ability to benefit requirement can be satisfied one of the following ways:
- Graduated from a U.S. High School, have a copy of your official final high school transcript sent or faxed to the Westmoreland County Community College's Admissions Office.
- Copy of your official GED.
- If you graduated from a foreign high school, bring in a copy of your original high school transcript.
- If you have attended another college and satisfactorily earned sixty credit hours of college credit prior to the fall 2012 semester, have your official transcript sent to the Admissions Office.
- If you have an academic transcript that you have successfully completed at least a two-year program that is acceptable for full-credit toward a bachelor's degree.

Additional Eligibility Requirements:
- Be a citizen or eligible non-citizen of the United States.
- Have a valid Social Security Number.
- Be enrolled in a degree, diploma or certificate program.
- Be in good academic standing and maintain satisfactory academic progress according to college, state and federal regulations.

- If you are attending two schools at the same time, you may only receive financial aid at one school. You may wish to pursue a consortium agreement to acquire funding for both colleges. Please check with a Financial Aid staff member.

Students may not be in a default or overpayment status on any type of federal financial aid.

Verification

Verification is the process through which the federal government requires confirmation of the accuracy of the information reported on the FAFSA. If the student is selected for verification, the student must provide clear evidence that the information reported on the FAFSA is true and correct.

Satisfactory Academic Progress

Federal regulations require that Westmoreland County Community College monitor the academic progress of students who apply for and/or receive federal student aid. These regulations apply to each financial aid applicant, regardless of whether a student has ever applied for or received financial aid. To receive any form of federal student aid, students must maintain satisfactory academic progress toward a degree or certificate. The Satisfactory Academic Progress Policy can be found on the website at Westmoreland.edu under Admissions & Aid.

Financial Aid Census Date

Westmoreland County Community College uses the term's Census Date to determine a student's enrollment status for awarding financial aid. The student's financial aid award is based on the anticipated full-time enrollment (e.g. 12 credit hours or more per semester). If the student's class schedule or actual attendance drops below full-time, the financial aid award will be adjusted downward, and if the student has already received financial aid, the student will have to repay a proportional amount of the funds applied to the student's account.

NOTE: If the student initially enrolls for the semester after the Census Date for that semester, the official Census Date will be the date you enroll.

Financial Aid Remedial Credit Limitation Policy

The U.S. Department of Education allows students up to one academic year (30 credit hours) of remedial (developmental) coursework. Remedial/Developmental Courses prepare a student for study at a postsecondary level. Remedial/Developmental courses are those courses that do not count toward your degree, diploma or certificate program of study and are not computed into a student's grade point average (GPA). This policy may impact a student's Title IV financial aid eligibility and awards, including the Federal Pell Grant, the Federal Supplemental Educational Opportunity Grant (FSEOG), Direct Loans and Federal Work-Study. Any student who enrolls in remedial courses after reaching the 30-credit limitation will require adjustments to their Title IV enrollment status and award(s). Any developmental credits above 30 credits will not be funded and will not count toward enrollment for financial aid purposes. The tuition and fees for developmental credits in excess of 30 will be the student's responsibility.

Rights and Responsibilities of Aid Recipients

- The student has the right to know:
- What financial assistance is available at Westmoreland County Community College
- The deadlines for submitting applications for each of the financial aid programs available.
- The cost of attending Westmoreland County Community College and Westmoreland's refund policy
- The criteria used by the Financial Aid Office to select financial aid recipients.
- How the students' financial eligibility was determined.
- What resources are considered in the calculation of the student's financial aid eligibility?
- How much of the student's financial need is unmet, as determined by the Financial Aid Office.
- The terms and conditions of the various financial aid programs, including the criteria for continued eligibility in federal, state and institutional programs.
- The method by which disbursements will be made to the student and the frequency of those disbursements.
- The portion of the financial aid that must be repaid by the student, and what portion is grant and therefore not repayable. If the aid is a loan, the student has the right to know what the interest rate is, the total amount to be repaid, the procedure for repayment and when the repayment begins.
- How Westmoreland County Community College determines whether the student is making Satisfactory Academic Progress (SAP) for financial aid and what happens if the student is not.
- Upon request, the student can receive a paper copy of their financial aid award.

The Student is responsible for and required to:

- Report to the Westmoreland County Community College Financial Aid Office any change in the following:
  - Enrollment status
  - Residency changes
  - Additional earnings, funds or support received on the student's behalf.
- Be enrolled at least half-time. Half time is defined as six (6) credits per term.
- Assume responsibility for repayment of all loans accepted. Repay any funds received, which cannot be reasonably attributed to meeting educational expenses.
- Review the loan terms and process any documents regarding repayment prior to graduation.
- Participate in the loan entrance counseling program prior to receiving his/her first loan, and exit interview at the conclusion of the student's enrollment at Westmoreland.
- For Federal Direct Student Loans, notify the loan servicer of address changes and other information as specified in the loan terms.
- Repay overpayments in Federal Pell Grant based on changes in enrollment or if received Federal Pell Grant from two schools at the same time.
- Maintain Satisfactory Academic Progress (SAP) in the course of study the student is pursuing.
- Complete mandatory exit counseling upon ceasing enrollment in at least 6.0 or more credits, if borrowed from the Federal Direct Loan program.
- Know the Student Withdrawal Policy and the effect on the receipt of financial aid.
- Notify the Financial Aid Office if the student is currently or becomes incarcerated in a federal, state or local penitentiary, prison, jail or reformatory, work farm or similar correctional institution.

Repeated Coursework Policy

The Department of Education published Program Integrity regulations, which affect the enrollment status for students who repeat courses. These regulations may impact a student's financial aid eligibility and awards, including the Federal Pell Grant, FSEOG, Direct Loans and Federal Work-Study. Regulations prevent the Financial Aid Office from paying for a

course that has been passed and repeated more than one time. For a repeated course to be counted toward your enrollment status for financial aid purposes, you may only repeat a previously passed course once (a total of two attempts). If you enroll in a previously repeated and passed course for a third time; this course will not count toward your enrollment for financial aid purposes.

Refund Policy for Title IV Funding

The term Title IV Funds refers to the federal financial aid programs authorized under the Higher Education Act of 1965 (as amended) and includes the following programs: Unsubsidized Federal Stafford loans, Subsidized Federal Stafford loans, Federal PLUS loans, Federal Pell Grants and FSEOG.

An FSA credit balance occurs whenever the college credits FSA program funds to a student's account and the total amount of those FSA funds exceeds the student's allowable charges.

If FSA disbursements to the students account at the college creates an FSA credit balance, the credit balance will be paid directly to the student or parent as soon as possible, but no later than 14 days after the date the balance occurred on the student's account, if the balance occurred after the first day of class of a payment period.

Student refund checks are generated and mailed to the student's permanent home address. All students are notified via email when the refund is ready to be mailed:

- Students need to update their mailing address, if not current.
- No exceptions policy all checks are mailed. Checks cannot be picked up at the college.

The college may not require a student to take any actions to obtain his or her credit balance. It is the sole responsibility of the college to pay, or make available, any FSA credit balance within the 14-day regulatory time frames.

Return of Title IV Funds Policy

The Financial Aid Office is required to return funds received under Title IV if a student withdraws from all classes during the term before completing more than 60 percent of the term. The adjustments are calculated based on any of the following actions:

- The date the student officially withdraws or is suspended.
- The students last date of attendance at a documented academically related activity.
- The date the college determines the unofficial date of withdrawal.
- The date the student is reported by the faculty for non-attendance.

Title IV aid is earned in a prorated manner on days attended up to or greater than the 60 percent point in the semester. Title IV aid is viewed as 100 percent earned after that point in time.

All withdrawals for financial aid students are monitored by the Financial Aid Office. Students who withdraw from courses and/or reduce their course loads after registration may have their financial aid reduced accordingly.

In accordance with the federal regulations, the Financial Aid Office will return funds to the Title IV Fund programs in the following order: Unsubsidized Federal Direct Loans, Subsidized Federal Direct Loans, Federal PLUS Loans, Federal Pell Grants, FSEOG, other Federal sources of aid.

The college's responsibilities regarding the return of Title IV Funds are:

- Providing each student with the information given in this policy
- Identifying students who are affected by this policy and completing the Return of Title IV Funds calculation for these students.
- Returning of Title IV Funds that are due the Title IV programs.

The student's responsibilities in regard to the Return of Title IV Funds include:

Notification of proper withdrawal from the college i.e. completion of the required withdrawal documents. Returning of Title IV programs any funds that were disbursed directly to the student and which the student was determined to be ineligible for via the calculation. Failure to repay the overpayment to the college will jeopardize the student's eligibility for continued enrollment at the college.

Refund Policy for State Funds

PHEAA sends State Grant funds directly to your school. The school will then credit your account after first certifying your eligibility. The Financial Aid Office will assume the responsibility for returning overpayments received by the college and the student to state aid programs. Students are responsible for paying the college any overpayments that were disbursed directly to the student, which the student was determined to be ineligible to receive, based on the refund calculation.

Academic Information

Credit Hour

At Westmoreland, the semester credit hour is the basic unit of academic credit. One semester credit is equivalent to one 50-minute faculty instruction time per week for 15 weeks, and a minimum of two hours of out of class student work per credit hour per week.

Grading Policy

Letter grades are assigned to inform students how well they have learned the material in their course(s). For each letter grade there is a corresponding number called grade points. The table below shows the grades and their grade point equivalents.

Grade	Academic Achievement	Grade Points
A	Excellent	4.0
B	Good	3.0
C	Satisfactory	2.0
D	Passing	1.0
F	Failing	0.0
N	Fail No Academic Activity	0.0
W	Withdrawal	0.0
MW	Medical Withdrawal	0.0
M	Military Withdrawal	0.0
I	Incomplete	grade computed upon completion of course
CR	Credit	0.0
AU	Audit	0.0
RD	Report Delayed	0.0
D**	D Academic Forgiveness	0.0
F**	F Academic Forgiveness	0.0
TA	Transfer in- A	4.0
TB	Transfer in- B	3.0
TC	Transfer in- C	2.0
TCR	Transfer in- Credit	2.0
A^	Course under 100- A	0.0
B^	Course under 100- B	0.0
C^	Course under 100- C	0.0
F^	Course under 100- F	0.0
N^	Course under 100- N	0.0
TD	Transfer in- D	0.0

The Grade Point Average (GPA) is computed by multiplying the point value of each grade earned by the number of semester hours of the course for which the grade is received and then dividing by the total number of hours of work attempted. Courses numbered below 100 are not calculated into the grade point average.

Example of Grade Point Average Calculation

Grades		Grade Point Value		Credit Hours		Grade Hours
C	=	2.0	x	3	=	6
B	=	3.0	x	4	=	12
A	=	4.0	x	3	=	12
C	=	2.0	x	3	=	6
B	=	3.0	x	3	=	9
				16		45

45 grade points ÷ 16 semester hours = 2.81 GPA

Transcript/Abbreviations

In addition to grades, the following abbreviations may be found on the transcript.

GPA — Grade point average. A GPA is computed by multiplying the credits for each course times the grade points earned, adding the total and dividing by the total number of credits. A minimum overall GPA of 2.0 is required to graduate.

CR — Credit awarded. No grade points.

I — Incomplete. Indicates that the student has not completed all requirements for the course. The incomplete (I) automatically changes to an F grade if work is not completed by the date specified by the instructor, not to exceed one semester.

** — Academic Forgiveness. Credits and grade points not calculated in the overall GPA.

AU — Audit. No credit and no grade points.

M — Military Withdrawal. Indicates withdrawal due to active duty. No grade points.

MW — Medical Withdrawal. Indicates withdrawal due to medical reasons. No grade points.

W — Withdrawal. Indicates withdrawal by the seventh week of the semester or withdrawal, passing, after the seventh week. No grade points.

Z — No grade submitted. Indicates that the instructor has not submitted a grade. No grade points.

Developmental Courses — Placement test results may require enrollment in developmental courses. These are courses numbered below 100. Grades in developmental courses are not calculated in the grade point average (GPA), and these courses are not applied to program requirements. Developmental courses are designed to help students learn the skills necessary for college work. By completing developmental courses, students will improve their chances for success in their academic program.

Academic Forgiveness

Students returning to the college after an absence of four-years or more may petition that the credits with D and F grades earned during their previous enrollment at the college be removed from the computation of the cumulative grade point average. This petition may be made only after completion of 12 additional college-level credits after the student returns with a grade point average of 2.0 or higher for these 12 credits. Once approved, previously earned credits with D and F grades are not used for calculating the student's grade point average; however, they remain on the transcript with an appropriate notation. Students should meet with the counselor or their faculty advisor to initiate the process. This is not included in the Satisfactory Academic Progress for federal financial aid and is only applicable to your Westmoreland GPA.

Repeating Courses

Students may repeat courses; however only the grade and credits earned on the most recent attempt will be included in the calculation of grade point average.

Incomplete Grades

"Incomplete" is appropriate when the student has completed most of the course requirements and has contracted to make up the remaining or outstanding work. The grade of "incomplete" is given only at the discretion of the instructor if, in the instructor's judgment, the student has furnished satisfactory evidence that the work cannot be completed because of illness or other extenuating circumstances. The incomplete (I) automatically changes to an F grade if the work

is not completed by the date specified by the instructor, not to exceed 120 days after term end.

Grade Appeal

All final grades posted on a student's grade report at the end of a semester are considered correct unless a question is raised within one year of its recording. Students should address inquiries or appeal to the instructor of the course within one year from the end of the courses.

Attendance

The college is a non-attendance taking institution. Students are encouraged to attend all class sessions and complete all coursework, as they are integral components to the learning process and student success. If a student needs to withdraw from a course, then please consult the catalog for reference. Specific programs may have different policies. Students should refer to the program handbooks and/or course syllabi.

Library Services

Westmoreland's library includes over 25,000 books, 30 databases, and hundreds of instructional videos and popular films to support students throughout their academic journey. Physical materials can be accessed at the Youngwood campus or sent to any of the college's education centers, while digital resources are available anywhere through the MyWestmoreland portal. An outstanding professional staff is also ready to assist students in whatever they need to be successful at Westmoreland. They can be reached at 724-925-4100 or library@westmoreland.edu.

Additionally, the College participates in the Westmoreland County Academic Reciprocal Borrowing Program, which allows Westmoreland students to borrow materials using a valid Westmoreland ID from the following libraries:

- Saint Vincent College
- Seton Hill University
- The University of Pittsburgh at Greensburg

Tutoring & Learning Services

Tutoring & Learning Services offers Westmoreland students tutoring and other educational services that are essential to academic success.

Tutoring

Tutorial services for credit courses are available through the college at no cost to students. Tutoring sessions are conducted on a limited individual or small group basis. A staff of professional, peer and volunteer tutors can provide students with assistance. Tutoring for various general courses such as math, reading/writing, biology and psychology is available. Assistance for other subjects varies and may not be available for all courses. Please check with our office to find out what subjects can be supported.

Westmoreland students also have access to a FREE online tutoring service through Brainfuse. To find a tutor, log into your D2L course, click on College Resources at the top of the page, and select Brainfuse Tutoring.

Tutors can assist students to develop the necessary study skills needed to improve classroom performance. Students are welcome to utilize any handouts or to take the Learning and Study Strategies Inventory (LASSI) that we offer.

Testing Services

Testing services for make-up exams or approved test accommodations are offered through the Tutoring & Learning Services area. A valid Westmoreland student ID card is required to take an exam. All personal items must be placed within an unsecured cupboard. Personal property cannot be left in the area. Appointments are necessary and must be made 24 hours in advance. All tests are filed under the instructor's last name; therefore, students should know their instructor's name prior to making an appointment. Following these procedures will help to provide an efficient and effective testing service. Enforcement of the Academic Dishonesty Policy will be observed by the staff. Students who have been found responsible for violating the policy may not be permitted to use the service for the remainder of the academic school year.

Testing services are also available at the education centers. Contact the center to find out what their procedures are.

Cooperative Education

Cooperative Education is a work experience program designed to supplement formal classroom study with supervised on-the-job learning experiences in college-approved work locations. Academic credit may be earned for work experience if the student's job is related to the field of study or vocational goals. Cooperative education is offered in some career fields. Interested students should contact the Coordinator, Career Connections Center the semester prior to planned participation.

Information Technology Center

The Information Technology Center provides the college with a powerful and flexible academic computing and communications environment. A college-wide computer network links the Youngwood campus with the education centers providing access to an online library circulation system, several special-capacity workstations, Westmoreland web services and the Internet. Using a combination of outside services such as D2L, as well as dedicated lines and equipment, the college offers online courses linking the campus to Internet functions.

Instructional computer facilities include 40 microcomputer classrooms and 22 personal computer laboratories, 130 electronic classrooms and seven distance education web conferencing rooms at the Youngwood campus and the education centers. Each microcomputer classroom provides file sharing and access to a laser printer and the Internet, while the personal computer laboratories provide specialized software, tutorial support and open computer usage. The purpose of the laboratories is to help students gain practical experience in microcomputer applications and learn how computers are used within particular disciplines. Programs available include word processing, email, spreadsheets, database management, graphics, several programming languages, file transfer, remote login, websites, tutorials, drafting and several operating systems. The labs are available to all registered students.

The Information Technology Department maintains the infrastructure of Westmoreland, including telephones, networks and distance education.

Delivery of Academic Programs

Courses in academic programs are taught via a variety of formats: traditional classrooms and laboratories; interactive web conferencing, media-enhanced classrooms; and individualized learning experiences such as independent study, honors seminars and online courses.

Learning from a Distance

In addition to face-to-face courses, students can register for online, remote, and blended style courses. These modalities allow students to engage with and complete courses from any location (more on "modalities" below).

When taking a course from a distance, it's strongly encouraged to have either a desktop computer or laptop and reliable internet access. Some courses require supplemental hardware and software that are not formatted for a mobile device.

Currently, Westmoreland uses the learning management system D2L by Brightspace and the web-conference software Zoom to conduct courses from a distance. Before registering for any course, students are encouraged to speak with an academic advisor to learn about the various course modality and requirements.

Course Modalities

Face-to-Face

Instruction is delivered live, in-person at one of Westmoreland's campuses or centers. Courses meet synchronously in a face-to-face setting at a scheduled location, date, and time.

The institution's LMS may be needed to access some course materials, such as testing. Most testing will be offered in the face-to-face classroom, but may be conducted in other ways: Respondus Lockdown and/or Respondus Monitor; Zoom web conferencing, or use of a third-party system such as online textbook resources, as noted in the course syllabus.

Course Modality Indicator: # (Example: PDV 101 01)

Online

Courses are delivered online using the institution's LMS. A computer or laptop is recommended for participating and completing online course work.

Students interact with their instructor and classmates via online discussions, assignments, group projects, and adhere to deadlines set within the LMS.

Course Modality Indicator: W (Example: PDV 101 WA)

Blended

Instruction is split between learning activities in the LMS and the classroom. Courses meet synchronously in a face-to-face setting at a scheduled classroom location, date and time. No more than 50 percent of the course work shall occur outside of the classroom.

Course Modality Indicator: B (Example: PDV 101 BA)

Live Remote

Instruction is delivered synchronously via the institution web conferencing platform as scheduled.

Students interact with their instructor and classmates via the web conferencing platform and other LMS assigned activities.

Course Modality Indicator: R (Example: ENG 161 RA)

Blended Live Remote

Instruction is delivered synchronously via the institution's web conferencing platform as scheduled and split between learning activities in the LMS. No more than 50 percent of the course work shall occur outside of the classroom.

Students interact with their instructor and classmates via the web conferencing platform and other LMS assigned activities.

Course Modality Indicator: BR (Example: BUS 120 BRA)

Independent Study

Independent study courses allow students to pursue a special interest, which is not offered as a regular course in the curriculum. The differences between an independent study and a regular course are the degree of responsibility that the student assumes, the subject matter and the content of the study. Students are required to assume responsibility for most aspects of the learning process normally assumed by the instructor in a regular course.

To enroll in an independent study course, students must determine with an instructor a valid area of investigation and/or activity and propose a series of activities to complete the course requirements.

State Authorization Reciprocity Agreement (SARA)

Because Westmoreland County Community College is a member of the National Council for State Authorization Reciprocity Agreements (NC-SARA), students from all SARA-member states, Puerto Rico and the US Virgin Islands are permitted to enroll in our online classes and programs.

The State Authorization Reciprocity Agreement (SARA) is a voluntary agreement among its member states and U.S. territories that establishes comparable national standards for interstate offering of postsecondary distance education courses and programs. It is intended to make it easier for students to take online courses offered by postsecondary institutions based in another state. For the purposes of SARA, Distance Education is defined as: instruction offered by any means where the student and faculty member are in separate physical locations. It includes, but is not limited to, online, interactive video and correspondence courses or programs (SARA Manual, Section 1.12).

Act 48

Westmoreland is an approved provider for Act 48 courses/ training in the Commonwealth of Pennsylvania. Educators wishing to take Westmoreland courses to fulfill Act 48 requirements should check their course selection with their school district. Students must identify their interest in Act 48 by completing the Act 48 Continuing Professional Education Career Verification form prior to the start of classes.

Learning Outcomes Assessment at the Course, Degree and Institutional Levels

Specific learning outcomes are essential components of all credit courses and are delineated in the course outline and syllabus. Students should expect to receive the course outline and syllabus at the start of each class. Assessment of the learning outcomes throughout the course provides the basis to determine the extent to which student learning has occurred. Procedures for evaluation of learning outcomes are delineated in the course syllabus. Questions regarding course learning outcomes should be first addressed to the instructor of the course and then the appropriate division dean.

Student learning outcomes at the program level are delineated in the respective competency profiles for each degree, diploma and certificate. Students achieve competency of the outcomes by satisfactory completion of all program course requirements.

Institutional learning outcomes have been adapted from AAC&U's Liberal Education and America's Promise (LEAP)

initiative and value rubrics. Students are expected to achieve mastery in all of these outcomes through satisfactory completion of the general education course distribution and program course requirements for all associate degree programs.

Institutional learning outcomes include:
- Communication – Students will demonstrate clear and precise use of written, oral and/or nonverbal language to effectively express one's own ideas, perspectives and understandings as well as the ideas, perspectives and understandings of others.
- Quantitative Reasoning – Students will demonstrate the ability to read, write, compute and solve quantitative problems presented in multiple ways.
- Citizenship and Social Responsibility – Students will develop the knowledge, skills, values and motivations to participate in both the political and non-political processes and institutions related to American citizenship and residence in the global community.
- Critical Thinking – Students will process information, artifacts and realities to make reasonable decisions and formulate applicable judgments.
- Information Literacy – Students will responsibly identify, access, develop, implement and evaluate relevant, credible information.
- Technology – Students will understand and use multiple forms of current and emerging technologies.

Academic Honors

President's List/Dean's List

At the end of each semester, full-time students who have completed 12 or more college-level credits with a grade-point average (GPA) of 4.0 are named to the President's List. Full-time students who obtain a GPA between 3.50 and 3.99 are named to the Dean's List.

At the end of each semester, part-time students who have completed 12 or more college-level credits with a GPA of 4.0 are named to the President's List. Part-time students who complete 12 or more college-level credits with a GPA of 3.5 to 3.99 are named to the Dean's List.

Students are evaluated and the GPA is calculated each time a student completes 12 or more college-level credits. Developmental courses are not included in the calculation of the GPA.

Graduation Honors

Students who have earned an overall grade point average of 4.0 are graduated "with highest honors." Students who have earned an overall grade point average of at least 3.75 and below 4.0 are graduated with "high honors." Students who have earned an overall grade point average of at least 3.50 and below 3.75 are graduated "with honors."

Recognition of Achievement

The college encourages student achievement in scholarship and leadership and formally honors students at commencement and other suitable occasions.

Honors College

The Honors College at Westmoreland is the perfect fit for ambitious, engaged students who want to challenge themselves. The Honors College offers:
- Honors courses with smaller enrollment and experienced faculty members
- Opportunities for research, writing, and experimentation
- Access to leadership training and community service projects
- Designation of honors course work on your transcript
- Access to scholarships that are exclusive to honors students
- Enhanced transfer opportunities for those who plan to pursue a bachelor's degree
- Recognition of your accomplishment at Commencement

Admission to the Honors College

Westmoreland believes there are many attributes that lead to success. Therefore, there are multiple ways to be considered for the Honors College:

- Strong academic performance as represented by a 3.25 high school or previous college grade-point average.

- Evidence of a particular area of interest or strength that you wish to develop by submitting a short written explanation along with (optionally) any other evidence you have (photographs, recordings, portfolios, newspaper clippings, etc.)

The Honors College at Westmoreland is for students who want more and are willing to put forth the effort it takes to succeed. The Honors College program is inclusive of thinkers, hard workers and bright minds seeking mentorship, supportive motivation and an opportunity to lead through success. If this is the program for you, apply today!

Graduation Requirements

To be eligible for graduation, all students must:
- Complete the requirements for their program of study as listed in the catalog in effect at the time of initial enrollment or any subsequent catalog including the current one.
- Selective Admission Programs (Dental Hygiene, Dental Assisting, Expanded Functions Dental Assisting (EFDA), Diagnostic Medical Sonography, Electrical Utility Technology, Medical Assisting, Nursing, Phlebotomy and Radiology Technology) will follow the catalog in effect the year of program acceptance. Returning students will be expected to meet the requirements of their graduating cohort.
- Earn at least 30 credits of degree requirements or 15 credits of diploma requirements at Westmoreland under faculty instruction and evaluation. This does not include transfer credits, credits awarded for CLEP and other standardized exams, and credit by exam or portfolio.
- Maintain a grade point average of 2.0 or higher* in all coursework (**Early Elementary Education PreK-4 minimum GPA =2.8)*.
- Fulfill all financial obligations to the college.

Note that developmental courses (course numbers below 100) carry no quality points, may not be used to meet graduation requirements and will not transfer to all senior institutions.

Academic Information

Additional Degrees

The board of trustees shall authorize the college administration to develop and institute policies and procedures pertaining to awarding of additional degrees. Please refer to the College Policy Manual - Policy 3.12 Additional Degrees for more information.

Transcripts

A transcript is a complete record of a student's academic history, including courses, grades, and degrees, diplomas and certificates earned at Westmoreland. Transcripts are issued electronically only at the request of the student. There is a $10.65 fee for each official transcript requested. Requests can be made at https://tsorder.studentclearinghouse.org. All financial obligations to the college must be paid before a transcript is issued.

Westmoreland offers the associate of arts degree, associate of fine arts degree, associate of science degree, associate of applied science degree, diploma programs and certificate programs.

Associate of Arts Degree (AA)

The Associate of Arts degree requires a minimum of 60 credits. AA degree students are required to complete general education courses, designed to broaden and enhance their educational experience, and the remaining credit hours from transfer electives. The general education requirements are distributed over the areas of communications, humanities, social science, mathematics, natural science and tech literacy as outlined on Page 25. The transfer electives may also be selected from the courses listed on Page 25. When selecting transfer electives, it is recommended that the student seek the guidance of a counselor or advisor.

Associate of Science (AS)

An Associate of Science degree is an academic transfer degree designed for students who want to pursue a Bachelor of Science (BS) degree at a four-year institution. The AS degree requires the completion of at least 60 credit hours and provides students with a foundation in science, math, and technology required for students to continue into BS degree programs. Each AS degree will have required discipline-specific electives, as well as humanities and social science electives to choose from. We encourage students to work closely with their advisor or counselors to ensure they reach their goals for transfer.

Associate of Fine Arts Degree (AFA)

The Associate of Fine Arts Degree is an academic degree designed for students who want to pursue a Bachelor of Fine Arts Degree at a four-year institution. The Associate of Fine Arts degree requires 61-63 credits. The degree includes 20 general education credits. The majority of coursework is in a specific discipline, either Art Therapy, Visual Arts, or Graphic Design. Where the curriculum includes electives courses, it is recommended that students seek the guidance of an academic advisor.

Associate of Applied Science Degree (AAS)

The Associate of Applied Science degree requires the completion of at least 60 credit hours. Students take 15 hours of general education, one computer technology course and specific program courses. Many courses completed for the associate of applied science degree may transfer to a four-year college. However, some credits may not transfer. The transfer of credits earned in an AAS degree depends on the senior institution's requirements.

Diploma and Certificate

Diploma programs require a minimum of 30 credit hours and are designed for students interested in specific career courses. Certificate programs consist of 15-23 credits and are specialized, short-term programs, which focus on work force entry and/or development of specialized career skills.

Programs of Study

Programs of Study

Associate of Arts Degree (AA)

General Education Core Distribution and Electives – Gen Ed core must be distributed across columns I-VI and in Humanities and Social Sciences must be chosen from two or more disciplines. Electives can be chosen from columns II – VII (at least 21 credits).

I. English, Speech, PDV (10 credits)	II. Humanities (min. 6 credits)	III. Social Science (9 credits)	IV. Math (min. 3 credits)	V. Natural Science w/lab (min. 4 credits)	VI. Tech Literacy (3 credits)	VII. Additional Electives (min. 21 credits)	VIII. Natural Science/Foreign Language (min. 4 credits)
ENG 161 ENG 164 SPC 155 or SPC 156 PDV 101	ART 155 ART 156 ART 157 ART 158 ART 160 ART 162 ART 165 ASL 101 ASL 102 ASL 105 ASL 201 ENG 165 ENG 225 ENG 240 ENG 255 ENG 270 ENG 276 FRN 155 FRN 156 FRN 255 FRN 256 GER 155 GER 156 GER 255 HUM 156 MUS 155 MUS 255 PHL 155 PHL 160 PHL 161 REL 171 REL 181 SPA 155 SPA 156 SPA 255 SPA 256 VPP 120 VPP 160	ECN 158 ECN 255 ECN 256 GEO 155 HIS 155 HIS 156 HIS 249 HIS 255 HIS 256 HIS 257 HIS 262 POL 155 POL 156 POL 200 POL 255 POL 256 PSY 160 PSY 161 PSY 163 PSY 165 PSY 167 PSY 260 PSY 265 PSY 267 PSY 268 PSY 269 PSY 270 PSY 275 SOC 155 SOC 161 SOC 255	MTH 157 MTH 160 MTH 161 MTH 167 MTH 170 MTH 172 MTH 173 MTH 180 MTH 185 MTH 271 MTH 275 MTH 276 MTH 277	BIO 145 BIO 155 BIO 156 BIO 171 BIO 172 BIO 210 BIO 255 BIO 265 BIO 285 CHM 107 CHM 108 CHM 150/151 CHM 160/161 CHM 225 CHM 260/261 CHM 270/271 CHM 275 EPS 150 EPS 163 GEO 160 PHY 107 PHY 155 PHY 156 PHY 255 PHY 256 PHY 259	BUS 145 CPT 145 CPT 150 CPT 160 EDU 200 GCT 126 GCT 161 GCT 164 GCT 296 HUM 140 VPP 110 VPP 160	ACC 155 ACC 156 ACC 219 ACC 222 ACC 230 ACC 234 ACC 250 ACC 251 ACC 255 ACC 256 BIO 107 BIO 120 BUS 140 BUS 158 BUS 205 BUS 241 BUS 244 BUS 245 BUS 249 BUS 250 BUS 275 BUS 288 CPT 163 CPT 180 CPT 182 CPT 213 CPT 286 CRJ 155 CRJ 160 CRJ 162 CRJ 163 CRJ 180 CRJ 220 CRJ 255 CRJ 277 CRJ 283 CRJ 287 CRJ 290 ECE 155 ECE 257 ENG 163 ENG 250 EPS 160 FIN 155 FIN 220 FSM 159 HON 295 HON 296 HON 297 HON 298 HPE 156 PHY 153 PHY 258 SWK 155 SWK 157 SWK 170 SWK 171	ASL 101 ASL 102 ASL 201 BIO 107 BIO 120 BIO 145 BIO 155 BIO 156 BIO 171 BIO 172 BIO 210 BIO 255 BIO 265 BIO 285 CHM 107 CHM 108 CHM 150/151 CHM 160/161 CHM 225 CHM 260/261 CHM 270/271 CHM 275 EPS 150 EPS 160 EPS 163 FRN 155 FRN 156 FRN 255 FRN 256 GEO 160 GER 155 GER 156 GER 255 PHY 107 PHY 110 PHY 153 PHY 155 PHY 156 PHY 255 PHY 256 PHY 258 PHY 259 SPA 155 SPA 156 SPA 255 SPA 256

Students who intend to transfer are strongly encouraged to select courses in consultation with their advisor or transfer counselor and an academic official from the four-year institution to which they plan to transfer.

Note that courses may not be counted toward graduation requirements more than once, even if the course is listed in multiple categories.

Liberal Arts, AA

School of Art, Humanities, Social Sciences and Public Service

The Liberal Arts AA degree is designed to provide a comprehensive, two-year education while preparing students for transfer to a 4-year college or university. Its framework assures that students receive instruction in the full range of General Education topics (English, Humanities, Social Science, Mathematics, Natural Science and Tech Literacy) and that they can also pursue personal learning goals through elective courses. Completion of the degree requires a minimum of 60 credits.

Westmoreland has articulation agreements with many four-year colleges and universities that transfer this degree into numerous baccalaureate programs.

Students are advised to determine their major and transfer destination early in the program. This will aid in successful transfer. Students should consult with their faculty advisor and/or transfer counselor to assist in choosing courses that are most appropriate for their educational plan.

Program Learning Outcomes

- Communicate effectively in writing and speech.
- Solve problems and make decisions by applying both creative thinking and quantitative reasoning.
- Apply information and technological literacy in order to thrive in today's society.
- Understand how humans respond to their physical and social environment.
- Learn how personal community involvement can positively impact the world.
- Recognize diverse perspectives, cultures and values to make effective decisions built on social responsibility.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	Elective	Humanities Elective	3		Page 25 Column II
	4	Elective	Tech Literacy Elective	3		Page 25 Column VI
	5	Elective	Social Science Elective	3		Page 25 Column III
1st Spring	6	ENG 164	Advanced Composition	3	ENG 161	
	7	SPC 155	Effective Speech	3		SPC 156
	8	Elective	Mathematics Elective	3	Placement	Page 25 Column IV
	9	Elective	Natural Science Elective	4		Page 25 Column V
	10	Elective	General Elective	3		Page 25
2nd Fall	11	Elective	Social Science Elective	3		Page 25 Column III
	12	Elective	Natural Science Elective or Foreign Language Elective	4		Page 25 Column V or Column VIII
	13	Elective	Humanities Elective	3		Page 25 Column II
	14	Elective	General Elective	3		Page 25
	15	Elective	General Elective	3		Page 25
2nd Spring	16	Elective	Social Science Elective	3		Page 25 Column III
	17	Elective	General Elective	3		Page 25
	18	Elective	General Elective	3		Page 25
	19	Elective	General Elective	3		Page 25
	20	Elective	General Elective	3		Page 25

Total Program Credits 60 LIB

Business Administration, AA
School of Business

The Business Administration AA degree is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution and are interested in majoring in an area of business such as accounting, finance, international business, general management, marketing and sales, human resource management or business information systems.

Note that although we offer ACC, BUS, ECN, FIN and MKT courses in online and face-to-face formats, many of these courses are not offered in multiple formats each semester. It is important to work with your advisor to find out which courses will be offered in your preferred format.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the practice of accounting, economics, finance, management and marketing, and the applications of these topics in the business environment.
- Use problem-solving and decision-making skills to appraise and evaluate business practices.
- Recognize ethical and global dimensions in business practice and how business integrates social responsibility into their ongoing operations

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 145*	Excel for Business Environment	3		CPT 150
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	MTH 157	College Algebra	3	MTH 100, MTH 100A or Placement	
	5	ACC 155	Accounting I	3	MTH 050, MTH 050A or Placement	
	6	HUM 156	Critical Thinking	3		
1st Spring	7	BUS 158	Principles of Management	3		
	8	ACC 156	Accounting II	3	ACC 155	
	9	ENG 164	Advanced Composition	3	ENG 161	
	10	BUS 205	Business Law	3		
	11	Elective	Natural Science Elective	4		Page 25 Column V
2nd Fall	12	BUS 245	Principles of Marketing	3		
	13	FIN 220	Business Finance	3	ACC 155 or 165	
	14	BUS 244	Business Statistics	3	MTH 052, MTH 052A or Placement	
	15	BUS 250*	Calculus for Business	3	MTH 157	MTH 172
	16	ECN 255	Macroeconomics	3	MTH 052, MTH 052A or Placement	
	17	Elective	Social Science Elective	3		Page 25 Column III
2nd Spring	18	SPC 155	Effective Speech	3		SPC 156
	19	BUS 278	Data Analytics	3	BUS 244	
	20	ECN 256	Microeconomics	3	MTH 052, MTH 052A or Placement	
	21	Elective	Humanities Elective	3		Page 25 Column II
	22	Elective	Natural Science Elective	4		Page 25 Column V
Total Program Credits				66		BUS

*CPT 150 may be required instead of BUS 145. Check with your advisor.
*MTH 172 may be required instead of BUS 250. Check with your advisor.

Criminal Justice, AA

School of Art, Humanities, Social Sciences and Public Service

The Criminal Justice, AA degree is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution, and are interested in majoring in criminology, justice studies, administration of justice or criminal justice.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify relevant criminal justice laws, regulations and procedures.
- Demonstrate positive interpersonal and communication skills.
- Develop effective decision-making abilities within criminal justice.
- Identify the structure and components of the criminal justice system.
- Access criminal justice data.
- Examine contemporary issues in the administration of justice.
- Define and explain the major theories of crime and crime causation.
- Explain the historical development of criminology and criminal justice.
- Identify fundamental law enforcement concepts, theories and philosophies.
- Compare and contrast the juvenile justice system with other criminal justice systems.
- Explain the discuss ethical dilemmas in criminal justice
- Identify patterns and roles of differing peoples and cultures in criminal justice.
- Summarize the history of corrections and its changing aspects.
- Summarize the various roles of participants within criminal justice.
- Discuss individual constitutional and statutory rights within criminal justice.
- Discuss major issues impacting the state and federal Criminal justice system

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		Page 25 Column VI
	3	CRJ 155	Intro to Criminal Justice	3		
	4	CRJ 163	Criminal Procedure	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	PSY 160	General Psychology	3		
1st Spring	7	CRJ 162	Police Administration I	3	CRJ 155	
	8	ENG 164	Advanced Composition	3	ENG 161	
	9	SOC 155	Principles of Sociology	3		
	10	SPC 155	Effective Speech	3		SPC 156
	11	MTH 161	Modern College Mathematics	3	MTH 052, 052A or Placement	MTH 160
2nd Fall	12	CRJ 277	Ethics & CRJ	3		
	13	CRJ 290	Principles of Criminology	3		
	14	ENG 255	Introduction to Literature	3		
	15	PHL 160	Introduction to Philosophy	3		MUS 155 or ART 155
	16	Elective	Natural Science with Lab Elective	4		Page 25 Column V
2nd Spring	17	CRJ 180	Corrections	3		
	18	CRJ 255	Juvenile Delinquency	3		
	19	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
	20	Elective	Natural Science with Lab Elective	4		Page 25 Column V
	21	POL 155	American National Government	3		

Total Program Credits 63 CRJ

English, AA

School of Art, Humanities, Social Science and Public Service

Program Description

The Associate of Arts in English degree is designed for students whose goals are to transfer to a Pennsylvania Transfer and Articulation Committee (TAOC) institution as a major in English composition, creative writing, or literature. Students completing an AA and eventual four-year degree may enter fields of education, research, creative writing, technical writing, journalism, public relations, publishing, or other fields requiring a writing and/or humanities experience.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Understand the application of English studies (writing, literature) as influenced by and contributing to other disciplines
- Construct researched and well-written essays in a variety of modes and formats
- Demonstrate analytical skills in research, personal writing, and literary texts
- Apply critical philosophies and interpretation to literary text

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085, ENG 099, or Placement	
	3	Elective	Technical Literacy	3		Page 25, Column VI
	4	PSY 160	General Psychology	3		
	5	SPC 155	Effective Speech	3		
1st Spring	6	ENG 164	Advanced Composition	3		
	7	PHL 160	Introduction to Philosophy	3		
	8	Elective	Math Elective	3		MTH 157, MTH 160
	9	HIS 156	Modern Western Civilization	3		
	10	ART 155	Introduction to Art	3		MUS 155
2nd Fall	11	ENG 255	Introduction to Literature	3		
	12	SOC 155	Principles of Sociology	3		
	13	ENG 200	Writing About Literature	3		
	14	Elective	Foreign Language Elective	4		Page 25, Column II, any 4-credit SPA, FRN, or GER
	15	ENG 270	English Literature I	3		
2nd Spring	16	ENG 258	World Literature	3		
	17	ENG 260	American Literature	3		
	18	Elective	Natural Science w/Lab	4		Page 25, Column V, any 4-credit BIO, CHM, or PHY
	19	Elective	Social Science Elective	3		Page 25, Column III, any 3-credit SOC, PSY, or HIS
	20	PHL 161	Introduction to Ethics	3		

Total Program Credits 60 ENG

Elementary Education PreK-4, AA

School of Art, Humanities, Social Sciences and Public Service

Program Description

This program reflects the standards established by the National Association for Education of Young Children (NAEYC) and the PA Department of Education for students preparing for transfer to teacher certification programs. Students should work with the transfer counselor to choose their 4-year institution as early as possible so electives can be chosen accordingly. The program provides a foundation for developing preservice dispositions that emphasize equity and critical educational practices. Developmentally appropriate practices, cultural responsiveness, and inclusiveness are emphasized as skills necessary for graduates. Field experience is required at approved PreK-4 sites. This program is available in online and lecture formats.

Career Opportunities

Graduates of this program are prepared to transfer to a 4-year institution and apply for teacher certification in grades Prek-4 after completing the baccalaureate program. Transfer to 4-year institutions requires a minimum GPA and score on the PAPA or PRAXIS CORE exam.

Graduates of this program are also prepared to enter the early childhood workforce on Level B of OCDEL'S Career Pathway. Graduates are qualified for positions as: program director, preschool teacher, lead teacher, assistant teacher, home visitor, service coordinator, family childcare provider, and public school aide.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify and utilize curricula and pedagogies to promote equity for marginalized communities in education.
- NAEYC 1: Promote child development and learning.
- NAEYC 2: Build family and community relationships.
- NAEYC 3: Observe, document, and assess to support young children and families.
- NAEYC 4: Use developmentally effective approaches.
- NAEYC 5: Use content knowledge to build curriculum.
- NAEYC 6: Act as an ethical and professional early childhood practitioner.

Program Requirements

Students must maintain a 2.8 GPA and achieve a grade of C in all ECE courses to remain in this program. If the GPA drops below 2.8, students should retake program coursework to improve GPA. Students are required to complete all clearances and requirements per field experience sites.

This program is eligible for full funding through the Early Care and Education PDO at PASSHE scholarship and the PA TEACH scholarship.

(Continued on Next Page)

Elementary Education PreK-4, AA

School of Art, Humanities, Social Sciences and Public Service

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ECE 155	Introduction to Early Childhood Education	3		
	3	ECE 157	Child Growth & Development	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTH 180	Elements of Mathematics I	3	MTH 052, 052A or Placement	
	6	Elective	Social Science Elective	3		PSY 160, PSY 161, PSY 165, SOC 155, SOC 255
1st Spring	7	Elective	Restricted Elective	3		See List
	8	ECE 165	Family & Society	3		
	9	ECE 166	Early Childhood Language and Literacy	3	ECE 155 with a minimum grade of C	
	10	MTH 185	Elements of Mathematics II	3	MTH 180	
	11	Elective	Humanities Elective	3		ART 155, ART 162, ART 165, FRN 155, FRN 156, MUS 155, PHL 160, PHL 161, SPA 155, SPA 156
2nd Fall	12	Elective	Natural Science with Lab Elective	4	See Catalog Description	BIO 155, BIO 156, BIO 171, BIO 172, CHM 107, CHM 108, CHM 150, CHM 160, EPS 150, EPS 163, PHY 155, PHY 156, PHY 255, PHY 256
	13	ECE 257	Introduction to Exceptional Development	3		
	14	ECE 255	Early Childhood Education Curriculum	3	ECE 155 passed with a minimum grade of C	
	15	ECE 256	Assessment & Observation of Young Children	3		
	16	ENG 255	Introduction to Literature	3		
2nd Spring	17	ENG 250	Teaching English to Speakers of Other Languages	3		
	18	ECE 167	Creative Experiences	3		
	19	ECE 284	Early Childhood Education Practicum	4	ECE 166, ECE 255, 2.0 GPA. Instructor & CCC Coordinator Approval	
	20	Elective	History Elective	3		HIS 155, HIS 156, HIS 255, HIS 256
	21	Elective	Restricted Elective	3		See List

Total Program Credits 63 ECE

Restricted Electives: ASL 101; ASL 102; ASL 201

Any Tech Literacy Course Column VI AA
ECE 156; ECE 168; ECE 170; ECE 176; ECE 177; ECE 178; ECE 265; MUS 156; PSY 165

History, AA

School of Art, Humanities, Social Sciences and Public Service

Program Description

The History Associate of Arts degree is designed for students who are interested in transferring to a Pennsylvania Transfer and Articulation Committee (TAOC) four-year institution to major in history, social studies education, political science, prelaw, or social sciences. The degree is applicable to students seeking positions in federal, state, and local governments, historical sites, and those interested in pursuing bachelor degrees in social sciences and social studies education.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the religious traditions, political systems and theories, social structures, economic patterns, and cultural institutions that underlie the understanding of history
- Develop methodologies to research and analyze primary and secondary source materials
- Demonstrate critical thinking and communication skills
- Analyze and compare historiographical schools of thought

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		Page 25, Column VI
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	HIS 155	Early Western Civilization	3		
	5	MTH 160	Introduction to Statistics	3	MTH 052 or Placement	
	6	SPC 155	Effective Speech	3		
1st Spring	7	ENG 164	Advanced Composition	3	ENG 161	
	8	HIS 255	Early United States History	3		
	9	Elective	Natural Science with lab Elective	4		Page 25, Column V
	10	Elective	Foreign Language Elective	4		Page 25, Column II, any 4-credit SPA, FRN, or GER
	11	Elective	History Elective	3		Page 25, Column III, any HIS
2nd Fall	12	HIS 156	Modern Western Civilization	3		
	13	Elective	Social Science Elective (Excluding HIS)	3		Page 25, Column III
	14	Elective	Foreign Language Elective	4		Page 25, Column II, any 4-credit SPA, FRN, or GER
	15	Elective	Political Science Elective	3		Page 25, Column III, any POL
2nd Spring	16	HIS 256	Modern US and PA History	3		
	17	Elective	Sociology Elective	3		Page 25, Column III, any SOC
	18	Elective	Psychology Elective	3		Page 25, Column II, any PSY
	19	Elective	Natural Science with lab Elective	4		Page 25, Column V
	20	Elective	Social Science Elective (Excluding HIS)	3		Page 25, Column III

Total Program Credits 61 HIS

Psychology, AA

School of Art, Humanities, Social Sciences and Public Service

The Psychology, AA degree is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution and are interested in majoring in psychology.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Trace the history of psychology as a science and distinguish among contemporary specialty areas.
- Differentiate among research methods in studying human behavior.
- Identify brain structures and their corresponding functions.
- Evaluate the major theories of learning and personality.
- Summarize the stages of prenatal development and discuss specific teratogens that can impact a developing child.
- Explain biological changes and selected theories of cognitive and psychosocial development across the lifespan.
- Describe how social situations affect attitudes, including prejudice and discrimination.
- Discuss how social interactions affect understanding of self and personal development.
- Describe psychological assessment instruments and their usefulness in diagnosing mental illness.
- Identify categories and symptoms of mental disorders using DSM criteria.
- Explain causes of mental illness along with past and current treatment.
- Identify specific areas of neuroanatomy and corresponding functions in health and disease.
- Compare available neuroimaging techniques and their usefulness in diagnosing brain pathology.
- Critique the advantages and disadvantages of non-experimental research techniques.
- Outline the components of experimental design, including independent and dependent variables.
- Infer whether an observed effect is statistically significant when provided the results of an inferential test.
- Describe the content or major sections of a research report.
- Illustrate an understanding of the limits of sensory memory, short term and long-term memory with respect to content and duration.
- Compare single-memory system views and multiple-memory system views of the brain.
- Summarize the difference between localist and distributed theories of memory, shallow and deep encoding strategies, and recall and recognition strategies.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		Page 25 Column VI
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
	5	PSY 160	General Psychology	3		
	6	SPC 155	Effective Speech	3		
1st Spring	7	ENG 164	Advanced Composition	3	ENG 161	
	8	MTH 160	Introduction to Statistics	3	MTH 052, 052A or Placement	
	9	PSY 161	Human Growth & Development	3	PSY 160	
	10	PHL 161	Intro to Ethics	3		
	11	Elective	PSY 163, 260 or 270	3	PSY 160	
2nd Fall	12	SOC 155	Principles of Sociology	3		
	13	BIO 155	General Biology I	4		
	14	PSY 250	Research Methods in Psychology	3	PSY 160 & MTH 160	
	15	Elective	General Elective	3		Page 25
	16	ENG 255	Introduction to Literature	3		Page 25 Column II
2nd Spring	17	Elective	General Elective	3		Page 25
	18	Elective	PSY Course (except 165)	3	PSY 160	Page 25 Column III
	19	Elective	Social Science Elective (except PSY courses)	3		Page 25 Column III
	20	Elective	PSY Course (except 165)	3	PSY 160	Page 25 Column III
	21	Elective	Natural Science Elective	4		Page 25 Column V

Total Program Credits 63 PSY

Biology, AS

School of Math, Science and Engineering

The Biology AS is designed to prepare students for a rigorous four-year Biology program. This program focuses on the study of principles of biology, problem solving, critical thinking, laboratory skills, and technical communication. It is designed primarily for transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of fundamental biology concepts and principles.
- Apply problem solving, critical thinking and analysis skills to biology problems.
- Work effectively with units and significant digits.
- Carry out biology experiments as well as accurately record and analyze results of such experiments in writing.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	MTH 170	College Precalculus	4	MTH 100 or MTH 100A or Placement	MTH 157 & MTH 167
	4	BIO 155	General Biology I	4		
	5	CHM 151	General Chemistry I Lab	1	CHM 150 (Co)	
	6	CHM 150	General Chemistry I Lecture	3	CHM 107 or HS Chemistry & MTH 052 or MTH 052A, or Placement	
1st Spring	7	MTH 172	Analytical Geometry and Calculus I	4	MTH 109 or MTH 157 & MTH 167 or MTH 170 or Placement	
	8	BIO 156	General Biology II	4	BIO 155	
	9	CHM 160	General Chemistry II Lecture	3	CHM 150	
	10	CHM 161	General Chemistry II Lab	1	CHM 160 (Co)	
	11	Elective	Humanities Elective	3		Page 25 Column II
2nd Fall	12	CHM 260	Organic Chemistry I Lecture	3	CHM 160	
	13	CHM 261	Organic Chemistry I Lab	1	CHM 260 (Co)	
	14	Elective	BIO Elective	3-4		BIO 120, BIO 145, BIO 255, BIO 265, BIO 285
	15	SPC 155	Effective Speech	3		
	16	Elective	Social Science Elective	3		Page 25 Column III
2nd Spring	17	CHM 270	Organic Chemistry II Lecture	3	CHM 260	
	18	CHM 271	Organic Chemistry II Lab	1	CHM 270 (Co)	
	19	Elective	BIO Elective	3-4		BIO 120, BIO 145, BIO 255, BIO 265, BIO 285
	20	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	21	Elective	Humanities Elective	3		Page 25 Column II
	22	Elective	Social Science Elective	3		Page 25 Column III

Total Program Credits 61-62 BIO

Chemistry, AS

School of Math, Science and Engineering

The Chemistry AS is designed to prepare students for a rigorous four-year Chemistry program. This program focuses on the study of principles of chemistry, problem solving, critical thinking, laboratory skills and technical communication. It is designed primarily for transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Safely conduct chemical experiments and analyze and interpret the results.
- Apply fundamental concepts of chemical reactivity.
- Apply the knowledge of chemical substances to predict properties and interactions.
- Demonstrate proficiency in writing formulas and names for inorganic, bioorganic and organic chemical compounds using the IUPAC system of nomenclature.
- Make use of dimensional analysis to solve chemical calculation problems.
- Evaluate technical references critically and apply concepts in peer-reviewed scientific literature.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics & Co-Requisite MTH 172	
	3	CHM 150	General Chemistry I Lecture	3	CHM 107 or HS Chemistry & MTH 052 or MTH 052A, or Placement	
	4	CHM 151	General Chemistry I Lab	1	CHM 150 (co)	
	5	MTH 172	Analytical Geometry & Calculus I	4	MTH 109 or MTH 157 & MTH 167 or MTH 170 or Placement	
1st Spring	6	ENG 161	College Writing	3	ENG 085 or Placement	
	7	MTH 173	Analytical Geometry & Calculus II	4	MTH 172	
	8	PHY 256	Engineering Physics II	5	PHY 255	
	9	CHM 160	General Chemistry II Lecture	3	CHM 150	
	10	CHM 161	General Chemistry II Lab	1	CHM 160 (co)	
2nd Fall	11	Elective	Humanities Elective	3		Page 25 Column II Recommendation: ENG 164
	12	CHM 260	Organic Chemistry I Lecture	3	CHM 160	
	13	CHM 261	Organic Chemistry I Lab	1	CHM 260 (co)	
	14	BIO 155 or CPT 160	General Biology I or Introduction to Programming	3-4		
	15	MTH 271	Analytical Geometry & Calculus III	4	MTH 173	
	16	PHY 259	Thermodynamics & Fluid Mechanics	3	PHY 255	
	17	Elective	Social Science Elective	3		Page 25 Column III
2nd Spring	17	CHM 270	Organic Chemistry II Lecture	3	CHM 260	
	18	CHM 271	Organic Chemistry II Lab	1	CHM 270 (co)	
	19	SPC 155	Effective Speech	3		
	20	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	21	Elective	Social Science Elective	3		Page 25 Column III

Total Program Credits 60-61 CHM

Computer Science, AS
School of Technology

Students interested in pursuing a career in the computer field and planning to complete a bachelor's degree at a four-year school will consider the Computer Science AS degree. It is a mathematics-oriented degree and is designed to meet General Education requirements at local four-year institutions.

The Computer Science AS is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution and are interested in majoring in Computer Science.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Translate scientific, engineering, and other technical problems into formulations, which can be processed by the computer.
- Apply knowledge of advanced mathematics to prepare logic diagrams and encode resulting equations for processing.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	CPT 150	Microcomputer Concepts	3		
	4	Restricted Elective	Restricted Elective	3		See List
	5	CPT 160	Intro to Programming	3		
	6	MTH 170	College Precalculus	4	MTH 100, MTH 100A or Placement	MTH 157 & MTH 167
1st Spring	7	ENG 164	Advanced Composition	3	ENG 161	
	8	MTH 172	Analytical Geometry and Calculus I	4	MTH 109, MTH 157 & MTH 167 or MTH 170 or Placement	
	9	PHL 155	Introduction to Logic	3		
	10	CPT 145	Introduction to Computer Technology	3		
	11	ART 155 or MUS 155	Introduction to Art History or Music Listening: A Survey	3		
2nd Fall	12	MTH 160	Introduction to Statistics	3	MTH 052 or MTH 052A	
	13	CHM 150/151 or PHY 155	General Chemistry I Lecture and Lab or College Physics I	4	CHM 107 or HS Chemistry & MTH 052, MTH 052A, or Placement or PHY 110 or HS Physics & MTH 108, MTH 100, or Placement	
	14	CPT 163	Java Programming I	3	CPT 160	
	15	SOC 155	Principles of Sociology	3		HIS 156
	16	SPC 155	Effective Speech	3		
2nd Spring	17	MTH 277	Discrete Mathematics	3	MTH 172	
	18	CHM 160 or PHY 156	General Chemistry II Lecture and Lab or College Physics II	4	CHM 150/151 or PHY 155	
	19	PSY 160	General Psychology	3		HIS 156
	20	CPT 213	Java Programming II	3	CPT 163	
	21	CPT 182	Operating Systems	3	CPT 145	

Total Program Credits 63-64 CPS

Restricted Electives: ART 155, ART 162, ENG 255, MUS 155, PHL 160, PHL 161, SPA 155

Health Science, AS

School of Math, Science and Engineering

The Health Science AS provides the foundation necessary to prepare students for admission to a Health Professions program at Westmoreland or to transfer to a health science or health professions program at a four-year institution to pursue a career in a health-related field requiring a bachelor's or higher degree. The curriculum provides students with a balance of mathematics, science, humanities, English, social sciences and computer skills relevant to employment in health care professions or health-related fields.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify anatomical structures and explain the physiological aspects and functions of the human body.
- Demonstrate the use of scientific and mathematical reasoning in the critical analysis and evaluation of problems and the development of research-based solutions.
- Discuss the mental processes and behaviors associated with human psychology.
- Demonstrate mastery of vocabulary and appropriate terminology to understand and effectively communicate information related to anatomy and physiology.
- Demonstrate basic understanding of pharmacology and its use in the treatment of a variety of health conditions.
- Discuss nutrition in the context of body function, lifespan, social, economic and psychological implications.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BIO 171	Anatomy & Physiology I	4	CHM 107, 225, HS Chemistry and ENG 095 or Placement	
	4	PSY 160	General Psychology	3		
	5	SOC 155	Principles of Sociology	3		
	6	HUM 156	Critical Thinking	3		
1st Spring	7	ENG 164	Advanced Composition	3	ENG 161	
	8	BIO 172	Anatomy Physiology II	4	BIO 171	
	9	ALH 122	Medical Terminology	3		
	10	CPT 150	Microcomputer Concepts	3		
	11	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
2nd Fall	12	BIO 265	Microbiology	4	BIO 155 or 171 & CHM 107, HS Chemistry and ENG 095 or Placement	
	13	ALH 120	Pharmacology	3	MTH 050, 050A or Placement	
	14	PSY 161	Human Growth & Development	3	PSY 160	
	15	Elective	Humanities Elective	3		Page 25 Column II
	16	CHM 150	General Chemistry I Lecture	3	CHM 107 or HS Chemistry & MTH 052 or MTH 052A, or Placement	
	17	CHM 151	General Chemistry I Lab	1	CHM 150 (Co)	
2nd Spring	18	CHM 160	General Chemistry II Lecture	3	CHM 150	
	19	CHM 161	General Chemistry II Lab	1	CHM 160 (Co)	
	20	SPC 155	Effective Speech	3		

Total Program Credits 63 HLS

Mathematics, AS

School of Math, Science and Engineering

The Mathematics AS is designed to prepare students for a rigorous four-year Mathematics Bachelor program. This program focuses on the study of the mathematics, physics and computer science principles necessary for a firm foundation that will allow students who complete the program to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate strong analytical, problem solving, organizational, and communication skills in various mathematical disciplines.
- Show competence in the skills and problem solving involved in the discipline of calculus.
- Apply concepts of mathematics in physics and computer programming.
- Utilize logical reasoning and foundational properties of mathematics to read proofs of mathematical theorems and create proofs of mathematical theorems.
- Apply standards of ethics concerning intellectual property in mathematical papers and proofs.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	MTH 172	Analytical Geometry and Calculus I	4	MTH 109, MTH 157 & MTH 167 or MTH 170 or Placement	
	3	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics Co: MTH 172	
	4	CPT 160	Introduction to Programming	3		
1st Spring	5	Elective	Lab Science elective	4-5		BIO 155, BIO 171, BIO 210, CHM 107, CHM 150/151, PHY 256, EPS 150
	6	CPT 180	C++ Programming	3	CPT 160	
	7	ENG 161	College Writing	3	ENG 085 or Placement	
	8	MTH 173	Analytical Geometry and Calculus II	4	MTH 172	
2nd Fall	9	Elective	Social Science Elective	3		Page 25 Column III See Recommendations**
	10	SPC 155	Effective Speech	3		
	11	MTH 271	Analytical Geometry and Calculus III	4	MTH 173	
	12	Elective	General Elective	3		Page 25
	13	Elective	Humanities Elective	3		Page 25 Column II Recommendation: PHL 155 or FRN 155
2nd Spring	14	MTH 277	Discrete Mathematics	3	MTH 172	
	15	MTH 275 or MTH 276	Linear Algebra or Ordinary and Partial Differential Equations	3	MTH 172, MTH 173	
	16	Elective	Humanities Elective	3		Page 25 Column II Recommendation: PHL 155 or FRN 155
	17	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	18	Elective	Social Science Elective	3		Page 25 Column III See Recommendations**
	19	Elective	General Elective	3		Page 25
Total Program Credits				61-62		MTH

**Recommendations for Social Science

For Mathematics Secondary Education:
PSY 160 General Psychology, PSY 165 Educational Psychology

For Actuarial Mathematics or Mathematics with Economics:
ECN 255 Macroeconomics, ECN 256 Microeconomics

Physics, AS

School of Math, Science and Engineering

The Physics AS is designed to prepare students for a rigorous four-year Physics program. This program focuses on the study of principles of physics, problem solving, critical thinking, laboratory skills and technical communication. It is designed primarily for transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year college or university.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of fundamental physics concepts and principles.
- Apply problem solving, critical thinking and mathematics skills to physics problems.
- Work effectively with units and significant digits.
- Carry out physics experiments as well as accurately record and analyze results of such experiments in writing.
- Communicate technical details effectively with others.
- Work independently as well as in team environments.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics & Corequisite MTH 172	
	3	CHM 150	General Chemistry I Lecture	3	CHM 107 or HS Chemistry & MTH 052 or MTH 052A, or Placement	
	4	CHM 151	General Chemistry I Lab	1	CHM 150 (Co)	
	5	MTH 172	Analytical Geometry and Calculus I	4	MTH 109 or MTH 157 & MTH 167 or MTH 170 or Placement	
1st Spring	6	ENG 161	College Writing	3	ENG 085 or Placement	
	7	MTH 173	Analytical Geometry and Calculus II	4	MTH 172	
	8	PHY 256	Engineering Physics II	5	PHY 255	
	9	CHM 160	General Chemistry II Lecture	3	CHM 150	
	10	CHM 161	General Chemistry II Lab	1	CHM 160 (Co)	
2nd Fall	11	Elective	Humanities Elective	3		Page 25 Column II
	12	PHY 259	Thermodynamics and Fluid Mechanics	3	PHY 255	
	13	SPC 155	Effective Speech	3		
	14	MTH 271	Analytical Geometry and Calculus III	4	MTH 173	
2nd Spring	15	Elective	Social Science Elective	3		Page 25 Column III
	16	PHY 258	Modern Physics	3	PHY 256	
	17	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	18	MTH 272	Differential Equations	3	MTH 271	
	19	Elective	Social Science Elective	3		Page 25 Column III
	20	Elective	Humanities Elective	3		Page 25 Column II

Total Program Credits 61 PHY

Art Therapy, AFA

School of Art, Humanities, Social Sciences and Public Service

The Art Therapy AFA degree program offers a foundation curriculum parallel to the first two years of a bachelor's degree in art therapy (BA). As a transfer program, this option offers courses that provide an introduction to the field of art therapy and prepares the student for the first two years of a foundation before entering a senior institution. Students completing the AFA Art Therapy degree are prepared for a range of careers that focus on communities requiring therapies such as returning combat veterans diagnosed with post-traumatic stress disorder, children and adults diagnosed with autism, and elderly individuals diagnosed with physical and mental challenges. Students develop skills in a range of studio art practice while simultaneously developing a greater understanding of the field of psychology. Students will be introduced to how these fields work in tandem for effective therapeutic outcomes.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Summarize the role of art therapy in relation to the range of therapy practices.
- Differentiate the efficacy of creative therapies to promote psychological health.
- Assess the concept of creativity related to expressive therapies.
- Construct images that reflect their own creative problem-solving ideas and concepts.
- Explain historical, cultural and global development of works of art.
- Examine diversity in western and non-western visual traditions.
- Describe their own cultural context in the choices of image making.
- Critically develop and evaluate their own artwork and portfolio.
- Compare the relationship between visual and verbal communication skills.
- Communicate informed personal reactions to works of art.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ART 155	Introduction to Art History	3		ART 158
	3	ART 162	Drawing I	3		
	4	ATH 175	Expressive Therapies	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	MTH 161	Modern College Mathematics	3	MTH 052, 052A or Placement	Page 25 Column IV
1st Spring	7	ART 160	2-D Design	3		
	8	ASL 101	American Sign Language I	3		
	9	ART 165	Painting I	3	ART 162	
	10	ART 156	World Art Survey	3		ART 158
	11	PSY 160	General Psychology	3		
2nd Fall	12	ART 163	Drawing II	3	ART 162	
	13	ASL 102	American Sign Language II	3		
	14	PSY 265	Child Psychology	3	PSY 160	
	15	GCT 161	Creative Imaging I	3		VPP 170
	16	EPS 150	Astronomy	4		Page 25 Column V
2nd Spring	17	ART 285	Art Portfolio I	3		
	18	ATH 176	Introduction to Visual Art Therapy	3	ART 162	
	19	ART 161	3-D Design	3	ART 160	
	20	ENG 164	Advanced Composition	3	ENG 161	
	21	PSY 270	Abnormal Psychology	3	PSY 160	
Total Program Credits				62		ATH

Graphic Design, AFA

School of Art, Humanities, Social Sciences and Public Service

The Graphic Design AFA program offers a foundation curriculum parallel to the first two years of a baccalaureate in fine arts (BFA). As a transfer program, students will begin their graphic design program with foundational learning experience before moving to a senior institution. Students completing the AFA in Graphic Design are prepared for a range of higher education options such as graphic design, brand identity, package design or environmental graphic design. The program is designed to enhance student visual literacy and conceptual skills in a state-of-the-art environment. Adobe's industry-leading digital communication tools and services lay the groundwork to facilitate innovative creative experiences. The components of this program develop technical competency, while cultivating aesthetic judgment, artistic quality and thought maturity that will provide students with a broad range of options for their future careers in visual communications.

The college also offers an AAS in Communication Design that prepares students for entry-level positions in production, sales and support in printing and publishing.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Outline key aspects and careers within the graphic design profession.
- Identify major design movements and influences from historical, cultural and social perspectives.
- Analyze and critique student, professional and historical design from multiple cultures and time periods.
- Integrate layout, typography, imagery and color elements in combination with the principles of art, design and visual perception.
- Experiment with concept development and visual planning strategies in the development of creative solutions for contemporary design issues.
- Demonstrate solid foundation skills and competency in the use of analog and digital tools, emerging technology and software applications.
- Incorporate safe practices in the use of various art/design materials, tools and equipment.
- Demonstrate constructive, organized work habits and clear communication skills.
- Prepare a portfolio of work that reflects a high level of conceptual engagement, knowledge and technical skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ART 160	2-D Design	3		
	3	ART 162	Drawing I	3		
	4	GCT 100	Design Technology I	1		
	5	GCT 115	Design & Layout I	3		
	6	GCT 151	Art & Illustration	3		
	7	ENG 161	College Writing	3	ENG 085 or Placement	
1st Spring	8	ART 142	Typography	3		
	9	GCT 126	Motion Graphics	3		
	10	GCT 131	Type & Publishing	3		
	11	GCT 156	Graphics Production	3	GCT 151	
	12	GCT 161	Creative Imaging	3		
2nd Fall	13	ART 143	Printmaking	3		ART 140
	14	ENG 164	Advanced Composition	3	ENG 161	ENG 165
	15	GCT 164	Interactive Design	3	GCT 126	
	16	GCT 200	Design Technology II	3	GCT 100	
	17	MTH 161	Modern College Mathematics	3	MTH 052, 052A, or Placement	MTH 157
2nd Spring	18	ART 159	History of Graphic Design	3		
	19	GCT 296	UI/UX Design	3	GCT 164	
	20	Elective	Natural Science Elective	4		Page 25, Column V
	21	Elective	Restricted Elective	3		See List
	22	SOC 255	Cultural Anthropology	3		Page 25 Column III
Total Program Credits				63		GRA

Restricted Electives: ART 180; GCT 290; VPP 170

Visual Arts, AFA

School of Art, Humanities, Social Sciences and Public Service

The AFA in Visual Arts offers a foundation curriculum parallel to the first two years of a baccalaureate in fine arts (BFA). As a transfer program, students will begin a direction in either two-dimensional or three-dimensional studio practice before moving to a senior institution. Students completing the AFA in Visual Arts are prepared for a range of higher education options, such as professional art practice, art education, art management or museum related careers. The program is designed to develop technical skills and conceptual awareness. It focuses on critical thinking, which lays the groundwork for specialized academic study, self-employment, or careers in creative industries. Students will complete a three-semester series of professional development courses, culminating in a gallery art exhibition or art internship project. The components of this program develop a strong foundation in visual literacy, which will equip students with a range of options for their future in the visual arts.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Effectively employ two- and three-dimensional visual communication principles.
- Demonstrate a required level of technical and conceptual proficiency in their medium.
- Execute images that reflect their own creative problem-solving ideas and concepts.
- Identify historical, cultural and global development of works of art.
- Explore diversity in western and non-western visual traditions.
- Recognize their own cultural context in the choices of image making.
- Develop a consistent body of work reflecting a concept/theme.
- Critically develop and evaluate their own artwork and portfolio.
- Communicate informed personal reactions to works of art.
- Expand and explore the relationship between visual and verbal communication skills.
- Employ art studio safety and stewardship practices to enhance the economic and physical sustainability of their careers as artists.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ART 101	Studio Safety and Stewardship	3		
	3	ART 155	Intro to Art History	3		
	4	ART 160	2-D Design	3		
	5	ART 162	Drawing I	3		
	6	MTH 161	Modern College Mathematics	3	MTH 052, 052A or Placement	Page 25 Column IV
1st Spring	7	ENG 161	College Writing	3	ENG 085 or Placement	
	8	ART 161	3-D Design	3	ART 160	ART 163
	9	ART 165	Painting I	3	ART 162	
	10	SPC 155	Effective Speech	3		
	11	Elective	Restricted Elective	3		See List
2nd Fall	12	GCT 161	Creative Imaging I	3		
	13	ART 285	Art Portfolio I	3		
	14	ART 156	World Art Survey	3		ART 158
	15	ART 180	Creative Business Basics	3		BUS 188
	16	Elective	Restricted Elective	3		See List
2nd Spring	17	Elective	Restricted Elective	3		See List
	18	Elective	Social Science Elective	3		Page 25 Column III
	19	EPS 150	Astronomy	4		Page 25 Column V
	20	ART 286	Art Portfolio II	3	ART 285	
	21	ENG 164	Advanced Composition	3	ENG 161	

Total Program Credits 62 ART

Restricted Electives: ART 140; ART 142; ART 143; ART 159; ART 166; ART 175-179; ART 183; ART 185; VPP 170

Associate of Applied Science Degree (AAS)

All associate degree students are required to complete a core of general education courses designed to broaden and enhance their educational experience. General education requirements are included in the course requirements list for each associate degree program. These courses have been included with the course requirements. In some programs they are listed as electives limited to a specific area, such as "Social Science Elective." Other programs may list specific courses that have been determined to best meet the needs of that particular career field. The distribution of general education requirements and the courses that meet these requirements are shown in the list below.

Requirements of the associate of applied science degree include:
- 18 semester hours of general education as outlined below
- 42-69 semester hours of program courses.

To meet minimum requirements, 18 hours are required in four areas as shown below, selected from the following courses.

I. English, Speech, PDV (6 credits)	II. Humanities (0-4 credits)	III. Social Science (3 credits)	IV. Mathematics (3 credits)	V. Natural Science (0-4 credits)	VI. Tech Literacy (3 credits)
ENG 161	ART 155	ECN 158	BUS 120	BIO 107	ARC 210
ENG 162	ART 156	ECN 255	BUS 244	BIO 120	BUS 145
ENG 163	ART 157	ECN 256	MTH 100	BIO 145	CPT 145
ENG 164	ART 158	ECN 260	MTH 100A	BIO 155	CPT 150
SPC 155	ART 159	GEO 155	MTH 104	BIO 156	CPT 160
SPC 156	ART 160	HIS 155	MTH 108	BIO 171	DFT 258
PDV 101	ART 162	HIS 156	MTH 109	BIO 172	DFT 266
	ART 165	HIS 249	MTH 157	BIO 210	EDU 200
	ASL 101	HIS 255	MTH 160	BIO 255	GCT 126
	ASL 102	HIS 256	MTH 161	BIO 265	GCT 161
	ASL 105	HIS 257	MTH 167	BIO 285	GCT 164
	ASL 201	HIS 262	MTH 170	CHM 107	GCT 296
	ENG 165	POL 155	MTH 172	CHM 108	HUM 140
	ENG 225	POL 156	MTH 173	CHM 150/151	VPP 110
	ENG 240	POL 200	MTH 180	CHM 160/161	VPP 160
	ENG 245	POL 255	MTH 185	CHM 225	
	ENG 255	POL 256	MTH 271	CHM 260/261	
	ENG 270	PSY 160	MTH 275	CHM 270/271	
	ENG 275	PSY 161	MTH 276	CHM 275	
	ENG 276	PSY 163	MTH 277	EPS 150	
	FRN 155	PSY 165		EPS 160	
	FRN 156	PSY 167		EPS 163	
	FRN 255	PSY 260		FOR 110	
	FRN 256	PSY 265		FOR 130	
	GER 155	PSY 267		FOR 160	
	GER 156	PSY 268		GEO 160	
	GER 255	PSY 269		PHY 107	
	HUM 156	PSY 270		PHY 153	
	MUS 155	PSY 275		PHY 155	
	MUS 255	SOC 155		PHY 156	
	PHL 155	SOC 161		PHY 255	
	PHL 160	SOC 255		PHY 256	
	PHL 161			PHY 259	
	REL 171				
	REL 181				
	SPA 155				
	SPA 156				
	SPA 255				
	SPA 256				
	VPP 120				
	VPP 160				

The field of accounting is particularly suitable for those with an aptitude for mathematics and computer software, the ability to concentrate on detail, and the ability to analyze, compare and interpret facts and figures.

The Accounting AAS program is designed to prepare students without prior experience in accounting for a variety of entry-level positions in business, industry and government. Accounting majors must complete a minimum of 60 credits with a heavy concentration in accounting, computer and business management courses.

Career Opportunities

Recent graduates of the Accounting AAS program have accepted jobs with the following titles: junior accountant, accounts payable clerk, assistant accountant, assistant to the CPA assistant auditor, accounting clerk, payroll accountant and accounting technician.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Appropriately record financial transactions and prepare pertinent financial statements for sole proprietorships, partnerships and corporations.
- Prepare various types of tax returns.
- Effect cost and managerial accounting practices.
- Utilize the microcomputer for accounting, financial and tax reporting.
- Apply appropriate laws and generally accepted accounting principles to accounting situations.
- Practice positive interpersonal and communication skills as a member of a business office work team.
- Utilize sound judgment.
- Practice ethical conduct.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel of Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	ACC 155	Accounting I	3	MTH 050, 050A or Placement	
	6	ECN 255	Macroeconomics	3	MTH 052, 052A or Placement	
1st Spring	7	ACC 156	Accounting II	3	ACC 155	
	8	ENG 163	Business Communication	3	ENG 161	ENG 164
	9	BUS 158	Principles of Management	3		
	10	ACC 234	Payroll & Spreadsheet Software	3		
	11	ACC 250	Principles of Taxation	3		
2nd Fall	12	SPC 155	Effective Speech	3		SPC 156
	13	ACC 219	Managerial Accounting	3	ACC 156	
	14	ACC 255	Intermediate Accounting I	3	ACC 156	
	15	FIN 220	Business Finance	3	ACC 155 or ACC 165	
	16	ACC 251	Corporate Taxation	3		BUS 244, ECN 256 or ECN 260
2nd Spring	17	ACC 230	Integrated Accounting Software	3	ACC 155	
	18	ACC 222	Principles of Auditing	3	ACC 156	
	19	FIN 266	Financial Statement Analysis	3	FIN 220	
	20	BUS 288	Business Analytics	3	ACC 156 or ACC 165 and FIN 220	
	21	ACC 256	Intermediate Accounting II	3	ACC 156	
Total Program Credits				61		ACT

Accounting, Certificate

COMPUTER ACCOUNTING & TAX SPECIALIST

School of Business

The Computer Accounting and Tax Specialist Certificate is designed to provide entry-level general bookkeeping skills, as well as proficiency in the use of microcomputers to perform accounting and tax functions. The curriculum is designed to provide the student with computer experience in several specialty fields within accounting including the preparation of tax returns. Courses included in this certificate may be applied toward the Accounting AAS program.

Career Opportunities

Students who complete this program may be employed in general bookkeeping positions including payroll, accounts receivable or payable, or in the preparation of individual and business income tax returns.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Appropriately record financial transactions and prepare pertinent financial statements for sole proprietorships, partnerships and corporations.
- Prepare tax returns for individual payers with various types of income and deductions.
- Prepare business tax returns including C Corporation, S Corporation and partnerships.
- Utilize the microcomputer for accounting, financial and tax reporting.
- Apply appropriate laws and generally accepted accounting principles to accounting situations.
- Practice positive interpersonal and communication skills as a member of a business office work team.
- Utilize sound judgment and practice ethical conduct in making business decisions.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	ACC 155	Accounting I	3	MTH 050, 050A or Placement	
	3	ACC 234	Payroll and Spreadsheet Software	3		
	4	ACC 251	Corporate Taxation	3		BUS 244, ECN 256, ECN 260
Spring	5	ACC 156	Accounting II	3	ACC 155	
	6	ACC 230	Integrated Accounting Software	3	ACC 155	
	7	ACC 250	Principles of Taxation	3		

Total Program Credits 19 ACCTS

Accounting, Certificate

GENERAL ACCOUNTING

School of Business

The General Accounting Certificate is designed to provide an entry-level general bookkeeping education, as well as provide for proficiency in the use of the personal computer in performing accounting functions. The curriculum is designed to provide the student with computer experience in several specialty fields within accounting, including the use of the most popular accounting software programs.

Career Opportunities

Students who complete this certificate program may be employed in general bookkeeping positions including entry-level payroll, accounts receivable or accounts payable positions.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Record financial transactions and prepare pertinent financial statements for sole proprietorships, partnerships and corporations.
- Create a fully integrated accounting software system for maintaining accounting records.
- Construct spreadsheets that can quantify accounting and business problems and display charts.
- Utilize computer software for accounting and financial reporting.
- Display positive interpersonal and communications skills as a member of a business office work team.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 120	Mathematics for Business	3	MTH 050, 050A or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	ACC 155	Accounting I	3	MTH 050, 050A or Placement	
Spring	5	ACC 156	Accounting II	3	ACC 155	
	6	ACC 230	Integrated Accounting Software	3	ACC 155	
	7	ACC 250	Principles of Taxation	3		
Total Program Credits				19		ACCTG

Additive Manufacturing, AAS

School of Technology

The Additive Manufacturing, AAS will provide students with the necessary working knowledge and hands-on experience to operate a production-level 3D printer capable of producing various types of precision polymer and metal parts in the field of additive manufacturing. The operation duties would include preparing 3D CADD files for additive manufacturing process including design improvements, material handling and storage, mold design as a secondary process, routine maintenance, and production management. The primary focus of this program is the front-end operation of an industrial production 3D printing machine.

Career Opportunities

Graduates of the Additive Manufacturing Technology program will be qualified to prepare CADD files for additive production and efficiently operate and manage a precision production 3D printer. Expected job titles within additive manufacturing: AM Production Designer, AM Operator, AM Production Supervisor, AM Technician.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the various 3D printing processes employed in additive manufacturing.
- Operate precision industrial production 3D printers in the field of additive manufacturing.
- Prepare solid model CADD files for 3D printing.
- Convert traditional machine part documents to 3D solid model CADD files in preparation of a 3D printing process.
- Manage multiple printers focused on maximizing production output, operational safety, and reduction of material waste.
- Design products exclusively for 3D print production.
- Use 3D printers for rapid-prototyping and concept engineering of new product development.
- Perform basic maintenance and troubleshooting of various types of industrial 3D printers.
- Create molds and castings as a secondary process employed in traditional manufacturing

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	3	EGR 101	Introduction to Engineering I	3	MTH 104 or MTH 157 (Co)	
	4	DFT 105	Technical Drafting I	4		
	5	DFT 112	Introduction to Design, Materials, and Processes	3		
	6	AMT 101	Introduction to Additive Manufacturing	3		
1st Spring	7	DFT 266	3D Solid Modeling I	4		
	8	EGR 104	Engineering Materials	3	EGR 101	
	9	AMT 102	Material Handling & Safety	3	AMT 101	
	10	ENG 161	College Writing	3	ENG 085 or Placement	
	11	MTH 108	Mathematics for the Technologies I	4	MTH 104 or Placement	
2nd Fall	12	EGR 221	Statics and Strength of Materials	4	EGR 101	
	13	AMT 201	3D Printer Operation, Maintenance, and Management	3	DFT 105 or 110, DFT 266, AMT 102	
	14	PHY 107	Applied Physics	4	MTH 108, MTH 100, or MTH 100A	
	15	Elective	Social Science Elective	3		Page 43 Column III
2nd Spring	16	DFT 208	Product Design	3		
	17	DFT 267	3D Solid Modeling II	4	DFT 266	
	18	AMT 202	Additive Manufacturing Mold Design	4	AMT 201 Co: DFT 208	
	19	ENG 162	Technical Communications	3	ENG 161	

Total Program Credits 64 ADM

Additive Manufacturing, Diploma

School of Technology

The Additive Manufacturing, AAS will provide students with the necessary working knowledge and hands-on experience to operate a production-level 3D printer capable of producing various types of precision polymer and metal parts in the field of additive manufacturing. The operation duties would include preparing 3D CADD files for additive manufacturing process including design improvements, material handling and storage, mold design as a secondary process, routine maintenance, and production management. The primary focus of this program is the front-end operation of an industrial production 3D printing machine.

Career Opportunities

Students who successfully complete an Additive Manufacturing Technology diploma will be qualified to prepare CADD files for additive production and possess working knowledge of advanced 3D printers utilized in the field of additive manufacturing. Expected job titles within additive manufacturing: AM Production Designer, AM CADD Operator, AM Technician, and AM Engineering Assistant.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the various 3D printing processes employed in additive manufacturing.
- Prepare solid model CADD files for 3D printing.
- Convert traditional machine part documents to 3D solid model CADD files in preparation of a 3D printing process.
- Coordinate production output, operational safety, and reduction of material waste.
- Design products exclusively for 3D print production.
- Perform basic maintenance and troubleshooting of various types of industrial 3D printers.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	3	EGR 101	Introduction to Engineering I	4	MTH 104 or MTH 157 (Co)	
	4	DFT 105	Technical Drafting I	4		
	5	DFT 112	Introduction to Design, Materials, and Processes	3		
	6	AMT 101	Introduction to Additive Manufacturing	3		
1st Spring	7	DFT 266	3D Solid Modeling I	4		
	8	EGR 104	Engineering Materials	3	EGR 101	
	9	AMT 102	Material Handling & Safety	3	AMT 101	
	10	ENG 161	College Writing	3	ENG 085 or Placement	
	11	MTH 108	Mathematics for Technologies I	4	MTH 104	

Total Program Credits 36 ADMF

Additive Manufacturing, Certificate

School of Technology

The Additive Manufacturing Certificate prepares students with the basic working knowledge of a production level 3D printer capable of producing various types of precision polymer and metal parts in the field of additive manufacturing. The fundamental duties of an operator are explored including, traditional manufacturing processes, 3D CADD documentation, and electronic components related to additive manufacturing. The primary focus of this certificate is to prepare for continuation of the AMT program or entry-level career opportunities in additive manufacturing.

Career Opportunities

Students who complete a certificate in Additive Manufacturing can expect entry-level operator or clerk positions in additive manufacturing. Students who already possess an AAS degree in another area will use this certificate to enhance their current skills. Expected job titles within additive manufacturing: AM Production Designer, AM Production Assistant, and AM Technician.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the various 3D printing processes employed in additive manufacturing.
- Explain the proper methods of handling and storing printing materials used in the field of additive manufacturing.
- Perform basic maintenance and troubleshooting of various types of industrial 3D printers.
- Compare traditional and additive manufacturing for effective operation selection.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	3	EGR 101	Introduction to Engineering I	3	MTH 104 or MTH 157 (Co)	
	4	DFT 105	Technical Drafting I	4		
	5	DFT 112	Introduction to Design, Materials, and Processes	3		
	6	AMT 101	Introduction to Additive Manufacturing	3		
Total Program Credits				18		ADMFG

Applied Industrial Technology, AAS

School of Technology

Industry in the Southwestern Pennsylvania region is dynamic and employees who have a broad educational background in industrial technology are valuable to their employers. The applied industrial technology degree will allow students to customize their educational pathway and pursue education and training in more than one skill group while integrating a core set of foundation courses including applied math, autocad and communication. Students who complete this degree program will be employable in various industries including manufacturing, oil and gas, technical sales, warehouse operations, and transportation. Students will engage in classroom discussions, research activities and laboratory exercises that will enhance existing and develop new knowledge, skills and abilities. This program is ideal for students who want to combine technical coursework and/or certificates to complete an associate degree.

Career Opportunities

Students who complete this program may accept positions such as general maintenance and repair workers, production managers, manufacturing and technical sales representatives, production workers, machinists, dispatchers, supervisors, electrical technicians, telecommunications technicians, safety specialists and many others.

Program Learning Outcomes

Program Learning Outcomes
This curriculum is designed to prepare students to:

- demonstrate the skills, professional values and ethics necessary to be employed in the various industries that employ individuals with technical or trades-related skills associated with the management and energy sectors
- demonstrate effective oral and written communication skills with corporate officers, supervisors, government officials, front line workers and colleagues
- demonstrate knowledge, skills and abilities in multiple technological and trades related disciplines
- identify, install, troubleshoot, construct, form, weld, assemble, wire or develop systems or processes based upon selected educational pathways
- implement safe work practices in all occupational areas
- apply and demonstrate compliance with applicable regulations, laws, governing bodies or associations as necessary depending upon chosen disciplines

Suggested Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	Elective	Restricted Program Electives	43		
	2	PDV 101	First Year Seminar	1		
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	DFT 258	AutoCAD	4		
	5	ENG 162	Technical Communication	3	ENG 161	
	6	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A or Placement	
	7	PSY 160	General Psychology	3		
Total Program Credits				61		AIT

Restricted Program Electives: Choose courses from these disciplines to complete major requirements: AMT, ARC, CNC, DFT, ELC, EGR, HAC, MET, MTT, PMB, RBT, WEL. Students must consult with their advisor for appropriate completion.

Applied Engineering Technology, Certificate
School of Technology

Students in the Applied Engineering Technology Certificate learn basic engineering principles and technical skills to solve technical problems in various types of industry. Designed to be flexible, the program allows students to choose from a range of fields including welding and drafting among others that are developed as industry trends demand. With this combination of classes, students will develop problem solving as well as lab and technical based skills needed for entry-level jobs as maintenance technicians. Successful completion of the program leads to the Applied Engineering Technology Certificate.

Career Opportunities

The Applied Engineering Technology Certificate is a good primer for students seeking an entry-level job in a wide range of positions in research and development, manufacturing, sales, design, inspection, or maintenance. This certificate also serves well for those already working, seeking to supplement their career with more in-depth knowledge of engineering, drafting, and welding.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Communicate technical information effectively
- Demonstrate scientific observation skills
- Operate equipment and/or relevant software
- Promote safety and quality in the workplace

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	ENG 161	College Writing	3		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A, or Placement	* MTH 157 (3 credits)
	3	DFT 105	Technical Drafting	4		
	4	EGR 101	Intro to Engineering	3	MTH 104 or MTH 157	
1st Spring	5	ENG 162	Technical Communication	3	ENG 161	ENG 163
	6	MTH 108	Math for Technologies	4	MTH 104 or Placement	* MTH 158 (3 credits)
	7	EGR 210	Quality Control	3	EGR 101	
	8	MET 105	Welding Metallurgy	3		DFT 112 *EGR Advisor for AAS option
	9	WEL 224	NDT and DT	3	MET 105	*EGR Advisor for AAS option

Total Program Credits 30

*If MTH 157 is selected, the second math course must be MTH 158

Architectural Drafting and Design, AAS

School of Technology

Students in the Architectural Drafting and Design AAS program learn to translate the ideas, rough sketches, specifications and calculations of architects into working drawings for production and construction.

Career Opportunities

Graduates of this program will accept jobs with the following titles: architectural drafter, architectural drafting technician, architectural drafting technician trainee and first-level CADD operators.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze and translate architectural and construction problems by presenting them visually as working drawings.
- Develop the ability to execute quantitative design of construction.
- Apply concepts from physics, engineering, architectural mechanics, mathematics and drafting and apply them to the synthesis of construction.
- Communicate effectively and appropriately; record and report information significant to the job.
- Perform an infinite number of two-dimensional drawings using a stand-alone mini-computer.
- Identify the basic components of a CADD system.
- Perform an infinite number of 2-D design math computations necessary to produce drafting design.
- Implement the basic commands necessary to apply the operational skills needed to affect a 2-D CADD system.
- Utilize construction industry vocabulary.
- Originate and interpret drawings using these construction industry standards.
- Determine cost estimates utilizing appropriate construction materials.
- Apply appropriate specifications, building codes and local ordinances in a job assignment.
- Network with building inspectors, architects, engineers, designers and clients.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ARC 101	Building Materials & Estimating	3		
	3	ARC 105	Architectural Drafting I	4		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A or Placement	
1st Spring	6	ARC 102	Contracts and Specifications	3		
	7	ARC 106	Architectural Drafting II	4	ARC 105	
	8	ARC 210	Architectural AutoCAD I	4		
	9	ENG 162	Technical Communication	3	ENG 161	
	10	MTH 108	Mathematics for Technologies I	4	MTH 104	
2nd Fall	11	ARC 119	Introduction to Surveying	3	MTH 104	
	12	ARC 211	Architectural AutoCAD II	4	ARC 210	
	13	EGR 221	Statics and Strength of Materials	4	PHY 107 or 155 (Co)	
	14	PHY 107	Applied Physics	4	MTH 108, MTH 100, or MTH 100A	
2nd Spring	15	ARC 215	Architectural Presentation	4	ARC 210	
	16	ARC 262	Piping, Structuring Detailing and Electromechanical Drafting	4	ARC 210 or DFT 258	
	17	Elective	Restricted Elective	3-4		See List
	18	Elective	Social Science Elective	3		Page 43 Column III

Total Program Credits 61-62 ADD

Restricted Electives: Courses with ARC, DFT, EGR or HAC Prefix

Art Business, Certificate

School of Art, Humanities, Social Sciences and Public Service

The Certificate in Art Business provides practical information to sustain a career in art. Students learn the core principles of business, art law, grant writing, museum careers, contemporary art and other key concepts while examining the trends in art and the art market. Students will gain an understanding of the intricate art world network of galleries, auction houses, dealers, artists, non- profits and more.

Career Opportunities

This certificate will expose students to a wide range of career tracks to initiate a professional path in creative industries and entrepreneurship. In addition to small business options, the certificate will explore careers in museums. These include entry-level positions in visitor service, administrative assistants and fundraising and development. Advanced tracks include positions as curators, archivists, museum educators and technicians.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate knowledge about the structure of the art world and the interplay between the commercial and non-profit sectors.
- Identify employment opportunities in commercial art, museum professions, and other creative industries.
- Demonstrate knowledge about the range of careers within a museum.
- Employ transferable skills such as grant writing, collections management, and a marketing plan to sell an artwork.
- Seek out and develop networking opportunities with regional art world professionals.
- Utilize current research resources for art law and art business.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 262	Entrepreneurship	3		
	3	ART 180	Creative Business Basics	3		BUS 188
	4	ART 171	Art Law Legal Issues for Creative Professionals	3	ENG 161	
Spring	5	ART 170	Introduction to Grant Writing	3		
	6	ART 172	Museum Careers	3		
	7	Elective	Restricted Elective	3		See List
Total Program Credits				19		ARTBS

Restricted Electives: ART 156; ART 157; ART 286; BUS 188; BUS 299

Baking and Pastry Arts, AAS

APPRENTICESHIP

School of Culinary Arts and Hospitality

The Baking and Pastry Apprenticeship program, sponsored by The American Culinary Federation Laurel Highlands (ACFLHC) Chapter and Westmoreland, is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). A cooperative program, it combines academic coursework with 4,000 hours of supervised on-the-job learning in a participating bakery, club, hotel, or resort. Classes are scheduled so that students have a sufficient block of time to complete their 40-hour week. Academic work and the 4,000 hours can be completed over a period of two to three years.

Students enrolled in this program will be registered with the Pennsylvania Department of Labor and the American Culinary Federation as apprentices once required registration and membership fees are paid during the first weeks of class.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook and the Apprenticeship Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire
- Special attire may be required at the apprenticeship site
- Transportation to the apprenticeship site

Employment must be secured at an approved apprenticeship facility that will provide full-time employment. The baking and pastry apprenticeship may be completed through a partnership with Nemacolin Resort, Seven Springs Mountain Resort or other approved apprenticeship sites. For a current list of approved apprenticeship sites, contact the School of Culinary Arts/Hospitality.

At the completion of the apprenticeship program, students are eligible to test for certification as a Certified Sous Chef with the American Culinary Federation.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare yeast rolls, breads, pies, tarts, cookies, doughnuts and frozen desserts based on local, regional and international traditions and diversity
- Prepare and decorate cakes, cookies and centerpieces
- Prepare pastry items and confectionery items
- Make mathematical yield adjustments
- Collect, organize and identify information regarding quality standards in bakery products
- Utilize positive personal and interpersonal skills needed for supervision of employees and in the area of customer relations
- Utilize technology to affect systems of operation within the baking and pastry industry
- Demonstrate basic food preparation skills with additional attention to food cost
- Design and prepare artistic showpieces and centerpieces
- Research and adhere to sound practices for sanitation and safety
- Develop basic practical mathematical skills

Career Opportunities

Graduates of the baking and pastry program may accept positions with the following titles: pastry cook, pastry chef, baker, baking sales representative, institutional baker/ pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, operations manager, sales representative or training specialist.

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Baking and Pastry Arts, AAS

APPRENTICESHIP

School of Culinary Arts and Hospitality

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 170	Food Culture and Religion	3		
	5	FSM 118	Sanitation	2		
	6	BKP 245	Decorating Techniques	3		
	7	CUL 121	Apprenticeship I	1		
1st Spring	8	BKP 141	Baking I	4	CUL 104	
	9	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	10	CUL 105	Foods I	4	CUL104	
	11	FSM 119	Beverage Management	1		FSM 120
	12	CUL 122	Apprenticeship II	1	CUL 121	
	13	Elective	Social Science Elective	3	Page 46, Column III	
1st Summer	14	CUL 123	Apprenticeship III	1	CUL 122	
	15	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
2nd Fall	16	BKP 221	Baking Bistro	3	BKP 141	
	17	BKP 223	Bake II	4	BKP 141	
	18	FSM 215	Purchasing and Operations	3		
	19	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
	20	CPT 150	Micro Computer Concepts	3		
	21	CUL 224	Apprenticeship IV	1	CUL 123	
2nd Spring	22	BKP 247	Specialty/Artistic Techniques	4	BKP 223	
	23	FSM 235	Supervision and Training	3		
	24	BKP 249	Advanced Decorating	3	BKP 245	
	25	ENG 163	Business Communications	3	ENG 161	ENG 164
	26	CUL 251	Apprenticeship V	1	CUL 224	
2nd Summer	27	CUL 253	Apprenticeship VI	1	CUL 251	

Total Program Credits 68 BAA

Baking and Pastry Arts, AAS
School of Culinary Arts and Hospitality

Program Description

The Baking and Pastry Program is planned to meet the increasing employment needs of the 21st century for trained baking and pastry experts. The program includes classroom and food laboratory experiences and requires students to complete a capstone internship. Students are responsible for securing an internship site which meets the program requirements. This major accommodates both part and full-time students.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire

Students, who are current members of the American Culinary Federation at the completion of this program, may apply for certification as a Certified Culinarian with the American Culinary Federation.

Career Opportunities

Graduates of the baking and pastry program may accept positions with the following titles: pastry cook, pastry chef, baker, baking sales representative, institutional baker/pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, operations manager, sales representative or training specialist.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to recipe and local, regional and international traditions and diversity: soups, sauces, salads, meats, fish poultry, game, vegetables and desserts using acceptable standards of sanitation and safety.
- Apply standards of nutrition and wellness in food preparation.
- Design set-up and prepare meals and buffets and serve meals.
- Design menus with descriptive wording and layout designs.
- Plan and execute food production and requisitions within an established food and labor budget.
- Recognize quality standards in fresh vegetables, meats, poultry, game and all other foodstuffs.
- Demonstrate supervisory and interpersonal skills within a food service team.
- Demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, cake decorating and garniture display.
- Utilize the technology to maintain systems of operation.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

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Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 170	Food Culture and Religion	3		
	5	FSM 118	Sanitation	2		
	6	BKP 245	Decorating Techniques	3		
1st Spring	7	CUL 105	Foods I	4	CUL 104	
	8	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	9	BKP 141	Baking I	4	CUL 104	
	10	FSM 119	Beverage Management	1		
	11	Elective	Social Science Elective	3		Page 46
1st Summer	12	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
2nd Fall	13	BKP 221	Baking Bistro	3	BKP 141	
	14	BKP 223	Bake II	4	BKP 141	
	15	FSM 215	Purchasing and Operations	3		
	16	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
	17	CPT 150	Micro Computer Concepts	3		
2nd Spring	18	BKP 247	Specialty/Artistic Techniques	4	BKP 223	
	19	FSM 235	Supervision and Training	3		
	20	BKP 249	Advanced Decorating	3	BKP 245	
	21	ENG 163	Business Communications	3	ENG 161	ENG 164
	22	FSM 219	Hospitality Internship	3	Instructor Permission	

Total Program Credits 65 BAP

Baking and Pastry Arts, Diploma

APPRENTICESHIP

School of Culinary Arts and Hospitality

Program Description

The baking and pastry apprenticeship program, sponsored by The American Culinary Federation Laurel Highlands (ACFLHC) Chapter and Westmoreland, is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). A cooperative program, it combines academic coursework with 4,000 hours of supervised on-the-job learning in a participating bakery, club, hotel, or resort. Classes are scheduled so that students have a sufficient block of time to complete their 40-hour week. Academic work and the 4,000 hours can be completed over a period of two to three years.

Students enrolled in this program will be registered with the Pennsylvania Department of Labor and the American Culinary Federation as apprentices once required registration and membership fees are paid during the first weeks of class.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook and the Apprenticeship Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire
- Special attire may be required at the apprenticeship site
- Transportation to the apprenticeship site

Employment must be secured at an approved apprenticeship facility that will provide full-time employment. The baking and pastry apprenticeship may be completed through a partnership with Nemacolin Resort, Seven Springs Mountain Resort or other approved apprenticeship sites. For a current list of approved apprenticeship sites, contact the School of Culinary Arts/Hospitality.

At the completion of the apprenticeship program, students are eligible to test for certification as a Certified Sous Chef with the American Culinary Federation.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Frozen desserts based on local, regional and international traditions and diversity.
- Prepare and decorate cakes, cookies and centerpieces.
- Prepare pastry items and confectionary items.
- Prepare and evaluate baked items using both scratch and convenience techniques and products as to market usage.
- Make mathematical yield adjustments.
- Collect, organize and identify information regarding quality standards in bakery products.
- Utilize positive personal and interpersonal skills needed for supervision of employees and in the area of customer relations.
- Utilize technology to affect systems of operation within the bakery and pastry industry.
- Demonstrate basic food preparation skills with additional attention to food cost.
- Design and prepare artistic showpieces and centerpieces.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

Career Opportunities

Graduates of the baking and pastry program may accept positions with the following titles: pastry cook, pastry chef, baker, baking sales representative, institutional baker/ pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, operations manager, sales representative or training specialist.

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Baking and Pastry Arts, Diploma

APPRENTICESHIP

School of Culinary Arts and Hospitality

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 118	Sanitation	2		
	5	BKP 245	Decorating Techniques	3		
	6	CUL 121	Apprenticeship I	1		
1st Spring	7	BKP 141	Baking I	4	CUL 104	
	8	CUL 105	Foods I	4	CUL104	
	9	FSM 119	Beverage Management	1		FSM 120
	10	CUL 122	Apprenticeship II	1	CUL 121	
1st Summer	11	CUL 123	Apprenticeship III	1	CUL 122	
2nd Fall	12	BKP 221	Baking Bistro	3	BKP 141	
	13	BKP 223	Baking II	4	BKP 141	
	14	FSM 215	Purchasing and Operations	3		
	15	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
	16	CUL 224	Apprenticeship IV	1	CUL 123	
2nd Spring	17	BKP 247	Specialty/Artistic Techniques	4	BKP 223	
	18	FSM 235	Supervision and Training	3		
	19	BKP 249	Advanced Decorating	3	BKP 245	
	20	CUL 251	Apprenticeship V	1	CUL 224	
2nd Summer	21	CUL 253	Apprenticeship VI	1	CUL 251	

Total Program Credits 50 BPAA

Baking and Pastry Arts, Diploma
School of Culinary Arts and Hospitality

Program Description

The Baking and Pastry Program is planned to meet the increasing employment needs of the 21st century for trained baking and pastry experts. The program includes classroom and food laboratory experiences and requires students to complete a capstone internship. Students are responsible for securing an internship site which meets the program requirements. This major accommodates both part and full-time students.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire

Students, who are current members of the American Culinary Federation at the completion of this program, may apply for certification as a Certified Culinarian with the American Culinary Federation

Career Opportunities

Graduates of the baking and pastry program may accept positions with the following titles: pastry cook, pastry chef, baker, baking sales representative, institutional baker/ pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, operations manager, sales representative or training specialist.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Frozen desserts based on local, regional and international traditions and diversity.
- Prepare and decorate cakes, cookies and centerpieces.
- Prepare pastry items and confectionary items.
- Prepare and evaluate baked items using both scratch and convenience techniques and products as to market usage.
- Make mathematical yield adjustments.
- Collect, organize and identify information regarding quality standards in bakery products.
- Utilize positive personal and interpersonal skills needed for supervision of employees and in the area of customer relations.
- Utilize technology to affect systems of operation within the bakery and pastry industry.
- Demonstrate basic food preparation skills with additional attention to food cost.
- Design and prepare artistic showpieces and centerpieces.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 118	Sanitation	2		
	5	BKP 245	Decorating Techniques	3		
1st Spring	6	CUL 105	Foods I	4	CUL 104	
	7	BKP 141	Baking I	4	CUL 104	
	8	FSM 119	Beverage Management	1		
2nd Fall	9	BKP 221	Baking Bistro	3	BKP 141	
	10	BKP 223	Baking II	4	BKP 141	
	11	FSM 215	Purchasing and Operations	3		
	12	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
2nd Spring	13	BKP 247	Specialty/Artistic Techniques	4	BKP 223	
	14	FSM 235	Supervision and Training	3		
	15	BKP 249	Advanced Decorating	3	BKP 245	
Total Program Credits				44		BAKI

Baking and Pastry, Certificate

School of Culinary Arts and Hospitality

Program Description

The Baking and Pastry Certificate program is designed to meet the increasing employment needs of the 21st century for trained culinary workers. The program includes classroom and food laboratory experiences.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook. Requirements for the program include but are not limited to: Laboratory Uniform and Tool Kit; Health Status Form; Business Attire.

Career Opportunities

Graduates of the Baking and Pastry Certificate program may accept jobs with the following titles: baker, cake decorator, and bakery production worker.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare yeast rolls, breads, pies, tarts, cookies, doughnuts and centerpieces.
- Prepare and decorate cakes and cookies
- Prepare basic pastry items.
- Make mathematical yield adjustments.
- Collect, and identify information regarding quality standards in bakery products.
- Utilize technology within the bakery and pastry industry.
- Demonstrate basic food preparation skills
- Adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

Suggested Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 118	Sanitation	2		
	4	BKP 141	Baking I	4	CUL 104	
	5	BKP 223	Baking II	4	BKP 141	
	6	BKP 221	Baking Bistro	3	BKP 141	
	7	BKP 245	Decorating Techniques	3		
Total Program Credits				20		BAKPT

The growth of the Internet and the shift to a service-based economy, in which it is estimated that 98 percent of future job growth will be in service-producing industries, has transformed the substantive content of the practice of management. The impact of these changes in the labor market has led to the need for new educational requirements and job skills both for those individuals currently employed in the field of management and for those who seek future careers in this field. These changes have led to an increased demand for management professionals.

Business Education

In response to the new dynamics of a service-based economy, the business department at Westmoreland offers a wide range of programs and courses designed to prepare students for the new challenges that await them in the field of management.

Note that although we offer ACC, BUS, ECN, FIN, and MKT courses in online and face-to-face formats, many of these courses are not offered in multiple formats each semester. It is important to work with your advisor to find out what courses will be offered in your preferred format.

Associate of Applied Science Degree

The AAS business degree program is offered in several areas of concentration: financial management, general management, human resource management, marketing management, and small business management. All the AAS areas of concentration contain a solid business core of general management courses augmented by several courses specific to each area of concentration. These areas of concentration were carefully selected to satisfy the current and projected needs of the business community. The AAS provides a solid academic background in applied business management that can be completed in two years of full-time study.

Associate of Arts Degree

The Business Division also offers an AA in Business Administration (see page 27). This degree option is designed specifically for students who plan to transfer to a four-year college or university to further their business education.

Business Diploma

A 31-credit business diploma is offered as a two-semester alternative to the more comprehensive associate degree program. The business diploma program provides a general, interdisciplinary experience in the field of business at an introductory level. The diploma program includes many courses that can be applied to the associate degree programs. A student can use the business diploma program either as a final educational outcome or as an intermediate step toward the attainment of an associate degree.

Business Certificate

Westmoreland offers several business certificates covering specific topics in business. Certificates are available in finance, general management, human resource management, marketing management, real estate, and entrepreneurship. These short programs are designed for the student who is seeking a concentrated educational focus in a specific aspect of business. Business certificates are particularly advantageous for any college graduate or current student who is currently in the workforce and needs to update, upgrade, or expand his or her education and/or training in a specific topical area.

Business, AAS

ENTREPRENEURSHIP

School of Business

The Business Entrepreneurship AAS program provides students with an introduction to business and the basic principles of management and emphasizes the skills needed to operate and administer a small business enterprise.

Career Opportunities

Graduates of the Business Entrepreneurship AAS program may find employment as assistant managers, junior department heads, administrative assistants, and front-line supervisors in small businesses. Job opportunities will be available in small businesses, nonprofit organizations, and in franchise ownership and management.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the business environment.
- Demonstrate proficiency with the core principles of small business theory and practice.
- Practice effective problem-solving and decision-making skills.
- Recognize ethical and global dimensions in business practice.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	BUS 140	Introduction to Business	3		
	6	FIN 155	Personal Finance	3		
1st Spring	7	ENG 163	Business Communication	3	ENG 161	ENG 164
	8	ACC 165	Accounting for Managers	3	MTH 050, 050A or Placement	ACC 155
	9	ECN 256	Microeconomics	3	MTH 052, 052A or Placement	
	10	BUS 158	Principles of Management	3		
	11	BUS 205	Business Law	3		
2nd Fall	12	ACC 120	QuickBooks	1		
	13	BUS 188	Social Media in Business	3		
	14	BUS 245	Principles of Marketing	3		
	15	BUS 244	Business Statistics	3	MTH 052, 052A or Placement	
	16	FIN 220	Business Finance	3	ACC 155 or ACC 165	
	17	SPC 155	Effective Speech	3		SPC 156
2nd Spring	18	BUS 240	Techniques of Selling	3		
	19	BUS 262	Entrepreneurship	3		
	20	FIN 266	Financial Statement Analysis	3	FIN 220	
	21	BUS 278	Data Analytics	3	BUS 244	
	22	BUS 296	Business Strategy	3	45 Credits in Business AAS	
Total Program Credits				62		SBM

Business, AAS

FINANCE

School of Business

The Business Finance AAS program is designed to provide students with a broad basis in general business topics with an emphasis on finance theory and application.

Career Opportunities

The field of finance addresses how individuals and business institutions allocate and use resources over time while considering the risks associated with their projects. Finance is used by individuals, governments, businesses, and nonprofit organizations. Careers in commercial banking, real estate, financial planning, and insurance are examples of career paths one can take after studying finance.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the business environment.
- Demonstrate proficiency with the core principles of financial theory and practice.
- Practice effective problem-solving and decision-making skills.
- Recognize ethical and global dimensions in business practice.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	ACC 155	Accounting I	3	MTH 050, 050A or Placement	
	6	BUS 140	Introduction to Business	3		
1st Spring	7	ENG 163	Business Communication	3	ENG 161	ENG 164
	8	ACC 156	Accounting II	3	ACC 155	
	9	ECN 256	Microeconomics	3	MTH 052, 052A or Placement	
	10	BUS 158	Principles of Management	3		
	11	FIN 155	Personal Finance	3		
2nd Fall	12	SPC 155	Effective Speech	3		SPC 156
	13	BUS 244	Business Statistics	3	MTH 052, 052A or Placement	
	14	ECN 255	Macroeconomics	3	MTH 052, 052A or Placement	
	15	FIN 220	Business Finance	3	ACC 155 or 165	
	16	ECN 260	Money and Banking	3	ECN 255	
2nd Spring	17	BUS 245	Principles of Marketing	3		SPC 156
	18	BUS 278	Data Analytics	3	BUS 244	
	19	FIN 266	Financial Statement Analysis	3	FIN 220	
	20	BUS 288	Business Analytics	3	FIN 220	
	21	BUS 296	Business Strategy	3	45 Credits in Business AAS	

Total Program Credits 61 FIN

Business, AAS

HUMAN RESOURCE MANAGEMENT

School of Business

The Business Human Resource Management AAS program is designed to prepare students for entry-level human resources management positions in a variety of organizations. The program of study develops basic competence in a focused range of essential human resources functions.

Career Opportunities

Graduates of the Business Human Resource Management AAS program may find employment as compensation management specialists, safety management specialists, and general human resources management specialists. Job opportunities will be available in large corporations, a variety of small businesses, and nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the business environment.
- Demonstrate proficiency with the core principles of human resource theory and practice.
- Practice effective problem-solving and decision-making skills.
- Recognize ethical and global dimensions in business practice.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	BUS 140	Introduction to Business	3		
	6	ECN 255	Macroeconomics	3	MTH 052, 052A or Placement	
1st Spring	7	ENG 163	Business Communication	3	ENG 161	ENG 164
	8	ACC 165	Accounting for Managers	3	MTH 050, 050A or Placement	ACC 155
	9	ECN 256	Microeconomics	3	MTH 052, 052A or Placement	
	10	BUS 158	Principles of Management	3		
	11	BUS 205	Business Law	3		
2nd Fall	12	SPC 155	Effective Speech	3		SPC 156
	13	BUS 244	Business Statistics	3	MTH 052, 052A or Placement	
	14	BUS 249	Labor Relations	3		
	15	FIN 220	Business Finance	3	ACC 155 or 165	
	16	BUS 241	Human Resource Management	3		
2nd Spring	17	BUS 275	Organizational Behavior	3		
	18	ACC 234	Payroll an Spreadsheet Software	3		
	19	BUS 285	Compensation Management	3		
	20	BUS 278	Data Analytics	3	BUS 244	
	21	BUS 296	Business Strategy	3	45 Credits in Business AAS	
Total Program Credits				61		HRM

Business, AAS

MANAGEMENT

School of Business

The Business Management AAS program is designed to prepare students for entry-level management positions in a variety of organizations. The program of study develops basic competence in a broad range of essential business functions.

Career Opportunities

Graduates of the Business Management AAS program may find employment as assistant managers, production managers, management trainees, department supervisors, quality control officers, warehouse managers and inventory managers. Job opportunities will be available in large corporations, a variety of small businesses and nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the business environment.
- Demonstrate proficiency with the core principles of management theory and practice.
- Practice effective problem-solving and decision-making skills.
- Recognize ethical and global dimensions in business practice.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	BUS 140	Introduction to Business	3		
	6	ECN 255	Macroeconomics	3	MTH 052, 052A or Placement	
1st Spring	7	ENG 163	Business Communication	3	ENG 161	ENG 164
	8	ACC 165	Accounting for Managers	3	MTH 050, 050A or Placement	ACC 155
	9	ECN 256	Microeconomics	3	MTH 052, 052A or Placement	
	10	BUS 158	Principles of Management	3		
	11	BUS 205	Business Law	3		
2nd Fall	12	BUS 241	Human Resource Management	3		
	13	BUS 244	Business Statistics	3	MTH 052, 052A or Placement	
	14	BUS 249	Labor Relations	3		
	15	FIN 220	Business Finance	3	ACC 155 or 165	
	16	SPC 155	Effective Speech	3		SPC 156
2nd Spring	17	BUS 245	Principles of Marketing	3		
	18	BUS 278	Data Analytics	3	BUS 244	
	19	BUS 275	Organizational Behavior	3		
	20	BUS 288	Business Analytics	3	FIN 220	
	21	BUS 296	Business Strategy	3	45 Credits in Business AAS	

Total Program Credits 61 BUS

Business, AAS

MARKETING

School of Business

The Business Marketing AAS program provides an introduction to business with an emphasis on marketing theory and application. The courses develop an understanding of the marketing process and provide insight into the use of advertising, sales, promotion, and public relations.

Career Opportunities

Graduates of the Business Marketing AAS program may find employment as assistant marketing managers, junior advertising executives, product managers, product designers, administrative assistants, project managers, and in positions in public relations and media. Job opportunities will be available in large corporations, small businesses, and nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Exhibit effective written and oral communication skills.
- Demonstrate knowledge of the business environment.
- Demonstrate proficiency with the core principles of marketing theory and practice.
- Practice effective problem-solving and decision-making skills.
- Recognize ethical and global dimensions in business practice.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	BUS 145	Excel for Business Environment	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	5	BUS 140	Introduction to Business	3		
	6	ECN 255	Macroeconomics	3	MTH 052, 052A or Placement	
1st Spring	7	ENG 163	Business Communication	3	ENG 161	ENG 164
	8	ACC 165	Accounting for Managers	3	MTH 050, 050A or Placement	ACC 155
	9	BUS 188	Social Media for Business	3		
	10	BUS 158	Principles of Management	3		
	11	BUS 205	Business Law	3		
2nd Fall	12	SPC 155	Effective Speech	3		SPC 156
	13	BUS 244	Business Statistics	3	MTH 052, 052A or Placement	
	14	BUS 245	Principles of Marketing	3		
	15	FIN 220	Business Finance	3	ACC 155 or 165	
	16	MKT 252	Public Relations	3		
2nd Spring	17	BUS 240	Techniques of Selling	3		
	18	BUS 278	Data Analytics	3	BUS 244	
	19	MKT 251	Consumer Behavior	3		
	20	MKT 254	Advertising and Promotion	3		
	21	BUS 296	Business Strategy	3	45 Credits in Business AAS	

Total Program Credits 61 MKM

Business, Diploma
School of Business

The Business Diploma program is designed to provide the student with a selection of general business management courses. Courses included in this diploma may be applied toward several Business AAS programs.

Career Opportunities

Graduates of the general management option may find employment as assistant managers, production managers, management trainees, quality control officers, warehouse managers, and inventory managers.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in business management functions.
- Conduct marketing analysis and manage sales.
- Conduct financial analysis and manage finances.
- Join a small business as a member of management.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 145	Excel for Business Environment	3		
	3	BUS 140	Introduction to Business	3		
	4	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	ECN 255	Macroeconomics	3	MTH 052, MTH 052A, or Placement	
Spring	7	BUS 158	Principles of Management	3		
	8	BUS 245	Principles of Marketing	3		
	9	ACC 165	Accounting for Managers	3	MTH 050, MTH 050A or Placement	ACC 155
	10	BUS 205	Business Law	3		
	11	FIN 220	Business Finance	3	ACC 155 or ACC 165	
Total Program Credits				31		BUSG

Business, Certificate

ENTREPRENEURSHIP

School of Business

The Business Entrepreneurship Certificate is designed to provide the student with an introduction to the ownership, operation, and management of small business ventures. Courses included in this certificate may be applied toward the Business – Entrepreneurship AAS program.

Career Opportunities

Graduates of the Business Entrepreneurship Certificate may find employment as assistant managers, junior department heads, administrative assistants, and front-line supervisors in small businesses. Job opportunities will be available in small businesses, nonprofit organizations, and in franchise ownership and management.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in the management of small businesses.
- Become skilled in starting and managing small businesses.
- Act as an administrative assistant to a small business owner.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 188	Social Media for Business	3		
	3	BUS 244	Business Statistics	3	MTH 052, MTH 052A, or Placement	
	4	FIN 155	Personal Finance	3		
Spring	5	BUS 240	Techniques of Selling	3		
	6	BUS 262	Entrepreneurship	3		
	7	ACC 165	Accounting for Managers	3	MTH 050, MTH 050A, or Placement	ACC 155

Total Program Credits 19 SMBMG

Business, Certificate

FINANCE

School of Business

The Business Finance Certificate offers students the opportunity to gain proficiency in managing the financial function in a business. Courses included in this certificate may be applied toward the Business AAS Finance option.

Career Opportunities

Graduates of the Business Finance Certificate may find employment as bank managers, consumer loan officers, commercial lending managers, investment managers, insurance agents, and financial analysts. Job opportunities will be available in the financial departments of large corporations and in commercial lending companies, consumer finance organizations, banks, and insurance companies.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in developing and implementing a financial plan.
- Manage the financial activities in a business organization.
- Engage in investment planning and credit management.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ACC 155	Accounting I	3	MTH 050, MTH 050A or Placement	
	3	BUS 244	Business Statistics	3	MTH 052, MTH052A, or Placement	
1st Spring	4	FIN 220	Business Finance	3	ACC 155 or ACC 165	
	5	ECN 256	Microeconomics	3	MTH 052, MTH 052A or Placement	
2nd Fall	6	ECN 260	Money & Banking	3	ECN 255	

Total Program Credits 16 FINMG

Business, Certificate

HUMAN RESOURCE MANAGEMENT

School of Business

The Business Human Resource Management Certificate is designed to prepare students for entry-level human resources management positions in a variety of organizations. The program of study develops basic competence in a focused range of essential human resources functions. Courses included in this certificate may be applied toward the Business AAS Human Resource Management option.

Career Opportunities

Graduates of the Business Human Resource Management Certificate may find employment as compensation management specialists, safety management specialists, and general human resources management specialists. Job opportunities will be available in large corporations, a variety of small businesses, and nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Implement marketing/sales skills applicable to the customer orientation of the employer.
- Supervise human resources in an organization.
- Utilize negotiating skills with employees and/or local union officials.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 241	Human Resource Management	3		
	3	BUS 244	Business Statistics	3	MTH 052, MTH 052A, or Placement	
	4	BUS 249	Labor Relations	3		
Spring	5	BUS 275	Organizational Behavior	3		
	6	BUS 285	Compensation Management	3		
	7	BUS 278	Data Analytics	3	BUS 244	

Total Program Credits 19 HRMGT

Business, Certificate

MANAGEMENT

School of Business

The Business Management Certificate is designed to provide an introductory view of general management in an enterprise environment. Courses included in this certificate may be applied toward the Business AAS General Management Option.

Career Opportunities

The Business Management Certificate provides students with employment opportunities as assistant managers, production managers, management trainees, department supervisors, quality control officers, warehouse managers, and inventory managers. Job opportunities will be available in large corporations, a variety of small businesses, and nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in the management of a variety of business types.
- Become skilled in organizing and managing human resources.
- Act as an administrative assistant to business executives and managers.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	PDV 101	First Year Seminar	1		
	2	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	3	BUS 140	Introduction to Business	3		
	4	ACC 165	Accounting for Managers	3	MTH 050, MTH 050A or Placement	
Fall or Spring	5	BUS 158	Principles of Management	3		
	6	BUS 245	Principles of Marketing	3		
	7	FIN 220	Business Finance	3	ACC 155 or ACC 165	
Total Program Credits				19		BUSMG

Business, Certificate

MARKETING

School of Business

The Business Marketing Certificate offers students the opportunity to gain proficiency in managing the marketing function in a business. Courses included in this certificate may be applied toward the Business Marketing AAS program.

Career Opportunities

Graduates of the Business Marketing Certificate program may find employment as assistant marketing managers, junior advertising executives, product managers, product designers, administrative assistants, project managers, and in positions in public relations and media. Job opportunities will be available in large corporations, small businesses and in nonprofit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in developing and implementing a marketing plan.
- Manage advertising, promotion and public relations activities in a marketing organization.
- Engage in planning and developing global marketing tasks.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 245	Principles of Marketing	3		
	3	BUS 244	Business Statistics	3	MTH 052, MTH 052A, or Placement	
	4	BUS 188	Social Media for Business	3		
Spring	5	MKT 254	Advertising and Promotion	3		
	6	MKT 251	Consumer Behavior	3		
	7	BUS 278	Data Analytics	3	BUS 244	
Total Program Credits				19		MKTMG

Business, Certificate

REAL ESTATE

School of Business

The Business Real Estate Certificate offers students the opportunity to gain proficiency in real estate brokerage and management.

Career Opportunities

Graduates of the Business Real Estate Certificate program may find employment as real estate brokers, property managers, property developers, and financial advisors for real estate transactions. Job opportunities will be available in real estate firms, property management firms, and corporations that have real estate departments.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Participate in the buying and selling of real estate.
- Manage rental properties.
- Engage in real estate transactions.

*In order to qualify to be a real estate agent in Pennsylvania, you must meet the following requirements: Be at least 18 years old and be a high school graduate or equivalent.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	BUS 240	Techniques of Selling	3		
	3	RLS 101	Fundamentals of Real Estate	2		
	4	RLS 104	Real Estate Practices	3		
Fall	5	RLS 205	Property Management	3		
	6	RLS 209	Real Estate Finance	3		
	7	RLS 210	Law of Real Estate	3		

Total Program Credits 18 RESMG

Communication Design

School of Art, Humanities, Social Sciences and Public Service

The Communication Design program serves the community as an active learning environment that immerses students in a range of media channels to improve digital literacy. The program incorporates the latest Mac OS/iOS devices and Adobe desktop and mobile apps to enable students to create experiences anywhere, anytime seamlessly across desktops, tablets, phones and web/mobile. Students create in an environment that encourages and develops the formation of the habitual behaviors of research and communication; design thinking and creative problem solving; collaboration and technical skills while mindful of culture, habitat and resources.

Individuals develop interdisciplinary thinking required to evolve into innovative, perceptive and responsible production designers/technicians, knowledgeable customer service/sales and technical support staff essential for commercial and wide-format printing, digital publishing and interactive PDFs, and web and mobile communication's evolving environment and workforce requirements.

Associate of Applied Science Degree

The Communication Design program encourages students to expand their knowledge and techniques and evaluate traditional and digital skills for developing design solutions for our swiftly changing environment, society and consumers. The program focuses on design and layout, illustration and imaging, and animation, web, and social media in a design context while keeping contemporary business in mind.

Students develop design thinking and creative problem solving skills and apply them to conceptual and technical courses in creating and delivering compelling print, dynamic media, and mobile/web content to audiences and users across diverse media and surfaces-visual fields.

Internships provide students a professional experience to exhibit their knowledge.

Communication Design Certificate

The college offers two certificates for students active or interested in communication design career choices. The certificates provide individuals basic, relevant knowledge, technical skills and hands-on experience to: earn credentials for proof of concentrated study; increase their value to their organization; update/strengthen current knowledge and skills; explore or change careers; pursue an area of personal interest; or start a small business venture.

Associate of Fine Arts Degree, AFA

The School of Art, Humanities, Social Sciences and Public Services offers an AFA degree in graphic design (see page 47). This degree is designed especially for students who plan to transfer to a four-year college or university to further their communication/visual arts education.

Communication Design, AAS

School of Art, Humanities, Social Sciences and Public Service

The Communication Design AAS is a project-based learning, tightly sequenced curriculum designed to enhance a student's creative, visual and technical knowledge and proficiency of graphic design, interactive design, and dynamic media for entry-level workforce employment. Students apply designer-based insights and integrate iOS devices and Adobe desktop and mobile apps to produce and deploy their work across print, screen-based media, and web and mobile communications.

Career Opportunities

Students can pursue a wide range of career tracks in interactive design, publication design, branding, advertising, motion graphics, graphic/web design, information visualization, exhibition/retail design and environmental graphics. About 25 percent of individuals are contract professionals working on creative/technical projects.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Conceive appropriate design ideas, concepts and solutions.
- Develop and prototype potential visual communication design solutions for specific problems for the intended audience.
- Create visual communications demonstrating competent formal design skills based in basic design principles and aesthetics: appropriate typography, composition and construction of relevant imagery.
- Utilize the appropriate media, materials, tools, technology, such as, Adobe desktop and mobile apps and Android and iOS smartphones and tablets and various techniques to create visual communications.
- Develop interpersonal skills to interact effectively and harmoniously within a creative team

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	GCT 100	Design Technology I	1		
	4	GCT 115	Design & Layout I	3		
	5	GCT 151	Art & Illustration I	3		
	6	Elective	Restricted Elective	3		
	7	PSY 160	General Psychology	3		Page 43, Column III
1st Spring	8	ENG 162	Technical Communication	3	ENG 161	ENG 165
	9	GCT 126	Motion Graphics	3		
	10	GCT 131	Type & Publishing I	3		
	11	GCT 156	Graphics Production	3	GCT 151	
	12	GCT 161	Creative Imaging I	3		
2nd Fall	13	GCT 164	Interactive Design	3	GCT 126	
	14	GCT 200	Design Technology II	3	GCT 100	
	15	GCT 290	Design Works	3	24 GCT Credits	
	16	Elective	Restricted Elective	3		
	17	MTH 161	Modern College Mathematics	3	MTH 052, MTH 052A or Placement	MTH 157
2nd Spring	18	CPT 203	HTML & CSS	3		
	19	GCT 296	UI/UX Design	3	GCT 164	
	20	GCT 299	Design Internship	3	Program Director Recommendation	
	21	Elective	Restricted Elective	3		
	22	SPC 155	Effective Speech	3		Page 43, Column I

Total Program Credits 62 CMD

Restricted Electives: BUS 188; BUS 262; VPP 100; VPP 150; VPP 160; VPP 170; VPP 290

Communication Design, Certificate

GRAPHICS AND PUBLISHING

School of Art, Humanities, Social Sciences and Public Service

The Communication Design, Graphics and Publishing Certificate provides students with the basic skills and knowledge of design theory and industry-based technology to produce graphic art and visual materials necessary to effectively communicate visual and conceptual information through digital publishing, specialty graphics, and commercial printing and digital printing output. Courses included in this certificate may be applied toward the Communication Design AAS degree.

Career Opportunities

Students can become entry-level production layout artists and customer service and sales for small and medium-sized business, advertising firms, and publishing and printing industries. About 29 percent of individuals are self- employed professionals working on creative and technical projects. Employment is projected to increase by 13 percent from 2010 to 2020, about as fast as the average for all occupations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate proficiency with Apple computers, Adobe design software and various print and prepress production techniques and processes.
- Integrate design and typographic principles, appropriate tools, materials and processes to create, edit and troubleshoot digital elements for print and web communications.
- Communicate effectively, develop appropriate attitudes, soft skills and work habits while working collaboratively within a creative team or independently.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	GCT 100	Design Technology I	1		
	3	GCT 115	Design & Layout I	3		
	4	GCT 131	Type & Publishing I	3		
Spring	5	GCT 151	Art & Illustration I	3		
	6	GCT 156	Graphics Production	3	GCT 151	
	7	GCT 161	Creative Imaging I	3		

Total Program Credits 17 GRAPB

Communication Design, Certificate

WEB AND MOBILE

School of Art, Humanities, Social Sciences and Public Service

The Communication Design, Web and Mobile Certificate provides students with basic hands-on experience with the tools to visualize and communicate information in compelling ways across media and formats. The certificate focuses on Web design and structure, and stresses the importance of accessibility, usability and optimization and best practices. Courses included in this certificate may be applied toward the Communication Design AAS degree.

Career Opportunities

Graduates of the certificate will have acquired the basic skills necessary for entry-level positions such as Web graphic designers or multimedia artists within the fields of web design and content development. Almost all individuals are self-employed professionals working on creative and technical projects. Employment is expected to grow by 8 percent from 2010 to 2020, slower than the average for all occupations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate proficiency with Apple computers, Adobe production software and various multimedia, web and mobile production techniques and processes
- Effectively research, plan and implement static and motion content design, optimization and publishing for screen-based media, and web and mobile communications
- Communicate effectively, develop appropriate attitudes, soft skills and work habits while working collaboratively with a creative team or independently.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	GCT 100	Design Technology I	1		
	3	GCT 115	Design & Layout I	3		
	4	GCT 126	Motion Graphics	3		
Spring	5	GCT 164	Interactive Design	3	GCT 126	
	6	GCT 151	Art & Illustration I	3		
Fall	7	GCT 296	UI/UX Design	3	GCT 164	
Total Program Credits				17		WEBMD

Computer Technology
School of Technology

Technology and Change

Changes in the information technology industry are coming at an accelerated rate. The impact of the rapid growth of the Internet on our society is profound and far-reaching. As a stimulus, the Internet has led to new computer programming languages, the expanded use of databases and wide-area networking, and Web site development for electronic commerce. These changes have created an unprecedented demand for computer professionals with a wide variety of skills and knowledge.

The Computer Technology Department

The computer technology department at Westmoreland recognizes the changing nature of the computing profession and offers a wide range of programs and courses designed to prepare students for the challenges in the field of information technology. The Computer Technology AAS offers four options: programming, networking, technical support and web publishing. The diploma of computer technology is a shorter-term program that covers the fundamentals of computer technology. There are also several computer technology certificate programs that cover selected topics in depth.

Associate of Applied Science Degree

The Computer Technology AAS is offered as four options: programming, networking, technical support and web publishing. Each of these areas of concentration were chosen to reflect the projected needs of the information technology industry. The AAS options provide a solid background along with a strong concentration in each area. The courses in these programs have been carefully selected to reflect those disciplines and skills that are in strong demand in the computing profession and that have significant growth potential. The Computer Technology AAS has been designed for completion in two years of full-time study.

Computer Technology Diploma

The computer technology diploma is a two-semester program designed to be a shorter alternative to the more comprehensive associate degree program. The diploma program provides an interdisciplinary look at computer technology at the introductory level. It includes many courses that can be applied to the associate degree. The diploma program can be used by the student as a final product or as an intermediate step toward the attainment of the associate degree.

Computer Technology Certificate

Westmoreland offers several certificates covering selected technology topics. Certificates are available in networking, microcomputer support, programming, web applications, web development and PC Repair/A+. These short programs are designed for the student who is seeking a concentrated education in a specific aspect of computer technology. Certificates are particularly advantageous for the Westmoreland graduate or student in the workforce who needs to upgrade or expand his or her technical skills. Certificate courses can be applied toward AAS degree options.

Computer Technology, AAS

NETWORKING

School of Technology

The Computer Technology, Networking AAS program provides students with extensive hands-on instruction in all facets of network operation and administration. Cisco Systems is the world leader in networking for the internet. Cisco networking technicians and professionals design, build, maintain and troubleshoot computer network systems. Graduates can work anywhere computer networks are used (LANs or WANs). These include corporations, offices, banks, hospitals, schools and all levels of government.

Career Opportunities

Graduates of the Computer Technology, Networking AAS program may find employment as network administrators, network engineers, systems analysts, network technicians, technical sales representatives, customer service representatives, technical support analysts or IT trainers. Job opportunities will be available with network consulting and design firms as well as with any company that deploys a network. Certification is the key to this field. The more credentials the better. Our certificates and degrees prepare students to pass Cisco certification exam for Cisco Certified Entry Networking Technician (CCENT) and CompTIA A+ certification.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Install, configure, maintain and troubleshoot computer hardware.
- Analyze and design networking solutions for the organization.
- Configure and maintain network resources to satisfy organization requirements.
- Provide training and support to end users of networked equipment.
- Identify the resources needed to advance technical skills as the networking field changes.
- Establish proficiency in Microsoft Windows and Linux networking operating systems.
- Develop oral, written and listening communication skills.
- Integrate and apply mathematical skills to solve quantitative problems.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Intro to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 172	Introduction to Networks (Cisco I)	4		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
1st Spring	7	CIS 209	Network Security Fundamentals	3		
	8	CPT 182	Operating Systems	3	CPT 145	
	9	CPT 216	Routing and Switching Essentials (Cisco II)	4	CPT 172	
	10	CPT 161	Introduction to Cloud Computing	3		
	11	ENG 162	Technical Communication	3	ENG 161	ENG 163
2nd Fall	12	SOC 155	Principles of Sociology	3		Page 43 Column III
	13	CPT 214	Wireless Communication	3	CPT 172 or CPT 183	
	14	CPT 219	Fiber Optic Analysis Design	3	CPT 198	
	15	CPT 248	PC Hardware	3	CPT 182	
	16	CPT 262	Windows Client Server	3	CPT 182	
2nd Spring	17	SPC 155	Effective Speech	3		SPC 156
	18	CPT 249	PC Troubleshooting	3	CPT 248 and CPT 182	
	19	CPT 256	Linux Desktop	3	CPT 182	
	20	CPT 264	Windows Server Management	3	CPT 262	
	21	CPT 286	System Analysis and Design	3		
Total Program Credits				63		CON

Computer Technology, AAS

PROGRAMMING

School of Technology

Behind every application lies a database or storage that is one of the most valuable assets of any enterprise – it is data. Developed in consultation with professionals in the field, the Computer Technology, Programming AAS program provides the student with a strong background in the programming and data extraction skills necessary for success as a programmer/coder by providing hands-on experience in Python, C++, JAVA, SQL and other software tools. Working independently or in teams, students learn to design, develop and debug programs to process this data to solve problems typically found in an enterprise.

Career Opportunities

Graduates of the Computer Technology, Programming AAS program may find employment as computer programmers/coders, junior systems analysts, programmer analysts, technical sales representatives, technical support analysts, or web developers. Job opportunities will be available with consulting firms, Internet companies, Web development firms, and in organizations requiring development of in-house decision support or ad hoc systems.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Analyze problems for development and design of information processing solutions.
- Use a programming language to develop efficient and well- structured application programs.
- Function as a member of a development team to determine program intent, output requirements, input needed and processing sequences for new programs.
- Maintain existing programs as internal and external requirements change.
- Develop test modules to verify program accuracy.
- Identify the resources needed to advance technical skills as the computer field changes.
- Develop oral, written, and listening communication skills.
- Integrate and apply mathematical skills to solve quantitative problems.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Intro to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 156	Programming with Python	3		
	5	CPT 160	Intro to Programming	3		
	6	ENG 161	College Writing	3	ENG 085 or Placement	
1st Spring	7	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
	8	OFT 100	Basic Keyboarding	1		
	9	CPT 182	Operating Systems	3	CPT 145	
	10	CPT 180	C++ Programming	3	CPT 160	
	11	CPT 196	Access for Windows	3	CPT 150	
	12	ENG 162	Technical Communication	3	ENG 161	ENG 163
2nd Fall	13	CPT 235	Database Management Systems	3	CPT 196	
	14	CPT 163	Java Programming I	3	CPT 160	
	15	CPT 201	Web Content Development	3		
	16	CPT 203	HTML and CSS	3		
	17	CPT 271	PHP & SQL	3	CPT 196	
2nd Spring	18	CPT 206	JavaScript	3	CPT 203	
	19	CPT 213	Java Programming II	3	CPT 163	
	20	SOC 155	Principles of Sociology	3		Page 43 Column III
	21	CPT 286	System Analysis and Design	3		
	22	SPC 155	Effective Speech	3		SPC 156

Total Program Credits 62 CPE

Computer Technology, AAS

TECHNICAL SUPPORT

School of Technology

The Computer Technology, Technical Support AAS program provides students with a strong foundation in microcomputer applications, including operating systems, PC hardware, productivity applications, and networking. Emphasis will be placed on the installation, configuration, operation, maintenance, and troubleshooting of microcomputer hardware systems, operating systems, websites and application software. Students are prepared to take the Microsoft Office Specialist (MOS) certification exams.

Career Opportunities

Graduates of the Computer Technology, Technical Support AAS program may find employment as technical support technicians, network technicians, junior systems analysts, technical sales representatives, customer service technicians, help-desk analysts, IT trainers and Web content developers. Job opportunities will be available with companies in the fields of hardware manufacturing, software publishing, PC consulting, IT engineering and sales, and any company deploying microcomputers in the workplace.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Understand the concepts of computer design and operation.
- Install, configure and troubleshoot popular microcomputer applications.
- Describe the principles of WAN/LAN network administration.
- Maintain website content.
- Troubleshoot and repair computer hardware and software.
- Develop competency in the Microsoft Office productivity suite.
- Develop oral, written and listening communication skills.
- Integrate and apply mathematical skills to solve quantitative problems.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTH 157	College Algebra	3	MTH 100, 100A or Placement	Page 43 Column IV
	6	SOC 155	Principles of Sociology	3		Page 43 Column III
1st Spring	7	CPT 182	Operating Systems	3	CPT 145	
	8	CPT 183	Local Area Networks	3		
	9	CPT 195	Excel for Windows	3		
	10	OFT 190	Word for Windows	3		
	11	OFT 235	Customer Service	3		
2nd Fall	12	CPT 196	Access for Windows	3	CPT 150	
	13	CPT 201	Web Content Development	3		
	14	CPT 248	PC Hardware	3		
	15	ENG 162	Technical Communication	3	ENG 161	ENG 163
	16	OFT 185	PowerPoint	1		
	17	CPT 161	Introduction to Cloud Computing	3		
2nd Spring	18	CPT 249	PC Troubleshooting	3	CPT 248 and CPT 182	
	19	CPT 199 or CPT 259	Internship or User Support Operations	3	CPT 150	
	20	CPT 256	Linux Desktop	3	CPT 182	
	21	CPT 278	Integrated office Applications	3	CPT 195, CPT 196, OFT 185, and OFT 190	
	22	SPC 155	Effective Speech	3		SPC 156

Total Program Credits 62 CTS

Computer Technology, Diploma
School of Technology

Students develop skills in functional applications of the computer to a business environment. The Computer Technology Diploma program introduces students to various aspects of the computer field and can be used as a goal or as an interim step in obtaining the AAS degree.

Career Opportunities

Graduates of the Computer Technology Diploma may find employment as technical support technicians, technical sales representatives, customer service technicians, help-desk analysts and IT trainers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Install and maintain computer hardware and software.
- Use office productivity software to implement software solutions.
- Identify the resources needed to advance technical skills.
- Develop oral, written and listening communication skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		
	3	CPT 145	Intro Computer Technology	3		
	4	CPT 248	PC Hardware	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	MTH 157	College Algebra	3	MTH 100, 100A or Placement	Page 43 Column IV
Spring	7	CPT 182	Operating Systems	3	CPT 145	
	8	CPT 181	Intro to Telecommunications	3		
	9	CPT 249	PC Troubleshooting	3	CPT 248	
	10	ENG 162	Technical Communication	3	ENG 161	ENG 163
	11	BUS 188	Social Media in Business	3		
Total Program Credits				31		COTE

Computer Technology, Certificate

MICROCOMPUTER SUPPORT

School of Technology

The Computer Technology, Microcomputer Support Certificate offers instruction in the Microsoft Office suite of productivity software products and will guide students toward the Microsoft Office Specialist (MOS) professional certification. Courses included in this certificate may be applied toward the Computer Technology AAS Technical Support option.

Career Opportunities

Graduates of the Computer Technology, Microcomputer Support Certificate may find employment as technical support technicians, junior systems analysts, technical sales representatives, customer service technicians, help-desk analysts and IT trainers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Analyze and solve business-related problems using applications in the Office suite.
- Design and create documents, spreadsheets, databases and presentations for business functions.
- Manage business related electronic communications.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	OFT 190	Word for Windows	3		
Spring	5	CPT 182	Operating Systems	3	CPT 145	
	6	CPT 195	Excel for Windows	3		
	7	CPT 196	Access for Windows	3	CPT 150	
	8	OFT 185	PowerPoint	1		
Total Program Credits				20		COTEC

Computer Technology, Certificate

NETWORKING

School of Technology

The Computer Technology Networking Certificate provides students with an intensive educational experience in network operation and administration. Coursework may lead to Cisco Certification. Courses included in this certificate may be applied toward the Computer Technology AAS Networking Option.

Career Opportunities

Graduates of the Computer Technology Networking Certificate may find employment as network administrators, network technicians, technical sales representatives, customer service representatives, technical support analysts or IT trainers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Install, configure, operate and troubleshoot Windows desktop client and server network operating systems.
- Implement and solve network operating system problems.
- Implement and maintain Windows client and server software in an enterprise environment.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 172	Introduction Networks (Cisco I)	4		
Spring	5	CPT 182	Operating Systems	3	CPT 145	
	6	CPT 216	Routing and Switching Essentials (Cisco II)	4	CPT 172	
	7	CPT 161	Introduction to Cloud Computing	3		
Total Program Credits				21		CONET

Computer Technology, Certificate

PC REPAIR/A+

School of Technology

The Computer Technology, PC Repair/A+ Certificate prepares the student for employment as a PC repair technician and provides the instructional material to prepare for the A+ industry certification exam. Courses included in this certificate may be applied toward the Computer Technology AAS Networking option.

Career Opportunities

Graduates of the Computer Technology, PC Repair/A+ Certificate program may find employment as technical support technicians, computer repair technicians, technical sales representatives, customer service technicians, help-desk analysts and IT trainers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Install, configure and operate various operating systems.
- Understand the architecture and troubleshoot several popular PC operating systems.
- Become proficient in the installation and configuration of PC hardware.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 248	PC Hardware	3		
Spring	5	CPT 182	Operating Systems	3	CPT 145	
	6	CPT 249	PC Troubleshooting	3	CPT 248	
	7	CPT 256	Linux Desktop	3	CPT 182	
Total Program Credits				19		COREP

Computer Technology, Certificate

PROGRAMMING

School of Technology

The Computer Technology Programming Certificate offers the student a firm foundation in Python, C++ and JavaScript, several of the most popular programming languages being used in industry. Courses included in this certificate may be applied toward the Computer Technology AAS Programming option.

Career Opportunities

Graduates of the Computer Technology Programming Certificate may find employment as computer programmers, programmer analysts, technical sales representatives, technical support analysts and web developers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Build full-featured application programs.
- Enhance application design with object-oriented programming skills.
- Create, test and debug computer programs.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 160	Introduction to Programming	3		
	5	CPT 156	Programming with Python	3		
Spring	6	CPT 180	C++ Programming	3		
	7	CPT 196	Access for Windows	3	CPT 150	
	8	CPT 182	Operating Systems	3	CPT 145	
Total Program Credits				22		COPRG

Criminal Justice, AAS

School of Art, Humanities, Social Sciences and Public Service

The Criminal Justice AAS program is designed for those who want to seek entry-level employment after earning their associate degree. The required courses provide a broad-based introduction to the field of criminal justice. In addition, credits of elective courses allow students to focus their study on areas of particular interest.

Career Opportunities

Recent graduates of the Criminal Justice AAS program have obtained jobs with the following titles: corrections office, security manager, police officer and youth worker.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply relevant laws, regulations and procedures to a law enforcement situation.
- Apply critical thinking skills in a law enforcement environment.
- Analyze information from criminal justice agencies and sources.
- Manage criminal justice information via technology.
- Analyze and evaluate data and research relating to the criminal justice profession.
- Practice positive interaction with the criminal justice community and other related agencies.
- Understand community diversification in a law enforcement environment.
- Develop effective policy/community relations.
- Practice positive interpersonal and communication skills as a member of the criminal justice environment.
- Practice appropriate investigative techniques.
- Adhere to accepted practices in criminal procedures related to assist, force, search and seizure.
- Develop effective decision-making abilities.
- Evaluate criminal justice programs.
- Develop criminal justice relationships and workplace skills.
- Understand the importance of physical fitness as a law office.

In addition, students may opt to acquire additional skills in the following areas:

- Correctional institution care of adults and juveniles.
- Administering probation and parole.
- Analysis of criminal evidence in the laboratory.
- Participation in community relations programs.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CRJ 155	Introduction to Criminal Justice	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CRJ 160	Criminal Law I	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	PSY 160	General Psychology	3		
1st Spring	7	CRJ 163	Criminal Procedure	3		
	8	CRJ 172	Substance Abuse and Crime	3		SWK 172
	9	POL 255	American State & Local Government	3		SOC 155
	10	Elective	Restricted Elective	3		See List
	11	HUM156	Critical Thinking	3		
2nd Fall	12	MTH 161	Modern College Mathematics	3	MTH 052, 052A or Placement	Page 43 Column IV
	13	CRJ 255	Juvenile Delinquency	3		
	14	CRJ 296	Criminalistics	3		CRJ 263
	15	CRJ 290	Principles of Criminology	3		
	16	ENG 164	Advanced Composition	3	ENG 161	ENG 162, 163, 168
2nd Spring	17	Elective	Restricted Elective	3		See List
	18	CRJ 162	Police Administration I	3		
	19	CRJ 287	Multiculturalism and CRJ System	3		
	20	SPC 155	Effective Speech	3		
	21	Elective	Restricted Elective	3		See List

Total Program Credits 61 CJU

Restricted Electives: CRJ 195; CRJ 180; CRJ 220; CRJ 225; CRJ 261; CRJ 262; CRJ 263; CRJ 265; CRJ 276; CRJ 277; CRJ 283; CRJ 296; POL 155; PSY 270.

Criminal Justice, AAS

CYBER SECURITY

School of Art, Humanities, Social Sciences and Public Service

The Criminal Justice Cyber Security AAS program provides students with extensive hands-on instruction in all facets of information security, network security, and PC security. Students will be exposed to the tools and techniques of security and law enforcement professionals. Topics covered include computer forensics, intrusion detection, anti-virus software, firewalls, criminal law, evidence gathering and investigation techniques. A degree option with greater emphasis on computer technology can be found on page 77.

Career Opportunities

Law enforcement/computer technology professionals may find employment opportunities in private investigation firms, private security firms as well as local law enforcement agencies. Networking professionals may find employment as a corporate security manager, security technician, or other network position with an emphasis on security.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply relevant laws, regulations and procedures to a law enforcement situation.
- Practice appropriate investigative techniques.
- Identify and assess potential security risks against PCs, websites, programs and networks.
- Adhere to accepted practices in criminal procedures related to assist, force, search, and seizure.
- Develop and implement a security plan to minimize security threats and manage security risks.
- Develop familiarity with current security software and hardware
- Understand the duties and responsibilities of a corporate security office.
- Demonstrate a moral code of ethics and understand the legal responsibilities in the security field.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CIS 168	Principles of Information Security	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 181	Intro to Telecommunications	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	CRJ 101	Introduction to Homeland Security	3		CRJ 155
1st Spring	7	CIS 212	Digital Forensics Fundamentals	3		
	8	CPT 182	Operating Systems	3		
	9	CPT 183	Local Area Networks	3		
	10	CRJ 163	Criminal Procedure	3		
	11	ENG 162	Technical Communications	3	ENG 161	ENG 163
	12	MTH 161	Modern College Mathematics	3	MTH 052, 052A or Placement	Page 43 Column IV
2nd Fall	13	CPT 161	Introduction to Cloud Computing	3		
	14	CPT 214	Wireless Communication	3		
	15	CRJ 296	Introduction to Criminalistics	3		CRJ 263
	16	SPC 155	Effective Speech	3		SPC 156
2nd Spring	17	CIS 209	Network Security Fundamentals	3		
	18	CPT 256	Linux Desktop	3	CPT 182	
	19	CIS 255	Ethical Hacking and Software Defense	3	CIS 168	
	20	CRJ 195	Introduction to Private Security	3		CRJ 225
	21	CRJ 265	White Collar Crime	3		CRJ 277
	22	SOC 155	Principles of Sociology	3		Page 43 Column III

Total Program Credits 64 CJS

*CRJ 195 offered every other spring semester

*CRJ 265 offered every other spring semester

Criminal Justice, Certificate

CORRECTIONS OFFICER

School of Art, Humanities, Social Sciences and Public Service

The Criminal Justice Corrections Officer Certificate is designed for those who seek entry-level employment with a corrections facility.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply relevant laws, regulations and procedures within a correctional facility.
- Provide correctional institution care of adults and/or juveniles.
- Adhere to practices found in the criminal justice system.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CRJ 155	Introduction to Criminal Justice	3		
	3	CRJ 180	Corrections	3		
	4	CRJ 255	Juvenile Delinquency	3		
	5	CRJ 283	Institutional Treatment of Adolescents and Juveniles	3		
	6	CRJ 290	Principles of Criminology	3		
	7	CRJ 172	Substance Abuse and Crime	3		SWK 172
Total Program Credits				19		CJUCO

Criminal Justice, Certificate

SECURITY PROFESSIONAL

School of Art, Humanities, Social Sciences and Public Service

The Criminal Justice Security Professional Certificate is designed for those students who seek entry-level positions in the field of private security.

Career Opportunities

The Criminal Justice Security Professional Certificate is designed for those students seeking employment in the field of private security or those already employed in the field who are seeking to enhance their skills and advancement opportunities. Individuals may be employed as security officers, security guards, loss prevention specialists, campus security officers, and gaming surveillance officers.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Recognize the basic concepts and principles of private security.
- Identify the roles and responsibilities of private security.
- Describe the procedures, processes and policies for protection of private and public facilities, infrastructure, employees and visitors.
- Prepare to monitor and answer alarms, conduct risk and vulnerability assessments and implement emergency/disaster plans and procedures.
- Classify components of integrated security systems.
- Evaluate legal issues and decisions that face security professionals.

Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1	PDV 101	First Year Seminar	1		
2	CRJ 101	Introduction to Homeland Security	3		CRJ 155
3	CRJ 195	Intro to Private Security	3		CRJ 225
4	CRJ 262	Crime Prevention	3		
5	CRJ 296	Criminalistics	3		
6	CRJ 287	Multiculturalism and CRJ System	3		

Total Program Credits 16 CJUSP

*CRJ 195 offered every other spring semester

Culinary Arts, AAS

APPRENTICESHIP

School of Culinary Arts and Hospitality

Program Description

The Culinary Arts Apprenticeship Program, sponsored by The American Culinary Federation Laurel Highlands (ACFLHC) Chapter and Westmoreland, is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). A cooperative program, it combines academic coursework with 4,000 hours of supervised on-the-job learning in a participating bakery, club, hotel, or resort for an associate degree. Classes are scheduled so that students have a sufficient block of time to complete their 40-hour week. Academic work and the 4,000 hours can be completed over a period of two to three years.

Students enrolled in this program will be registered with the Pennsylvania Department of Labor and the American Culinary Federation as apprentices once required registration and membership fees are paid during the first weeks of class.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook and the Apprenticeship Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire
- Special attire may be required at the apprenticeship site
- Transportation to the apprenticeship site

Employment must be secured at an approved apprenticeship facility that will provide full-time employment. The Culinary Arts Apprenticeship may be completed through a partnership with Nemacolin Resort, Seven Springs Mountain Resort or other approved apprenticeship sites. For a current list of approved apprenticeship sites, contact the School of Culinary Arts/Hospitality.

At the completion of the apprenticeship program, students are eligible to test for certification as a Certified Sous Chef with the American Culinary Federation.

Career Opportunities

Graduates of the Culinary Arts Apprenticeship Program may accept positions with the following titles: cook, station chef, working chef, sous chef, personal chef, executive chef, culinary educator, sales representative, and manager.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to recipe and local, regional and international traditions and diversity: soups, sauces, salads, meats, fish poultry, game, vegetables and desserts using acceptable standards of sanitation and safety.
- Apply standards of nutrition and wellness in food preparation.
- Design set-up and prepare meals and buffets and serve meals.
- Design menus with descriptive wording and layout designs.
- Plan and execute food production and requisitions within an established food and labor budget.
- Recognize quality standards in fresh vegetables, meats, poultry, game and all other foodstuffs.
- Demonstrate supervisory and interpersonal skills within a food service team.
- Demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, and garniture display
- Utilize technology to maintain systems of operation
- Research and adhere to sound practices for sanitation and safety
- Develop basic practical mathematical skills.

(Continued on Next Page)

Culinary Arts, AAS

APPRENTICESHIP

School of Culinary Arts and Hospitality

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 170	Food Culture and Religion	3		
	5	FSM 118	Sanitation	2		
	6	CUL 132	Garde Manger	3		
	7	CUL 121	Apprenticeship I	1		
1st Spring	8	BKP 141	Baking I	4	CUL 104	
	9	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	10	CUL 105	Foods I	4	CUL104	
	11	FSM 117	Waitstaff and Dining Room Training	1		
	12	FSM 119	Beverage Management	1		FSM 120
	13	CUL 122	Apprenticeship II	1	CUL 121	
	14	Elective	Social Science Elective	3	See Catalog Description	
1st Summer	15	CUL 123	Apprenticeship III	1	CUL 122	
	16	ENG 161	College Writing	3	ENG 085 or Placement; ENG 095 or ENG 099 or Placement (Co)	
2nd Fall	17	CUL 220	Culinary Bistro	3	CUL 105	
	18	CUL 112	Foods II	4	CUL 105	
	19	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
	20	FSM 215	Purchasing and Operations	3		
	21	CPT 150	Micro Computer Concepts	3		
	22	CUL 224	Apprenticeship IV	1	CUL 123	
2nd Spring	23	FSM 213	A la Carte Kitchens	4	CUL 105 and CUL 112	
	24	FSM 235	Supervision and Training	3		
	25	CUL 232	Food Specialties	3	CUL 105	
	26	ENG 163	Business Communications	3	ENG 161	ENG 164
	27	CUL 251	Apprenticeship V	1	CUL 224	
2nd Summer	28	CUL 253	Apprenticeship VI	1	CUL 251	

Total Program Credits 69 CUA

Culinary Arts, AAS
School of Culinary Arts and Hospitality

Program Description

The Culinary Arts Associate Degree Program is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is planned to meet the increasing employment needs of the 21st century for trained culinary experts. The program includes classroom and laboratory experiences and requires students to complete a capstone internship. Students are responsible for securing an internship site which meets the program requirements. This major accommodates both part and full-time students.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire

Students, who are current members of the American Culinary Federation at the completion of this program, may apply for certification as a Certified Culinarian with the American Culinary Federation

Career Opportunities

Graduates of the culinary arts program may accept positions with the following titles: cook, station chef, working chef, sous chef, personal chef, sales representative, and manager.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to recipe and local, regional and international traditions and diversity: soups, sauces, salads, meats, fish poultry, game, vegetables and desserts using acceptable standards of sanitation and safety.
- Apply standards of nutrition and wellness in food preparation.
- Design set-up and prepare meals and buffets and serve meals.
- Design menus with descriptive wording and layout designs.
- Plan and execute food production and requisitions within an established food and labor budget.
- Recognize quality standards in fresh vegetables, meats, poultry, game and all other foodstuffs.
- Demonstrate supervisory and interpersonal skills within a food service team.
- Demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, cake decorating and garniture display.
- Utilize the technology to maintain systems of operation.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

(Continued on Next Page)

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 170	Food Culture and Religion	3		
	5	FSM 118	Sanitation	2		
	6	CUL 132	Garde Manger	3		
1st Spring	7	BKP 141	Baking I	4	CUL 104	
	8	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	9	CUL 105	Foods I	4	CUL 104	
	10	FSM 117	Waitstaff/Dining Room Training	1		
	11	FSM 119	Beverage Management	1		FSM 120
	12	Elective	Social Science Elective	3		
1st Summer	13	ENG 161	College Writing	3	ENG 085 or Placement; ENG 095 or ENG 099 or Placement (Co)	
2nd Fall	14	CUL 112	Foods II	4	CUL 105	
	15	CUL 243	Nutritional Cooking/Baking	3	BKP 141 or CUL 105	FSM 159
	16	FSM 215	Purchasing and Operations	3		
	17	CPT 150	Micro Computer Concepts	3		
	18	CUL 220	Culinary Bistro	3	CUL 105	
2nd Spring	19	FSM 235	Supervision and Training	3		
	20	CUL 232	Food Specialties	3	CUL 105	
	21	FSM 213	A la Carte Kitchens	4	CUL 112	
	22	FSM 219	Hospitality Internship	3	Instructor Permission	
	23	ENG 163	Business Communications	3	ENG 161	ENG 164

Total Program Credits 66 CUL

Culinary Arts, Diploma

APPRENTICESHIP

School of Culinary Arts and Hospitality

Program Description

The Culinary Arts Apprenticeship Program, sponsored by The American Culinary Federation Laurel Highlands (ACFLHC) Chapter and Westmoreland, is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). A cooperative program, it combines academic coursework with 4,000 hours of supervised on-the-job learning in a participating bakery, club, hotel, or resort for an associate degree. Classes are scheduled so that students have a sufficient block of time to complete their 40-hour week. Academic work and the 4,000 hours can be completed over a period of two to three years.

Students enrolled in this program will be registered with the Pennsylvania Department of Labor and the American Culinary Federation as apprentices once required registration and membership fees are paid during the first weeks of class.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook and the Apprenticeship Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire
- Special attire may be required at the apprenticeship site
- Transportation to the apprenticeship site

Employment must be secured at an approved apprenticeship facility that will provide full-time employment. The Culinary Arts Apprenticeship may be completed through approved apprenticeship sites. For a current list of approved apprenticeship sites, contact the School of Culinary Arts/Hospitality.

At the completion of the apprenticeship program, students are eligible to test for certification as a Certified Sous Chef with the American Culinary Federation.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to recipe and local, regional and international traditions and diversity: soups, sauces, salads, meats, fish poultry, game, vegetables and desserts using acceptable standards of sanitation and safety.
- Apply standards of nutrition and wellness in food preparation.
- Design set-up and prepare meals and buffets and serve meals.
- Design menus with descriptive wording and layout designs.
- Plan and execute food production and requisitions within an established food and labor budget.
- Recognize quality standards in fresh vegetables, meats, poultry, game and all other foodstuffs.
- Demonstrate supervisory and interpersonal skills within a food service team.
- Demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, cake decorating and garniture display.
- Utilize the technology to maintain systems of operation.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

Career Opportunities

Graduates of the culinary arts program may accept positions with the following titles: cook, station chef, working chef, sous chef, personal chef, sales representative, and manager.

(Continued on Next Page)

Culinary Arts, Diploma

APPRENTICESHIP

School of Culinary Arts and Hospitality

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 118	Sanitation	2		
	5	CUL 132	Garde Manger	3		
	6	CUL 121	Apprenticeship I	1		
1st Spring	7	BKP 141	Baking I	4	CUL 104	
	8	CUL 105	Foods I	4	CUL104	
	9	FSM 117	Waitstaff and Dining Room Training	1		
	10	FSM 119	Beverage Management	1		FSM 120
	11	CUL 122	Apprenticeship II	1	CUL 121	
1st Summer	12	CUL 123	Apprenticeship III	1	CUL 122	
2nd Fall	13	CUL 220	Culinary Bistro	3	CUL 105	
	14	CUL 112	Foods II	4	CUL 105	
	15	CUL 243	Nutritional Cooking and Baking	3	BKP 141 or CUL 105	FSM 159
	16	FSM 215	Purchasing and Operations	3		
	17	CUL 224	Apprenticeship IV	1	CUL 123	
2nd Spring	18	FSM 213	A la Carte Kitchens	4	CUL 105 and CUL 112	
	19	FSM 235	Supervision and Training	3		
	20	CUL 232	Food Specialties	3	CUL 105	
	21	CUL 251	Apprenticeship V	1	CUL 224	
2nd Summer	22	CUL 253	Apprenticeship VI	1	CUL 251	

Total Program Credits 51 CUAA

Culinary Arts, Diploma
School of Culinary Arts and Hospitality

Program Description

The Culinary Arts Associate Degree Program is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is planned to meet the increasing employment needs of the 21st century for trained culinary experts. The program includes classroom and laboratory experiences and requires students to complete a capstone internship. Students are responsible for securing an internship site which meets the program requirements. This major accommodates both part and full-time students.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform and Tool Kit
- Health Status Form
- Business Attire

Career Opportunities

Graduates of the culinary arts program may accept positions with the following titles: cook, station chef, working chef, sous chef, personal chef, sales representative, and manager.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to recipe and local, regional and international traditions and diversity: soups, sauces, salads, meats, fish poultry, game, vegetables and desserts using acceptable standards of sanitation and safety.
- Apply standards of nutrition and wellness in food preparation.
- Design set-up and prepare meals and buffets and serve meals.
- Design menus with descriptive wording and layout designs.
- Plan and execute food production and requisitions within an established food and labor budget.
- Recognize quality standards in fresh vegetables, meats, poultry, game and all other foodstuffs.
- Demonstrate supervisory and interpersonal skills within a food service team.
- Demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, cake decorating and garniture display.
- Utilize the technology to maintain systems of operation.
- Research and adhere to sound practices for sanitation and safety.
- Develop basic practical mathematical skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		FSM 113
	4	FSM 118	Sanitation	2		
	5	CUL 132	Garde Manger	3		
1st Spring	6	BKP 141	Baking I	4	CUL 104	
	7	CUL 105	Foods I	4	CUL 104	
	8	FSM 117	Waitstaff/Dining Room Training	1		
	9	FSM 119	Beverage Management	1		FSM 120
2nd Fall	10	CUL 220	Culinary Bistro	3	CUL 105	
	11	CUL 112	Foods II	4	CUL 105	
	12	CUL 243	Nutritional Cooking/Baking	3	BKP 141 or CUL 105	FSM 159
	13	FSM 215	Purchasing and Operations	3		
2nd Spring	14	FSM 235	Supervision and Training	3		
	15	CUL 232	Food Specialties	3	CUL 105	
	16	FSM 219	Hospitality Internship	3	Instructor Permission	
	17	FSM 213	A la Carte Kitchens	4	CUL 112	
Total Program Credits				48		CULI

Culinary Arts, Certificate

School of Culinary Arts and Hospitality

Program Description

The Culinary Arts Certificate Program is planned to meet the increasing employment needs of the 21st century for trained culinary workers. The program includes classroom and food laboratory experiences.

Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook. Requirements for the program include but are not limited to: Laboratory Uniform and Tool Kit; Health Status Form; Business Attire.

Career Opportunities

Graduates of the Culinary Arts Certificate Program may accept jobs with the following titles: cook and food production worker.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Prepare, season and cook according to a recipe
- Prepare set-up and serve meals and buffets
- Discuss food production and requisitions within an established food and labor budget
- Recognize quality standards in fresh and prepared foods
- Demonstrate interpersonal skills within a food service team
- Demonstrate foundational skills in garde manger.
- Utilize technology systems.
- Adhere to sound practices for sanitation and safety
- Develop basic practical mathematical skills

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 118	Sanitation	2		
	4	CUL 105	Foods I	4	CUL 104	
	5	CUL 112	Foods II	4	CUL 105	
	6	CUL 220	Culinary Bistro	3	CUL 105	
	7	CUL 132	Garde Manger	3	CUL 105	
Total Program Credits				20		CULIN

Cyber Security, AAS
School of Technology

The Cyber Security AAS program provides a comprehensive foundation in the theory and application of both technical and non-technical security skills. The program covers a range of competencies required by the quickly evolving digital security industry. Some of these skills include applying protection, detection, and response technologies and procedures to identify threats, vulnerabilities, exploits, and controls in various digital environments. Emphasis is placed on identifying, analyzing, mitigating, and communicating risks to digital systems using various tools, techniques, and technologies.

Career Opportunities

Cybercrime is a multibillion-dollar industry that adversely impacts virtually everyone in some manner. Cyber security professionals are in high demand, both now and in future. The U.S. Bureau of Labor Statistics projects an 18 percent growth in employment opportunities for information security analysts through 2024—that is 11 percent higher than the average rate of growth for all occupations.

Graduates may find employment as analysts or consultants in private investigation firms, private security firms and supporting positions with local, state, and federal law enforcement agencies. Networking professionals may find employment as corporate security managers, Internet security consultants, security technicians, or other network positions with an emphasis on security.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Apply the principles and components of cyber security.
- Use computer forensics to investigate cyber-attacks.
- 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.
- Develop oral, written, and listening communication skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CIS 168	Principles of Information Security	3		
	5	CPT 181	Intro to Telecommunications	3		
	6	MTH 157	College Algebra	3	MTH 100, 100A or Placement	Page 43 Column IV
1st Spring	7	CIS 212	Digital Forensics Fundamentals	3		
	8	CPT 182	Operating Systems	3	CPT 145	
	9	CPT 183	Local Area Networks	3		
	10	ENG 161	College Writing	3	ENG 085 or Placement	
	11	SOC 155	Principles of Sociology	3		Page 43 Column III
2nd Fall	12	CIS 210	Advanced Digital Forensics	3	CIS 212	
	13	CPT 214	Wireless Communication	3	CPT 171 or CPT 183	
	14	CPT 248	PC Hardware	3		
	15	CPT 156	Programming with Python	3		
	16	CPT 262	Windows Client Server	3	CPT 182	
2nd Spring	17	CIS 209	Network Security Fundamentals	3		
	18	CIS 255	Ethical Hacking and Software Defense	3	CIS 168	
	19	ENG 162	Technical Communication	3	ENG 161	ENG 163
	20	CPT 256	Linux Desktop	3	CPT 182	
	21	SPC 155	Effective Speech	3		SPC 156

Total Program Credits 61 CYB

Cyber Security, Certificate
School of Technology

The Cyber Security Certificate program provides an introduction to the theories and practices associated with information security. Law enforcement professionals can enhance their knowledge of cybercrimes by becoming more familiar with the intricacies of computer evidence handling and documentation, and cybercrime determination, evaluation, and prosecution. Current computer professionals can expand their existing networking experience by increasing their knowledge of information security and expanding their careers into the information security discipline.

Career Opportunities

Graduates may find employment opportunities in private investigation firms, private security firms, as well as local law enforcement agencies. Networking professionals may find employment as corporate security managers, Internet security consultants, security technicians or other network positions with an emphasis on security.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Communicate with law enforcement professionals and network professionals with respect to cybercrimes and information security.
- Determine the scope and cost of specific security intrusions.
- Evaluate potential security vulnerabilities.
- Administer Internet security procedures and devices.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 145	Introduction to Computer Technology	3		
	3	CPT 150	Microcomputer Concepts	3		
	4	CPT 181	Introduction to Telecommunications	3		
	5	CIS 168	Principles of Information Security	3		
1st Spring	6	CPT 182	Operating Systems	3	CPT 145	
	7	CPT 183	Local Area Networks	3		
	8	CIS 212	Digital Forensics Fundamentals	3		
Total Program Credits				22		CYBER

Dental Assisting, Diploma
School of Health Professions

Program Description

The Dental Assisting program offers the academic preparation and clinical training necessary to secure employment as a dental assistant. Dental assistants are employed by dentists in general and specialty practices as well as hospital dental clinics. The program includes clinical experience in all phases of dentistry while rotating through departments at the University of Pittsburgh School of Dental Medicine and private dental offices.

Upon successful completion of DAS 105, students are eligible to apply to take the Dental Assisting National Board (DANB) Radiation Health and Safety (RHS) Exam. Upon successful completion of the Dental Assisting Program, national DANB certification may be earned as a Certified Dental Assistant (CDA) upon successful completion of the DANB Infection Control (ICE) Exam and General Chairside (GC) Exam.

The program is accredited by the Commission on Dental Accreditation of the American Dental Association. The commission is a special accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312-440-4653 or at 211 East Chicago Ave., Chicago, Illinois 60611.

This is a selective admission program. See the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Perform clinical dental assisting procedures with competence.
- Manage asepsis, infection and hazard control protocol consistent with published professional guidelines.
- Perform procedures specific to the work of the dental assistant, e.g., taking preliminary impressions, charting and data collection.
- Obtain and record accurate medical/dental histories and vital signs.
- Assist in the management of medical and dental emergencies.
- Provide oral health instruction and communicate effectively with patients and dental health team members.
- Expose, process and evaluate all types of oral radiography.
- Perform laboratory procedures associated with chairside assisting.
- Operate all dental equipment safely, effectively and efficiently.
- Perform basic office business procedures accurately.
- Successfully complete the dental assisting national board exam and applicable state credentialing.
- Assume responsibility for their own actions within the legal and ethical framework of dental assisting.
- Develop an attitude of responsibility for continued professional development, through encouragement to participate in professional organizations and continuing education opportunities.

Dental Assisting, Diploma
School of Health Professions

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	DAS 100	Intro to Dental Assisting	4	Co: DAS 101, DAS 102, DAS 103, DAS 105, BIO 107	
	3	DAS 101	Oral Anatomy	2	Co: DAS 100, DAS 102, DAS 103, DAS 105, BIO 107	
	4	DAS 102	Dental Material for Dental Assisting	2	Co: DAS 100, DAS 101, DAS 103, DAS 105, BIO 107	
	5	DAS 103	Dental Assisting Lab	4	Co: DAS 100, DAS 101, DAS 102, DAS 105, BIO 107	
	6	DAS 105	Dental Rad for Dental Assisting	3	Co: DAS 100, DAS 101, DAS 102, DAS 103, BIO 107	
	7	BIO 107	Human Biology	3		BIO 171 or BIO 172
Spring	8	DAS 104	Dental Science	4	DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Co: DAS 106, ENG 161, PSY 160	
	9	DAS 106	CLN Dental Assisting I	5	DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Co: DAS 104, ENG 161, PSY 160	
	10	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
	11	PSY 160	General Psychology	3		
Summer	12	DAS 108	CLN Dental Assisting II	4	DAS 104, DAS 106, ENG 161, PSY 160; Co: DAS 109, SPC 156	
	13	DAS 109	Practice Management	2	DAS 104, DAS 106, ENG 161, PSY 160; Co: DAS 108, SPC 156	
	14	SPC 156	Interpersonal Communication	3		

Total Program Credits 43 DEAS

Dental Hygiene, AAS
School of Health Professions

Program Description

The Dental Hygiene AAS program offers the academic preparation and clinical training needed for a variety of dental hygiene careers. While most dental hygienists practice in private dental offices, others provide services in dental specialty practices, hospital and industrial clinics, correctional institutions, government health agencies, insurance companies and military services. With additional education through degree completion programs, dental hygienists also work in school systems, dental and dental hygiene education programs, dental sales and research. The program includes clinical experience in the college campus facility. Patients will come to campus for prophylactic dental care; however, students may need to secure patients to meet clinical requirements.

The program is accredited by the Commission on Dental Accreditation of the American Dental Association. The Commission is a specialized accrediting agency recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312-440-4653 or at 211 East Chicago Avenue, Chicago, Illinois 60611.

This is a selective admission program. Please see the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Provide dental hygiene care for the child, adolescent, adult, geriatric and special needs patient.
- Prepare the dental hygiene process of care that includes comprehensive collection of patient data, analysis of assessment, establishment of a dental hygiene care plan, provision of comprehensive patient-centered treatment, measurement of goals, and accurate recording of documentation.
- Provide dental hygiene care for all types of classifications of periodontal diseases including patients who exhibit moderate to severe periodontal disease.
- Demonstrate interprofessional communication, collaboration and interaction with other members of the health care team to support comprehensive patient care.
- Recognize the oral health needs of community-based programs by planning an oral health program to include health promotion and disease prevention activities, implementing the planned program, and evaluating the effectiveness of the implemented program.
- Provide appropriate life-support measures for medical emergencies that may be encountered in dental hygiene practice.
- Apply ethical reasoning, ethical decision making and legal and regulatory concepts to the provision and/or support of oral health care services
- Identify self-assessment skills to prepare for life-long learning.
- Implement the use of current scientific literature
- Apply problem solving strategies related to comprehensive patient care and management of patients.

Dental Hygiene, AAS
School of Health Professions

Sugg. Term	Seq. #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Summer	1	PDV 101	First Year Seminar	1		
	1	BIO 171	Anatomy and Physiology I	4	CHM 107, CHM 155, CHM 225 or high school chemistry (C or better) and ENG 095 or Placement	
	2	CHM 225	Chemistry for the Health Sciences	4	One year of high school chemistry (C or better), CHM 107 or CHM 155	
	3	SOC 155	Principles of Sociology	3		
	4	PSY 160	General Psychology	3		
1st Fall	5	DAH 101	Introduction to Dentistry	3	BIO 171, CHM 225, PSY 160, SOC 155; Co: DAH 102, DAH 104, BIO 172	
	6	DAH 102	Dental Materials	2	BIO 171, CHM 225, PSY 160, SOC 155; Co: BIO 172, DAH 101, DAH 104	
	7	DAH 104	Head, Neck and Dental Anatomy	4	BIO 171, CHM 225, PSY 160, SOC 155; Co: DAH 101, DAH 102, BIO 172	
	8	BIO 172	Anatomy and Physiology II	4	BIO 171 with a "C" grade or better.	
	9	ENG 161	College Writing	3	ENG 085 Placement; Co: ENG 095 or ENG 099 or placement	
1st Spring	10	DAH 103	Medical Emergencies	1	Co: DAH 105, DAH 111, DAH 112, DAH 113, DAH 114	
	11	DAH 105	Dental Radiology	3	DAH 104; Co: DAH 103, DAH 111, DAH 112, DAH 113, DAH 114	
	12	DAH 111	Dental Hygiene Lecture	3	Co: DAH 103, DAH 105, DAH 112, DAH 113, DAH 114	
	13	DAH 112	Dental Hygiene Lab	4	BIO 172; Co: DAH 103, DAH 105, DAH 111, DAH 113, DAH 114	
	14	DAH 113	Oral Histology/Embryology	2	DAH 104; Co: BIO 172, DAH 103, DAH 105, DAH 111, DAH 114	
	15	DAH 114	Periodontics I	3	Co: DAH 103, 105, 111, 112, 113	
2nd Summer	16	DAH 106	Nutritional Biochemistry	2	DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Co: DAH 109, DAH 115, DAH 117	
	17	DAH 109	Oral Pathology	2	DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Co: DAH 106, DAH 115, DAH 117	
	18	DAH 115	Clinical Dental Hygiene I	5	DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Co: DAH 106, DAH 109, DAH 117	
	19	DAH 117	Local Anesthesia	3	DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Co: DAH 106, DAH 109, DAH 115	
	20	CPT 150	Microcomputer Concepts	3		
2nd Fall	21	BIO 265	Microbiology	4	BIO 155 or BIO 171 and CHM 107, CHM 155, CHM 225 or high school chemistry (C or better), ENG 085 or placement	
	22	DAH 205	Periodontics II	1	DAH 106, DAH 109, DAH 114, DAH 115, DAH 117	
	23	DAH 206	Clinical Dental Hygiene II	6	DAH 106, 109, 114, 115, and 117	
	24	DAH 207	Pharmacology	2	DAH 115; Co: DAH 206, BIO 265	
	25	DAH 209	Community Dental Health	3	Co: DAH 205, DAH 206	
2nd Spring	26	DAH 208	Clinical Dental Hygiene III	6	DAH 205, DAH 206	
	27	ENG 163	Business Communications	3	ENG 161	
	28	BUS 120	Math of Business	3	MTH 050, MTH 050A, or Placement	ACC 155
	29	SPC 156	Interpersonal Communications	3		

Total Program Credits 93 DEH

Drafting and Design Technology, AAS

COMPUTER AIDED DRAFTING & DESIGN (CADD)/COMPUTER AIDED MANUFACTURING (CAM)

School of Technology

The associate degree program provides the student drafter with computer aided drafting and design and computer aided manufacturing hands-on CADD/CAM applications using a micro stand-alone terminal workstation.

Career Opportunities

Students completing this program will be qualified to enter the workforce as a first level CADD/CAM operator. Significant hands- on experience is essential for CADD/CAM operators to eventually qualify for positions as designers, design technicians or design specialists at a computer terminal.

The following personnel will benefit from a CADD/CAM education: mechanical designers, project engineers, specialists, supervisors, detailers, casual users, vocational trainers and support personnel.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Develop the ability to execute quantitative design of machine products
- Identify the basic components of a CADD/CAM system (hardware and software)
- Perform an infinite number of 2-d machine tool path computations necessary to produce and advance drafting and design portfolio
- Implement the basic commands necessary to apply the operational skills needed to affect a 2-D CADD/CAM system
- Apply concepts from physics, engineering, mechanics, mathematics, and drafting and apply them to the synthesis of durable mechanical machines and products
- Communicate effectively and appropriately record and report information significant to the job
- Network with machine operators, engineers and customers.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	DFT 105	Technical Drafting I	4		
	3	DFT 112	Introduction to Design, Materials and Processes	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	6	Elective	Social Science Elective	3		Page 43 Column III
1st Spring	7	CNC 111	Computer Numerical Control I	4	Take MTH 052 or Placement or Instructor Permission	
	8	DFT 106	Technical Drafting II	4	DFT 105	
	9	PHY 107	Applied Physics	4	MTH 100, 100A or 108	
	10	MTH 108	Mathematics for Technologies I	4	MTH 104	
2nd Fall	11	CNC 112	Computer Numerical Control II	4	CNC 111 or instructor permission Corequisite(s): MTH 104, placement or instructor permission	
	12	DFT 266	3D Solid Modeling I	4		
	13	EGR 221	Statics and Strength of Materials	4	EGR 101	
	14	DFT 258	AutoCAD	4		
2nd Spring	15	ARC 262	Piping, Structural Detailing and Electromechanical Drafting	4	ARC 210 or DFT 258	
	16	MTT 111	Machining I	4	Take MTH 052 or Placement or Instructor Permission	
	17	DFT 267	3D Solid Modeling II	4	DFT 266	
	18	ENG 162	Technical Communication	3	ENG 161	

Total Program Credits 65 DDC

Drafting and Design Technology, AAS

MECHANICAL DRAFTING DESIGN

School of Technology

Students in the mechanical option of the drafting and design technology program learn to translate the ideas, rough sketches, specifications and calculations of engineers into working drawings for production and assembly.

Career Opportunities

Recent graduates of this program have accepted jobs with the following titles: drafter, detailer, drafting technician, drafting technician trainee and CADD first-level entry position.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Analyze and translate problems by presenting them visually.
- Develop the ability to execute quantitative design of machines and products.
- Identify the basic components of a CADD system.
- Perform an infinite number of 2-D design math computations necessary to produce drafting design.
- Implement the basic commands necessary to operate 2-D CADD and 3-D solid modeling systems.
- Apply concepts from physics, engineering, mechanics, mathematics, and drafting and apply them to the synthesis of durable mechanical machines and products.
- Communicate effectively and appropriately record and report information significant to the job.
- Perform an infinite number of two- and three-dimensional drawings using a stand-alone mini-computer.
- Network with machine operators, designers, engineers and customers.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	DFT 105	Technical Drafting I	4		
	3	DFT 112	Introduction to Design, Materials and Processes	3		
	4	ENG 161	College Writing	3	ENG 161 or Placement	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
1st Spring	6	DFT 106	Technical Drafting II	4	DFT 105	
	7	DFT 258	AutoCAD	4		
	8	ENG 162	Technical Communication	3	ENG 161	
	9	MTH 108	Mathematics for Technologies I	4	MTH 104	
	10	PHY 107	Applied Physics	4	MTH 100, 100A or 108	
2nd Fall	11	EGR 101	Introduction to Engineering	3	MTH 104 or MTH 157	
	12	DFT 266	3D Solid Modeling I	4		
	13	EGR 110	Descriptive Geometry	3		
	14	EGR 221	Statics and Strength of Materials	4	MTH 104 or 108	
2nd Spring	15	ARC 262	Piping, Structural Detailing and Electromechanical Drafting	4	ARC 210 or DFT 258	
	16	DFT 208	Product Design	3	EGR 101 or DFT 112	
	17	DFT 267	3D Solid Modeling II	4	DFT 266	
	18	Elective	Social Science Elective	3		Page 43 Column III
Total Program Credits				62		DDM

Early Childhood Education, AAS

School of Art, Humanities, Social Sciences and Public Service

This program reflects the standards established by the National Association for Education of Young Children (NAEYC) and PA Office of Child Development and Early Learning (OCDEL) for students in the field of early childhood education (ECE). The program provides a foundation for working in childcare settings with children from infancy through nine years while developing dispositions that center equity and critical educational practices. Developmentally appropriate practices, cultural responsiveness, and inclusiveness are emphasized as skills necessary for effective graduates. Supervised observational field experience is required and can be completed at approved early childcare sites. This program is available in online and lecture formats.

Career Opportunities

Graduates of this program are prepared to enter the early childhood workforce on Level V of OCDEL'S Career Pathway. Graduates are qualified for positions as: program director, preschool teacher, lead teacher, assistant teacher, home visitor, service coordinator, family childcare provider, and public school aide.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Identify and utilize curricula and pedagogies to promote equity for marginalized communities in education.
- NAEYC 1: Promote child development and learning.
- NAEYC 2: Build family and community relationships.
- NAEYC 3: Observe, document, and assess to support young children and families.
- NAEYC 4: Use developmentally effective approaches.
- NAEYC 5: Use content knowledge to build curriculum.
- NAEYC 6: Act as an ethical and professional early childhood practitioner.

Program Requirements

Students must achieve a grade of C in all ECE courses to complete this program. Students are required to complete all clearances and requirements per field experience sites. This program is eligible for full funding through the Early Care and Education PDO at PASSHE scholarship and the PA TEACH scholarship.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ECE 155	Introduction to Early Childhood Education	3		
	3	MUS 156	Early Childhood Music	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	Elective	Tech Literacy Elective	3		Page 43 Column VI
	6	Elective	Social Science Elective	3		Page 43 Column III
1st Spring	7	ECE 157	Child Growth & Development	3		
	8	ECE 165	Family & Society	1		
	9	ECE 257	Introduction to Exceptional Development	3		
	10	ENG 162	Technical Communication	3	ENG 161	
	11	ECE 170	Child Health, Safety & Nutrition	3		
2nd Fall	12	ECE 156	Infant & Toddler Development	3		
	13	ECE 283	Infant & Toddler Practicum	1	Co-requisite ECE 156. Instructor & CCC Coordinator Approval	
	14	ECE 166	Early Childhood Language and Literacy	3	ECE 155 (C or Better)	
	15	ECE 255	Early Childhood Education Curriculum	3	ECE 155	
	16	Elective	Math Elective	3	See Catalog Description	Page 43 Column IV
2nd Spring	17	ENG 250	Teaching English to Speakers of Other Languages	3		
	18	ECE 256	Assessment & Observation of Young Children	3		
	19	ECE 284	Early Childhood Education Practicum	4	ECE 166, 255, & 2.0 GPA. Instructor & CCC Coordinator Approval	
	20	ECE 167	Creative Experiences	3		
	21	Elective	Restricted Elective	3		See List
Total Program Credits				60		ERC

Restricted Electives: ASL 101; ECE 168; ECE 176; ECE 177; ECE 178; ECE 265; EDU 200;

Early Childhood Education, Certificate

School of Art, Humanities, Social Sciences and Public Service

This program reflects the standards established by the National Association for Education of Young Children (NAEYC) and PA Office of Child Development and Early Learning (OCDEL) for students in the field of early childhood education (ECE). The program provides an introduction to working in childcare settings with children from infancy through nine years while developing dispositions that center equity and critical educational practices. Developmentally appropriate practices, cultural responsiveness, and inclusiveness are emphasized as skills necessary for effective graduates. Supervised field experience is required and can be completed at approved early childcare sites. Credits earned in this program can be applied toward the requirements of the Diploma, AA, and AAS degrees. This program is available in online and lecture formats.

Career Opportunities

Program completers will be eligible for entry-level positions in ECE and are prepared to enter the early childhood workforce on Level A of OCDEL'S Career Pathway. Graduates are qualified for positions as: support staff, teaching staff with support in birt-prek settings, and out-of-school care.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- NAEYC 1: Promote child development and learning in context
- NAEYC 2: Build family and community partnerships and relationships
- NAEYC 6: Act as an ethical and professional early childhood practitioner.

Program Requirements

Students must achieve a grade of C in all ECE courses to complete this program. Students are required to complete all clearances and requirements per field experience sites.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ECE 155	Introduction to Early Childhood Education	3		
	3	ECE 257	Introduction to Exceptional Development	3		
1st Spring	4	ECE 165	Family & Society	3		
	5	ECE 167	Creative Experiences	3		
2nd Fall	6	ECE 156	Infant & Toddler Development	3		
	7	ECE 283	Infant & Toddler Practicum	1	ECE 156. Instructor & CCC Coordinator Approval (Co)	
2nd Spring	8	ECE 157	Child Growth & Development	3		
Total Program Credits				20		ERCCT

Early Childhood Education, Certificate

CHILD DEVELOPMENT ASSOCIATE

School of Art, Humanities, Social Sciences and Public Service

Those who wish to further their career and professional development can complete the educational requirements for the nationally recognized CDA for the center-based infant/toddler or preschool credentials. This program provides the educational requirements aligned with the 8 CDA subject areas. After completing the course series, students will have completed all requirements for the Professional Portfolio and will be advised on how to complete the additional requirements for the Verification Visit and CDA Exam. This program is available in online and lecture formats.

Career Opportunities

Program completers will be eligible for entry-level positions in ECE and are prepared to enter the early childhood workforce on Level A of OCDEL'S Career Pathway. Graduates are qualified for positions as: support staff, teaching staff with support in birth-pre-k settings, and out-of-school care.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- CDA 1: Plan a safe and healthy learning environment.
- CDA 2 & 3: Advance children's physical, intellectual, and social and emotional development.
- CDA 4: Build productive relationships with families.
- CDA 5: Manage an effective program.
- CDA 6: Maintain a commitment to professionalism.
- CDA 7: Observe and record children's behavior.
- CDA 8: Understand principles of child development and learning.

Program Requirements

Students must achieve a grade of C in all ECE courses to complete this program. Students are required to complete all clearances and requirements per field experience sites.

This program is eligible for funding through the Early Care and Education PDO at PASSHE scholarship, PA TEACH scholarship, and Rising Stars Tuition Assistance Program.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	ECE 156	Infant & Toddler Development	3		ECE 157
	3	ECE 176	CDA Portfolio I	1	Co: ECE 156 or 157	
Spring	4	ECE 170	Child Health, Safety & Nutrition	3		
	5	ECE 177	CDA Portfolio II	1	Co: ECE 170	
	6	Elective	Restricted Elective	3		See List
Summer	7	ECE 256	Assessment & Observation of Young Children	3		
	8	ECE 178	CDA Portfolio III	1	Co: ECE 256	
Total Program Credits				16		ECEDC

Restricted Electives: ECE 155; ECE 157; ECE 165; ECE 166; ECE 167; ECE 168; ECE 255;ENG 250; ECE 257

Early Childhood Education

DIRECTOR CREDENTIAL

School of Art, Humanities, Social Sciences and Public Service

Those who are interested in obtaining the Pennsylvania Early Childhood Director Credential should review information found at the PA Key website. The program director will advise students on which courses they need to complete based on prior work and academic experience.

Program Requirements

Students must achieve a grade of C in all courses to be accepted for the Director Credential. This program is eligible for funding through the Rising Stars Tuition Assistance Program.

Sugg. Term	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall or Spring	ECE 155	Introduction to Early Childhood Education	3		
	ECE 156	Infant & Toddler Development	3		
	ECE 157	Child Growth & Development	3		
	ECE 165	Family & Society	3		
	ECE 166	Early Childhood Language and Literacy	3		
	ECE 167	Creative Experiences	3		
	ECE 168	Childcare Management	3		
	ENG 170	Child Health, Safety & Nutrition	3		
	ECE 255	Early Childhood Education Curriculum	3		
	ECE 256	Assessment & Observation of Young Children	3		
	ECE 257	Introduction to Exceptional Development	3		
	ENG 250	Teaching English to Speakers of Other Languages	3		
	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	BUS 140	Introduction to Business	3		
	BUS 241	Human Resources Management	3		
	BUS 258	Supervisory Management	3		
	MUS 156	Early Childhood Music	3		
Total Program Credits			51		

Electronics Engineering Technology, AAS

School of Technology

Electronics engineering technology is concerned with the theory and practice of applied electronics engineering. It is designed to provide students with the skills and knowledge required to work with electronic equipment in a wide variety of high-tech forms, often assisting electronics engineers. Graduates generally maintain, repair, test and modify complex electronic systems, conduct research and develop products.

Career Opportunities

Recent graduates of the electronics engineering technology program have accepted positions with the following titles: electronics engineering technician, electrical technician and industrial technician.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Design and construct basic circuitry based on an in-depth knowledge of electronic devices, circuits and embedded systems.
- Apply mathematics to the development of ideas based on scientific and engineering principles.
- Install, maintain and repair electronic circuits and systems using extensive knowledge of theory, test equipment and procedures.
- Apply understanding of electronic devices, circuits, systems, software and procedures to practical situations.
- Adapt and extend knowledge of electronics to new devices, circuits and systems.
- Communicate technological ideas and information with others verbally, graphically and in writing.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	ELC 106	Circuit Analysis I	4	MTH 104	
	4	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	5	Elective	Social Science Elective	3		Page 25 Column III
1st Spring	6	ELC 102	Electronic Devices	4	ELC 106	
	7	ELC 107	Circuit Analysis II	4	ELC 106	
	8	ELC 114	Digital Techniques	4	ELC 106	
	9	MTH 108	Mathematics for Technologies I	4	MTH 104	
2nd Fall	10	ELC 202	Linear Electronics	4	ELC 102 & 107	
	11	ELC 206	Microprocessors	4	ELC 114	
	12	ENG 162	Technical Communication	3	ENG 161	ENG 163 or 164
	13	PHY 155	College Physics I	4	MTH 100, 100A or 108 and PHY 110 or HS Physics	
2nd Spring	14	DFT 258	AutoCAD	4		
	15	PHY 156	College Physics II	4	PHY 155	
	16	ELC 213	Microprocessor Applications	4	ELC 206	
	17	Elective	Restricted Elective	4		See List
Total Program Credits				62		EET

Restricted Electives: ELC 192; ELC 223; RBT 140; RBT 230; RBT 240; RBT 245

Engineering Technology, AAS
School of Technology

The Engineering Technology AAS is designed to prepare students for an entry-level position in STEM-related industries and businesses.

Career Opportunities

Many positions are available in companies looking for workers with a solid STEM education and background. This program can give you the edge in securing an entry-level position in such companies with a two-year associate of applied science degree. The range of opportunities is almost limitless as the need for workers with solid skills in applied science, technology, engineering, and mathematics will continue to be in high demand. A partial list of job titles that apply to this degree includes manufacturing engineering technologist; electromechanical engineering technologist; industrial engineering technologist or technician; nanotechnology engineering technologist; sales engineering technician; materials engineering technologist; mechanical engineering technologist or technician; and civil engineering technician.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Utilize strong analytical, problem-solving, organizational, communication, and team skills.
- Apply concepts of physics (mechanics, thermo-fluids, vibrations, electricity and magnetism, and optics), mathematics (up through a first course in calculus/analytic geometry), engineering (materials, manufacturing processes, descriptive geometry, statics, strength of materials, quality control, and kinematics), and technology (HP-50g®, Excel®, AutoCAD®, Inventor®/Solid Works® and Python®) to the design and analysis of engineering systems.
- Gain entry-level positions in a wide variety of STEM-related industries and business.
- Become a life-long learner not only through formal training and education but also by self-study.
- Be well rounded with interests that include leadership, volunteerism, and community building.
- Appreciate the importance of ethical engineering and good citizenship in all aspects of life and the engineering profession.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	DFT 105	Technical Drafting I	4		
	3	MTH 157	College Algebra	3	MTH 100, 100A or Placement	MTH 170
	4	EGR 101	Introduction to Engineering I	3	MTH 104 or MTH 157 (Co)	
	5	EGR 110	Descriptive Geometry	3		
	6	ENG 161	College Writing	3	ENG 085 or Placement	
1st Spring	7	DFT 112	Introduction to Design, Materials and Processes	3		
	8	MTH 167	College Trigonometry	3	MTH 157 or Placement	MTH 170
	9	DFT 266	3D Solid Modeling I	4		
	10	EGR 104	Engineering Materials	3		
	11	ENG 162	Technical Communication	3	ENG 161	ENG 163 or 164
2nd Fall	12	MTH 172	Analytical Geometry & Calculus I	4	C or better in one of: MTH 109, MTH 167, or MTH 170 or Placement	
	13	PHY 155	College Physics I	4	MTH 100, 100A or 108 and PHY 110 or HS Physics	
	14	DFT 258	AutoCAD	4		
	15	EGR 221	Statics & Strength of Materials	4	EGR 101	
2nd Spring	16	PHY 156	College Physics II	4	PHY 155	
	17	EGR 210	Quality Control	3	MTH 172, EGR 101	
	18	EGR 227	Kinematics	3	EGR 101	
	19	Elective	Social Science	3		Page 25 Column III

Total Program Credits 62 ENT

Expanded Functions Dental Assisting, AAS

School of Health Professions

Program Description

The Expanded Functions Dental Assisting (EFDA) provides students with training in advanced skills recognized by the Pennsylvania State Board of Dentistry as legal functions for the Expanded Functions Dental Assistant. Graduates of the EFDA program are qualified to take the Pennsylvania Certification Exam for EFDA.

The program includes lab experience in the college campus facility and clinical experience in a dental office. Students are responsible to secure a clinical site to complete the clinical portion of the curriculum.

This is a selective admission program. Please see the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Provide safe and competent services to dental patients including placing and removing rubber dams, matrices and wedges; applying cavity liners and bases; placing, condensing, carving and contouring amalgam restorations; placing and finishing composite resin restorations; placing sealants; coronal polishing and fluoride restorations.
- Demonstrate understanding of dental technologies and proper use/ care of dental devices and equipment.
- Demonstrate commitment to lifelong learning and professional advancement in the healthcare delivery system.
- Demonstrate professionalism in all aspects of dental practice including appearance, communication and behaviors.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	DAS 100	Intro to Dental Assisting	4	Co: DAS 101, DAS 102, DAS 103, DAS 105, BIO 107	
	3	DAS 101	Oral Anatomy	2	Co: DAS 100, DAS 102, DAS 103, DAS 105, BIO 107	
	4	DAS 102	Dental Material for Dental Assisting	2	Co: DAS 100, DAS 101, DAS 103, DAS 105, BIO 107	
	5	DAS 103	Dental Assisting Lab	4	Co: DAS 100, DAS 101, DAS 102, DAS 105, BIO 107	
	6	DAS 105	Dental Rad for Dental Assisting	3	Co: DAS 100, DAS 101, DAS 102, DAS 103, BIO 107	
	7	BIO 107	Human Biology	3		BIO 171 or BIO 172
1st Spring	8	DAS 104	Dental Science	4	DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Co: DAS 106, ENG 161, PSY 160	
	9	DAS 106	CLN Dental Assisting I	5	DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Co: DAS 104, ENG 161, PSY 160	
	10	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
	11	PSY 160	General Psychology	3		
1st Summer	12	DAS 108	CLN Dental Assisting II	4	DAS 104, DAS 106, ENG 161, PSY 160; Co: DAS 109, SPC 156	
	13	DAS 109	Practice Management	2	DAS 104, DAS 106, ENG 161, PSY 160; Co: DAS 108, SPC 156	
	14	SPC 156	Interpersonal Communication	3		
2nd Fall	15	DAE 101	EFDA I	6	Co: DAE 100	
	16	CPT 150	Microcomputer Concepts	3		
	17	ENG 163	Business Communication	3	ENG 161	
2nd Spring	18	DAE 102	EFDA II	3	DAE 100, DAE 101	
	19	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	MTH 157 or MTH 161
Total Program Credits				61		EFD

Expanded Functions Dental Assisting, Certificate

School of Health Professions

Program Description

The Expanded Functions Dental Assisting (EFDA) provides students with training in advanced skills recognized by the Pennsylvania State Board of Dentistry as legal functions for the Expanded Functions Dental Assistant. Graduates of the EFDA program are qualified to take the Pennsylvania Certification Exam for EFDA.

The program includes lab experience in the college campus facility and clinical experience in a dental office. Students are responsible to secure a clinical site to complete the clinical portion of the curriculum.

This is a selective admission program. Please see the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Provide safe and competent services to dental patients including placing and removing rubber dams, matrices and wedges; applying cavity liners and bases; placing, condensing, carving and contouring amalgam restorations; placing and finishing composite resin restorations; placing sealants; coronal polishing and fluoride restorations.
- Demonstrate understanding of dental technologies and proper use/ care of dental devices and equipment.
- Demonstrate commitment to lifelong learning and professional advancement in the healthcare delivery system.
- Demonstrate professionalism in all aspects of dental practice including appearance, communication and behaviors.

Fall Start

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	DAE 100	Dental Anatomy	2	Co: DAE 101	DAS 101 or DAH 104
	3	DAE 101	EFDA I	6	Co: DAE 100	
	4	SPC 156	Interpersonal Communication	3		
Spring	5	DAE 102	EFDA II	3	DAE 100, DAE 101	
	6	CPT 150	Microcomputer Concepts	3		

Total Program Credits 18 EXFDA

Spring Start

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	DAE 100	Dental Anatomy	2		DAS 101 or DAH 104
	3	DAE 101	EFDA I	6	Co: DAE 100	
	4	SPC 156	Interpersonal Communication	3		
Summer	5	DAE 102	EFDA II	3	DAE 100, DAE 101	
	6	CPT 150	Microcomputer Concepts	3		

Total Program Credits 18 EXFDA

Forensic Science, AAS

School of Math, Science, and Engineering

The Forensic Science AAS is designed to provide students with the skills, knowledge and hands-on experiences to prepare them for work as a forensic science technician.

A Forensic Science Certificate-Forensic Science Investigator program is also available.

Career Opportunities

Graduates of this program can work as crime science technicians, lab technicians, evidence room technicians or fingerprint identification technicians.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Handle chemicals and biological specimens safely with proper health and environmental considerations.
- Handle laboratory equipment safely.
- Perform analytical tests.
- Collect, identify, classify, and analyze physical evidence related to criminal investigations.
- Perform tests on weapons or substances, such as fiber, hair and tissue to determine significance to investigations.
- Testify as expert witnesses on evidence or crime laboratory techniques.
- Serve as specialists in an area of expertise, such as fingerprinting, handwriting or biochemistry.
- Ensure chain of custody of evidence.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	FOR 110	Introduction to Forensic Biology	4		
	3	CHM 120	Chemical Lab and Safety	2		
	4	CPT 150	Microcomputer Concepts	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
1st Spring	6	MTH 157	College Algebra	3	MTH 100, 100A or Placement	
	7	ALH 122	Medical Terminology	3		
	8	FOR 160	Introduction to Forensic Toxicology	4		
	9	BIO 171	Anatomy & Physiology I	4	CHM 107, 150/151 or 225 or HS Chemistry & ENG 095 or Placement	
	10	ENG 162	Technical Communication	3	ENG 161	
2nd Fall	11	MTH 160	Introduction to Statistics	3	MTH 052, 052A or Placement	
	12	FOR 130	Introduction to Pathology	4		
	13	BIO 172	Anatomy & Physiology II	4	BIO 171	
	14	CRJ 155	Introduction to Criminal Justice	3		
	15	CRJ 163	Criminal Procedures	3		
2nd Spring	16	BIO 265	Microbiology	4	BIO 155 or 171 and CHM 107, CHM 150/151, CHM 225 or HS Chemistry & ENG 085 or Placement	
	17	CHM 199	Chemistry Internship I	3		
	18	CHM 225	Chemistry for the Health Sciences	4	CHM 107, CHM 150/151 or HS Chemistry	
	19	CRJ 296	Introduction to Criminalistics	3		
	20	PHL 161	Introduction to Ethics	3		
Total Program Credits				66		STF

Forensic Science, Certificate

School of Math, Science, and Engineering

The Forensic Science Certificate is designed to provide additional skills for those who wish to become forensic investigators for a police department, law firm, insurance company or other investigative agency.

A Forensic Science AAS program is also available.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze scientific evidence from crime scenes.
- Use scientific evidence in criminal investigations.
- Utilize skills as an expert witness in conjunction with other skills (lawyer, clinical lab technician, nurse, policeman, etc.).

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	FOR 110	Introduction to Forensic Biology	4		
	3	FOR 130	Introduction to Pathology	4		
	5	CRJ 155	Introduction to Criminal Justice	3		
Spring	4	FOR 160	Introduction to Forensic Toxicology	4		
	6	CRJ 163	Criminal Procedures	3		
	7	CRJ 296	Introduction to Criminalistics	3		

Total Program Credits 22 FORSC

Healthcare Management, AAS

School of Technology

The Healthcare Management AAS program combines specific course work in human biology, medical terminology, medical billing and inpatient/outpatient coding. During the last semester, students will have the opportunity to apply their skills by completing an internship. This curriculum is designed to provide the student with the knowledge to enter the medical billing/coding arena.

Career Opportunities

Graduates from the Healthcare Management AAS program may find employment as medical office personnel, medical registrars, billing specialists, insurance verifiers, schedulers, entry-level coders, claims processors and unit secretaries.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze and record billing transactions and insurance claims using a computerized medical program.
- Apply correct coding techniques in billing and preparing insurance claims.
- Demonstrate electronic processing skills using computer software.
- Demonstrate proficiency with implementing medical insurance and electronic health regulations by using various software programs.
- Demonstrate proficiency in word processing, written communication, medical terminology, medical billing, coding, and reimbursement.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	BIO 107	Human Biology	3		BIO 171 & 172
	3	BUS 140	Introduction to Business	3		BUS 158
	4	CPT 150	Microcomputer Concepts	3		
	5	CIS 168	Principles of Information Security	3		
	6	HCM 145	Medical Office Procedures	3		
1st Spring	7	BUS 245	Principles of Marketing	3		
	8	ENG 161	College Writing	3	ENG 085 or Placement	
	9	HCM 130	A&P for Medical Offices	3	BIO 107 or BIO 171 & 172	
	10	HCM 250	Diagnostic Medical Coding	3	BIO 107 or BIO 171 & 172	
	11	HCM 260	Procedural Medical Coding	3	BIO 107 or BIO 171 & 172	
2nd Fall	12	BUS 120	Mathematics of Business	3	MTH 050, 050A or Placement	
	13	HCM 150	Introduction to Health Information	3		
	14	HCM 165	Law & Ethics Healthcare	3		
	15	SPC 156	Interpersonal Communication	3		SPC 155
	16	ENG 163	Business Communication	3	ENG 161	ENG 162 or 164
2nd Spring	17	HCM 155	Electronic Health Record	3		
	18	SOC 155	Principles of Sociology	3		PSY 160
	19	HCM 199 or HCM 299	Internship or Virtual Capstone	3	Major QPA 2.0, See Course Descriptions for Prerequisites	BUS 241
	20	HCM 270	Hospital Billing Coding	3	BIO 107, HCM 130, HCM 250, HCM 260	
	21	HCM 285	Advanced Medical Coding	3	HCM 145, HCM 250 & HCM 260 and 20 credit hours of HCM courses	
Total Program Credits				61		HCM

Healthcare Management, Diploma
School of Technology

The Healthcare Management Diploma program combines course work in human biology, medical terminology, transcription, medical office duties, electronic health record and billing processes. Courses included in this diploma program may be applied toward the Healthcare Management AAS program.

Career Opportunities

Graduates of the Healthcare Management Diploma program may find employment as medical administrative assistants, medical office personnel, medical records assistants, unit secretaries, admissions clerks, claims processors and medical records technicians.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate proficiency in writing, basic math and communication.
- Collect, prepare, file, store, and retrieve information using various software programs.
- Demonstrate proficiency using practice management and electronic health record software.
- Work independently or in teams to demonstrate effective interpersonal and problem-solving skills, attitudes and work habits.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	BIO 107	Human Biology	3		BIO 171 & 172
	3	CPT 150	Microcomputer Concepts	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	HCM 145	Medical Office Procedures	3		
	6	SPC 156	Interpersonal Communication	3		SPC 155
Spring	7	BUS 120	Mathematics for Business	3	MTH 050, 050A or Placement	
	8	BUS 245	Principles of Marketing	3		
	9	HCM 130	A&P for Medical Offices	3	BIO 107 or BIO 171 & 172	
	10	HCM 150	Introduction to Health Information	3		
	11	HCM 155	Electronic Health Records	3		

Total Program Credits 31 HCMG

Healthcare Management, Certificate

School of Technology

The Healthcare Management Certificate is designed for students who are interested in medical administration. Course work combines medical terminology, medical office procedures and medical billing management software. Courses in this certificate may be applied toward the Healthcare Management Diploma and AAS.

Career Opportunities

Graduates from the Healthcare Management Certificate program may find employment as medical administrative assistants, medical office personnel, medical records assistants and patient access representatives.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate skills in electronic processing and claims processing.
- Collect, prepare, file, store and retrieve information using various software programs.
- Demonstrate proficiency with implementing medical insurance and electronic health regulations by using various software programs.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		
	3	CIS 168	Principles of Information Security	3		
	4	HCM 145	Medical Office Procedures	3		
	5	BUS 245	Principles of Marketing	3		
	6	HCM 150	Introduction to Health Information	3		
	7	HCM 155	Electronic Health Records	3		
Total Program Credits				19		HCMGT

Healthcare Management, Certificate

ADVANCED STANDING MEDICAL CODING

School of Technology

The Healthcare Management, Advanced Standing Medical Coding Certificate is designed for current up-to-date licensed LPN, RN, BSN, MSN or other current up-to-date licensed personnel who are interested in medical coding. Course work combines current license, medical terminology and anatomy, international classification of disease (ICD-10-CM), current procedural coding (CPT-4), hospital billing/coding and advanced coding alongside either medical office procedures or electronic health record. Courses in this certificate may be applied toward the Healthcare Management Certificate, Diploma and AAS.

Career Opportunities

Graduates with the Healthcare Management, Advanced Standing Medical Coding Certificate may find employment as entry-level coders, case managers, and appeals processors with doctors' offices, outpatient facilities, inpatient facilities and insurance companies.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply correct coding techniques for ICD-10-CM, ICD-10-PCS, CPT-4 and HCPCS for medical charting and billing.
- Demonstrate skills in electronic processing and claims processing.
- Demonstrate proficiency and implement medical insurance and electronic health regulations by using various programs.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall, Spring, or Summer	1	HCM 130	A&P for Medical Office	3	Adv Standing	
	2	HCM 145	Medical Office Procedures	3	Adv Standing	
	3	HCM 250	Diagnostic Medical Coding	3	Adv Standing	
	4	HCM 260	Procedural Medical Coding	3	Adv Standing	
	5	HCM 270	Hospital Billing/Coding	3	HCM 130, 250, 260	
	6	HCM 285	Advanced Medical Coding	3	HCM 130, 250, 260	
Total Program Credits				18		HCMCO

Heating, Ventilation, Air Conditioning and Refrigeration, AAS

School of Technology

This program provides students with an in-depth background of the heating, ventilation, air conditioning and refrigeration industry. By combining theory and practical shop experiences, students will develop the skills needed for design, installation, maintenance, and troubleshooting HVACR systems for residential and commercial applications. The heating ventilation and air conditioning diploma is designed to prepare students for entry-level positions in the HVAC&R field. Students learn the refrigerants used in the industry, the basic refrigeration cycle, calculate design load and duct sizing to ACCA standards, fabricate ductwork, and control circuitry. The skills to install and service gas and oil furnaces are stressed. Students will install and service water based heating and cooling systems, air conditioners and heat pumps, basic wiring, and learn refrigerant recovery techniques.

Career Opportunities

Recent graduates of the HVAC program have obtained jobs with the following titles: HVAC instructor, HVAC system designer, service technician, installer, inside salesperson, maintenance technician, contractor and troubleshooter.

Program Learning Outcomes

Upon successful completion of this degree, students will be able to:

- Demonstrate the skills, professional values and ethics necessary to be employed in the heating, ventilation and air conditioning field.
- Demonstrate effective oral and written communication skills with customers, salespersons, and fellow employees.
- Describe the general principles and terminology of HVAC systems.
- Become certified in EPA Refrigerant Handling by preparing to pass the EPA Refrigeration Exam.
- Understand basic electrical and control circuitry.
- Demonstrate the ability to utilize direct digital controls.
- Design, install and maintain hydronic heating and cooling equipment.
- Use computers and the internet to calculate HVAC loads, design ducts and hydronic systems.
- Build and maintain heating, air conditioning, ventilation and heat pump equipment.
- Understand the operation of gas and oil furnaces.
- Understand and implement heating and air conditioning systems that utilize natural technologies.
- Demonstrate the ability to read and understand blueprints for residential and commercial structures.
- Design, install and maintain heating and cooling equipment.
- Identify and demonstrate the proper use of HVAC hand tools, meters and gauges.
- Demonstrate the ability to fabricate ductwork.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	HAC 257	Commercial Refrigeration	4		
	3	HAC 101	Introduction to Refrigeration/AC	4		
	4	HAC 240	HVAC Duct Fabrication	2		
	5	HAC 175	Direct Digital Controls	2		
	6	HAC 280	Residential Wiring	3		
1st Spring	7	HAC 105	Blueprint Reading for HVAC Techs	2		
	8	HAC 170	HVACR Control Sys	2		
	9	HAC 255	Air Conditioning/Heat Pumps	4		
	10	HAC 150	ACCA Man J and Man D Load Est.	4		
	11	HAC 290	EPA Refrigerant Exam Prep.	3		
2nd Fall	12	ENG 161	College Writing	3	ENG 085 or Placement	
	13	HAC 250	Gas and Oil Heating Technology	4		
	14	HAC 256	Geothermal and Solar Technology	3		
	15	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A, or Placement	
	16	Elective	Drafting (DFT courses)	3-4		
2nd Spring	17	DFT 258	AutoCAD	4		
	18	ENG 162	Technical Communications	3	ENG 161	ENG 163 or ENG 164
	19	HAC 260	Hydronics	4		
	20	Science	Science Elective	3-4		Page 25 Column V
	21	Social Science	Social Science Elective	3		Page 25 Column III

Total Program Credits 65-67 HVA

Heating, Ventilation and Air Conditioning, Diploma
School of Technology

The Heating, Ventilation and Air Conditioning Diploma is designed to prepare students for entry-level positions in the HVAC & R field. In the classroom and through lab experiences the student learns the refrigerants used in the industry, the basic refrigeration cycle, to fabricate ductwork, and control circuitry. The students also learn the skills to install and service gas and oil furnaces. Students will install and service water based heating and cooling systems, air conditioners and heat pumps, basic wiring, and learn refrigerant recovery techniques.

Career Opportunities

Graduates of this program will obtain jobs as ductwork fabricators, service technicians, installers, maintenance technicians or troubleshooters.

Program Learning Outcomes

Upon successful completion of this degree, students will be able to:

- Demonstrate the skills, professional values and ethics necessary to be employed in the heating, ventilation and air conditioning field.
- Demonstrate effective oral and written communication skills with customers, salespersons, and fellow employees.
- Identify and demonstrate the proper use of HVAC hand tools, meters and gauges.
- Describe the general principles and terminology of HVAC systems.
- Design, install and maintain heating and cooling equipment.
- Design, install and maintain hydronic heating and cooling equipment.
- Demonstrate the ability to utilize direct digital controls.
- Understand and implement heating and air conditioning systems that utilize natural technologies.
- Demonstrate the ability to read blueprints for residential and commercial structures.
- Read and interpret electrical ladder and pictorial diagrams to understand basic electrical and control circuitry in HVAC systems.
- Demonstrate the ability to fabricate ductwork.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	HAC 101	Introduction to Refrigeration/AC	4		
	3	HAC 240	HVAC Duct Fabrication	2		
	4	HAC 175	Direct Digital Controls	2		
	5	HAC 250	Gas and Oil Heating Technology	4		
	6	HAC 256	Geothermal and Solar Technology	3		
1st Spring	7	HAC 105	Blueprint Reading for HVAC Technicians	2		
	8	HAC 170	HVACR Control Systems	2		
	9	HAC 255	Air Conditioning/Heat Pumps	4		
	10	HAC 260	Hydronics	4		
	11	HAC 290	EPA Refrigerant Exam Prep	3		

Total Program Credits 31 HVAC

Heating, Ventilation and Air Conditioning, Certificate

MECHANIC I

School of Technology

The Heating, Ventilation and Air Conditioning Mechanic I Certificate is designed to prepare students for entry-level positions in the HVAC field. The class and lab experiences will help the student develop skills to work with the installation and service of heating and cooling systems, air conditioners and heat pumps, basic wiring, gas and oil furnaces, and refrigerant recovery techniques.

Career Opportunities

Graduates of this program can obtain jobs as service technicians, installers, maintenance technicians or troubleshooters.

Program Learning Outcomes

Upon successful completion of this degree, students will be able to:

- Demonstrate the skills, professional values and ethics necessary to be employed in the heating, ventilation and air conditioning field.
- Demonstrate effective oral and written communication skills with customers, salespersons, and fellow employees.
- Describe the general principles and terminology of HVAC systems.
- Identify and interpret occupational health and safety standards in the entry-level occupation.
- Demonstrate the ability to utilize direct digital controls
- Design, install and maintain heating and cooling equipment.
- Understand the operation of gas and oil furnaces.
- Build and maintain air conditioning, gas furnace and oil burning systems.
- Demonstrate the ability to utilize direct digital controls.
- Understand and implement heating and air conditioning systems that utilize natural technologies.
- Build and maintain air conditioning and heat pump equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	HAC 101	Introduction to Refrigeration/AC	4		
	3	HAC 240	HVAC Duct Fabrication	2		
	4	HAC 175	Direct Digital Controls	2		
	5	HAC 250	Gas and Oil Heating Technology	4		
	6	HAC 256	Geothermal and Solar Technology	3		
Total Program Credits				16		HVAC1

Heating, Ventilation and Air Conditioning, Certificate

MECHANIC II

School of Technology

The Heating, Ventilation and Air Conditioning Mechanic II Certificate is designed to prepare students for entry-level positions in the HVAC field. In the classroom and through lab experiences the student will learn the types of refrigerants used in the industry, the basic refrigeration cycle, how to fabricate ductwork and how to utilize control circuitry. The students will also learn to install and service hydronic systems.

Career Opportunities

Graduates of this program can obtain jobs as ductwork fabricators, service technicians, installers, maintenance technicians and/or troubleshooters.

Program Learning Outcomes

Upon successful completion of this degree, students will be able to:

- Demonstrate the skills, professional values and ethics necessary to be employed in the heating, ventilation and air conditioning field.
- Demonstrate effective oral and written communication skills with customers, salespersons, and fellow employees.
- Describe the general principles and terminology of HVAC systems.
- Demonstrate the ability to read blueprints for residential and commercial structures.
- Identify and interpret occupational health and safety standards in the entry-level occupation.
- Read and interpret electrical ladder and pictorial diagrams to wire and troubleshoot HVAC systems.
- Design, install and maintain hydronic heating and cooling equipment.
- Use control logic to find and repair electrical problems in air conditioning and heat pump systems.
- Identify and demonstrate the proper use of HVAC hand tools, meters and gauges.
- Become certified in EPA Refrigerant Handling by preparing to pass the EPA Refrigeration Exam.
- Demonstrate the ability to fabricate ductwork.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	HAC 105	Blueprint Reading for HVAC Technicians	2		
	3	HAC 170	HVACR Control Systems	2		
	4	HAC 255	Air Conditioning/Heat Pumps	4		
	5	HAC 260	Hydronics	4		
	6	HAC 290	EPA Refrigerant Exam Prep.	3		
Total Program Credits				16		HVAC

Hospitality Management, AAS
School of Culinary Arts and Hospitality

Program Description

The Hospitality Management Associate Degree Program is planned to meet the industry needs of various levels of management positions in commercial food service operations such as restaurants, hotels, and resorts and non-commercial food service operations such as long-term care, retirement centers, nutrition programs for children and elderly, hospitals, and food service management companies. The program includes classroom and laboratory experiences and requires students to complete a capstone internship. Students are responsible for securing an internship site that meets the program requirements. This major accommodates both part-time and full-time students. Students are required to adhere to the department policies and procedures as stated in the School of Culinary Arts/Hospitality Student Handbook.

Requirements for the program include but are not limited to:

- Laboratory Uniform
- Tool Kit
- Business Attire
- Special attire may be required at the internship site
- Transportation to the internship site is required.

Graduates of this program are eligible to become members of the Association of Food and Nutrition Professionals and to complete the certification examination to become a Certified Dietary Manager (CDM) if they take the FSM 159 Nutrition or CUL 243 Nutritional Cooking and Baking course.

Career Options

Graduates of the Hospitality Management Associate Degree program have accepted jobs with the following titles: general operations manager, catering manager, restaurant sales representative, restaurant manager, food purchasing agent, training and development specialist, front of the house manager, food service managers/supervisors, lodging operations manager, lodging assistant manager, concierge representatives, special event coordinator, sales manager, school food service managers, and nutritional services managers/supervisors.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Apply organizational and communication skills in supervising food production
- Implement cost control procedures applying mathematical concepts of profit and loss
- Enforce and adhere to sanitation and safety standards
- Write job descriptions, specifications and work schedules for employees
- Design menus, analyze specialized meal patterns and write standardized recipes
- Demonstrate the ability to work as part of a team
- Evaluate food quality and meal acceptance
- Utilize interpersonal skills to supervise staff and to communicate with the team
- Procure and receive supplies and equipment
- Retrieve and manage information using the latest technology
- Utilize technology to plan, organize and document information
- Utilize basic practical mathematical skills
- Assist in the organization, development, implementation and evaluation systems
- Practice the technical skills needed for successful daily operations
- Analyze and apply marketing objectives and sales strategies to the operation necessary for the management of the facility.
- Analyze records, financial data, and systems of operation
- Identify and satisfy diverse customer expectations.

Hospitality Management, AAS
School of Culinary Arts and Hospitality

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq(s)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		
	4	FSM 170	Food Culture and Religion	3		
	5	FSM 118	Sanitation	2		
	6	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
1st Spring	7	FSM 215	Purchasing and Operations	3		
	8	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or placement	
	9	CUL 105	Foods I	3	CUL 104	
	10	BUS 140	Intro to Business	3		
	11	FSM 113	Customer Service	3		
2nd Fall	12	CUL 220	Culinary Bistro	3	CUL 105	
	13	FSM 120	Wine Appreciation	1		
	14	HMT 266	Event Management	3	FSM 103	
	15	FSM 117	Waitstaff Dining Room Training	1		
	16	FSM 119	Beverage Management	1		
	17	HMT 262	Lodging and Property Management	3		CUL 243, FSM 159
	18	CPT 150	Microcomputer Concepts	3		
2nd Spring	19	BUS 188	Social Media and Business	3		
	20	FSM 235	Supervision and Training	3		
	21	FSM 219	Hospitality Internship	3	Instructor Permission	
	22	ENG 163	Business Communications	3	ENG 161	ENG 164
	23	Elective	Social Science Elective	3		Page 43 Column III

Hospitality Management, Diploma

School of Culinary Arts and Hospitality

Program Description

The Hospitality Management Diploma program is designed to prepare students for mid-levels of management positions in the hospitality industry. Emphasis is given to the development of hospitality knowledge and skills in essential areas such as sanitation, customer service, and management. Business attire may be required for some classes.

Career Opportunities

Graduates of the hospitality management diploma program may accept positions as restaurant industry shift manager, food production manager, lodging industry supervisors, and dietary supervisors.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify procedures and responsibilities of departmental teams with a hospitality operation.
- Identify and satisfy diverse customer expectations.
- Demonstrate sound practices of sanitation and safety.
- Utilize technology to maintain systems of operation.
- Evaluate and write menus, purchase orders and inventories.
- Coordinate a hospitality team.
- Identify foods and prepare according to recipe.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CUL 104	Foundations of Cooking and Baking	3		
	3	FSM 103	Introduction to the Hospitality Industry	3		
	4	FSM 118	Sanitation	2		
	5	CPT 150	Micro Computer Concepts	3		
1st Spring	6	FSM 215	Purchasing and Operations	3		
	7	FSM 113	Customer Service	3		
	8	CUL 105	Foods I	4	CUL 104	
	9	FSM 235	Supervision and Training	3		
2nd Fall	10	CUL 220	Culinary Bistro	3	CUL 105	
	11	HMT 266	Event Management	3	CUL 105	
	12	FSM 117	Waitstaff Dining Room Training	1		
	13	FSM 119	Beverage Management	1		

Total Program Credits 33 HOM

Hospitality Management, Certificate

School of Culinary Arts and Hospitality

Program Description

The Hospitality Management Certificate Program is designed to prepare students for entry-levels of supervisory positions in the hospitality industry. Emphasis is given to the development of hospitality knowledge and skills in essential areas such as sanitation, customer service, and management. Business attire may be required for some classes.

Career Opportunities

Graduates of the hospitality management certificate program may accept positions as restaurant industry shift supervisors, dining room manager, lodging industry shift supervisors, and dietary shift supervisors.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the procedures and responsibilities of departmental teams with a hospitality operation.
- Identify and satisfy diverse customer expectations.
- Demonstrate sanitation and safety.
- Utilize technology in systems of operation.
- Evaluate menus to maintain purchase orders and inventories.
- Assist with coordination of a hospitality team.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall or Spring	1	PDV 101	First Year Seminar	1		
	2	FSM 103	Introduction to the Hospitality Industry	3		
	3	FSM 118	Sanitation	2		
	4	FSM 117	Waitstaff/Dining Room Training	1		
	5	FSM 113	Customer Service	3		
	6	FSM 215	Purchasing and Operations	3		
	7	FSM 235	Supervision and Training	3		
	8	CPT 150	Micro Computer Concepts	3		

Total Program Credits 19 HOSTM

Journeyman Machining Technology, AAS

School of Technology

This program prepares students for employment, advancement and certification in both the manual and computer numerical control (CNC) machining industries. Students will learn to read and interpret prints, use common hand tools, set up and operate metal cutting machines including mills, lathes and grinders and use precision measuring equipment. Students will also learn to create machine code programs for CNC equipment, and load, troubleshoot and execute the programs on CNC equipment including three-, four- and five-axis mills and two- and three-axis lathes. Students will fulfill the required classroom training hours for the Pennsylvania Journeyman Certificate, which may be obtained by completing the required shop experience hours from an associated machine shop.

Career Opportunities

Graduates of this program can expect to be employed as machinists, tool and die makers, metalworkers, CNC programmers and CNC operators. This program can also benefit those desiring to become managers and designers.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Select appropriate materials and processes to produce parts
- Interpret conventional and GD&T blueprints.
- Utilize mathematics in the layout and production of parts.
- Design parts and fixtures using CAD drafting software.
- Produce G-code machine programs using CAM software.
- Effectively plan and sequence work operations.
- Produce quality parts and fixtures using various materials.
- Inspect parts based on tolerance specifications.
- Analyze and solve hardware and production problems.
- Communicate effectively and appropriately.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CNC 111	Computer Numerical Control I	4	MTH 052, Placement, or Instructor Permission (Co)	
	3	MTT 101	Blueprints	4	MTH 052, Placement, or Instructor Permission (Co)	
	4	MTT 111	Machining I	4	MTH 052, Placement, or Instructor Permission (Co)	
	5	MTH 104	Intro. to Applied Mathematics	4	MTH 050, 050A or Placement	
1st Spring	6	CNC 112	Computer Numerical Control II	4	CNC 111, or Instructor Permission MTH 104, Placement, or Instructor Permission (Co)	
	7	DFT 258	AutoCAD	4		
	8	MTT 112	Machining II	4	MTT 111, or Instructor Permission MTH 104, Placement, or Instructor Permission (Co)	
	9	MTH 108	Mathematics for Technologies I	4	MTH 104 or Placement	
2nd Fall	10	CNC 213	Computer Numerical Control III	4	CNC 112	
	11	MTT 207	Tool Design	3	MTT 111 and CNC 111	
	12	MTT 201	Inspection	3	MTT 101	
	13	Elective	Restricted Elective	4		See List
	14	ENG 161	College Writing	3	ENG 085 or Placement	
2nd Spring	15	ENG 162	Technical Communication	3	ENG 161	
	16	DFT 112	Introduction to Design, Materials, and Processing	3		
	17	MTT 202	Maintenance	3	MTT 111	
	18	Elective	Restricted Elective	4		See List
	19	Elective	Social Science Elective	3		Page 25 Column III
Total Program Credits				66		JRM

Restricted Electives: CNC 214; DFT 266; MTT 213; MTT 214; WEL 125;
Courses with Prefix: DFT, RBT, ELC, EGR, HAC, MET, PHY, WEL (Prefix courses must be approved and meet credit requirements.)

Journeyman Machining Technology, Diploma

School of Technology

This program is specifically designed for those who are employed full-time and are seeking to complete the classroom training hours for the Pennsylvania Journeyman Certification by taking one course per semester. This state certification can subsequently be achieved by completing the required number of shop experience hours with companies who are set up with the state in association with the Westmoreland classroom program.

Students will learn to read and interpret prints, use common hand tools, set up and operate metal cutting machines including mills, lathes and grinders, and use precision measuring equipment. Students will also learn to create machine code programs for CNC equipment and load, troubleshoot and execute the programs on CNC mills and lathes.

Students will receive 33 college level credits toward an AAS degree. The Journeyman Machining Technology degree may be achieved by completing the necessary additional credits.

Career Opportunities

Graduates of this program can expect to increase their employability as machinists, tool and die makers, metalworkers, CNC programmers and CNC operators.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Select appropriate materials and processes to produce parts.
- Interpret conventional and GD&T blueprints.
- Utilize mathematics in the layout and production of parts.
- Design parts and fixtures using CAD drafting software.
- Produce G-code machine programs using CAM software.
- Effectively plan and sequence work operations.
- Produce quality parts and fixtures using various materials.
- Inspect parts based on tolerance specifications.
- Analyze and solve hardware and production problems.
- Communicate effectively and appropriately.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	CNC 111	Computer Numerical Control I	4	MTH 052, Placement, or Instructor Permission (Co)	
	3	MTT 101	Blueprints	4	MTH 052, Placement, or Instructor Permission (Co)	
	4	MTT 111	Machining I	4	MTH 052, Placement, or Instructor Permission (Co)	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050, 050A or Placement	
1st Spring	6	CNC 112	Computer Numerical Control II	4	CNC 111 or Instructor Permission MTH 104, Placement, or Instructor Permission (Co)	
	7	MTT 207	Tool Design	3	MTT 111 and CNC 111	
	8	MTT 202	Maintenance	3	MTT 111	
	9	ENG 161	College Writing	3	ENG 085 or Placement	
	10	DFT 112	Introduction to Design, Materials, and Processing	3		
Total Program Credits				33		JOUR

Journeyman Machining Technology, Certificate I

School of Technology

This program prepares students for entry-level employment in both the manual and computer numerical control (CNC) machining industries. Students will learn the basic use of machine shop hand tools, mills, lathes and grinders. Students will produce and execute G-code programs on CNC mills and lathes. Students will learn to read and interpret both conventional and GD&T blueprints. Students will also gain the mathematical skills necessary to machine shop production.

This is the first of four certificate programs for students pursuing the Journeyman Machining Technology AAS.

Career Opportunities

Graduates of this program can expect to be employed as entry-level machinists, tool and die makers, metalworkers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Use basic shop hand tools to produce simple parts.
- Operate manual mills, lathes and grinders.
- Write and troubleshoot CNC G-code programs.
- Execute programs on CNC mills and lathes.
- Interpret conventional and GD&T blueprints.
- Use mathematics to solve shop equations.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CNC 111	Computer Numerical Control I	4	MTH 052, Placement, or Instructor Permission (Co)	
	3	MTT 101	Blueprints	4	MTH 052, Placement, or Instructor Permission (Co)	
	4	MTT 111	Machining I	4	MTH 052, Placement, or Instructor Permission (Co)	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050, 050A or Placement	
Total Program Credits				17		JOURN

Journeyman Machining Technology, Certificate II

School of Technology

This program prepares students for upper entry-level employment in both the manual and computer numerical (CNC) machining industries. Students will learn to produce G-code programs for CNC mills and lathes using MasterCAM. Students will also learn the properties of materials and the processes used to turn raw materials into finished products. Students will learn to design and draw parts using AutoCAD. Students will also advance their mathematical skills for machine shop production.

This is the second of four certificate programs for students pursuing the Journeyman Machining Technology degree.

Career Opportunities

Graduates of this program can expect to be employed as upper entry-level machinists, tool and die makers, metalworkers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Generate G-code programs using MasterCAM.
- Execute these programs on CNC mills and lathes.
- Select appropriate materials and processes to produce parts.
- Design parts and fixtures using AutoCAD.
- Solve advanced mathematical shop formulas.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	CNC 112	Computer Numerical Control II	4	CNC 111 or Instructor Permission MTH 104, Placement, or Instructor Permission (Co)	
	3	DFT 258	AutoCAD	4		
	4	MTH 108	Mathematics for Technologies	4	MTH 104 or Placement	
	5	MTT 112	Machining II	4	MTT 111 or Instructor Permission MTH 104, Placement, or Instructor Permission (Co)	
Total Program Credits				17		JRNT2

Journeyman Machining Technology, Certificate III

School of Technology

This program prepares students for lower mid-level employment in both the manual and computer numerical (CNC) machining industries. Students will learn to produce multi-axis mill and lathe G-code programs using MasterCAM. They will also learn the design principles for creating jigs and fixtures used in production work. Students will learn to use manual and digital methods to inspect parts to specific tolerances. Students will also learn to communicate effectively.

This is the third of four certificate programs for students pursuing the Journeyman Machining Technology AAS.

Career Opportunities

Graduates of this program can expect to be employed as lower mid-level machinists, tool and die makers, metalworkers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Generate multi-axis G-code using MasterCAM.
- Execute these programs on multi-axis lathes and mills.
- Design and build production jigs and fixtures.
- Inspect parts based on tolerance specifications.
- Communicate effectively and appropriately.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CNC 213	Computer Numerical Control III	4	CNC 112	
	3	MTT 207	Tool Design	3		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTT 201	Inspection	3	MTT 101	
	6	Elective	Restricted Elective	4		See List
Total Program Credits				18		JRNT3

Restricted Electives: DFT 266; MTT 213; WEL 125;
Courses with Prefix: DFT, RBT, ELC, EGR, HAC, MET, PHY, WEL (Prefix courses must be approved and meet credit requirements.)

Journeyman Machining Technology, Certificate IV

School of Technology

This program prepares students for upper mid-level employment in both the manual and computer numerical (CNC) machining industries. Students will learn to effectively use advanced manual operations on mills, lathes and grinders in the production of parts. Students will also learn to perform periodic maintenance and repair shop equipment and systems. Students will also acquire technical communication skills and take a social study elective.

This is the fourth of four certificate programs for students pursuing the Journeyman Machining Technology degree.

Career Opportunities

Graduates of this program can expect to be employed as mid-level machinists, tool and die makers, metalworkers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Effectively produce parts using manual mills, lathes and grinders
- Utilize special tooling and fixtures in precision machining
- Perform periodic maintenance and repair shop equipment
- Demonstrate technical communication skills
- Complete the degree requirements with an elective study.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	ENG 162	Technical Communication	3	ENG 161	
	3	DFT 112	Introduction to Design, Materials, and Processing	3		
	4	MTT 202	Maintenance	3	MTT 111	
	5	Elective	Restricted Elective	4		See List
	6	Elective	Social Science Elective	3		Page 25 Column III

Total Program Credits 17 JRNT4

Restricted Electives: CNC 214; DFT 266; MTT 213; MTT 214; WEL 125;
Courses with Prefix: DFT, EMA, ELC, EGR, HAC, MET, PHY, WEL (Prefix courses must be approved and meet credit requirements.)

Program Description

The Medical Assisting Diploma program is designed to prepare medical assistants who are competent in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains to enter the professions. The Medical Assisting 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). Graduates apply for the national Certified Medical Assistant (CMA) examination. Students are also eligible for the Registered Medical Assistant (RMA), Certified Clinical Medical Assistant (CCMA), the Registered Phlebotomy Technician (RPT), and the Certified Phlebotomy Technician (CPT) credentials.

This is a selective admission program. Please see the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Perform administrative functions such as patient reception, scheduling appointments, form preparation, ordering supplies and maintaining patient records.
- Assist physicians with general physical examination and related patient procedures.
- Collect, transport, handle and process laboratory specimens for analysis
- Administer medications measure vital signs.
- Demonstrate professional conduct, stress management, and interpersonal and communication skills with patients, the public, peers and other health care personnel.
- Display an understanding of requisitioning and the legal implications of their work environment.
- Recognize and act upon individual needs for continuing education as a function of growth and maintenance of professional competence.

Sugg. Term	Seq. #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	OFT 110	Document Processing I	3	OFT 100 or Satisfactory Skills Test	
	3	BIO 107	Human Biology	3		BIO 171 & 172
	4	CPT 150	Microcomputer Concepts	3		
	5	MAS 100	Introduction to Medical Assisting	4		
Spring	6	ALH 122	Medical Terminology	3		
	7	PSY 160	General Psychology	3		
	8	HCM 145	Medical Office Procedures	3		
	9	MAS 105	Administrative Procedures	3	MAS 100	
	10	MAS 110	Clinical Procedures	4	MAS 100	
Summer	11	OFT 235	Customer Service	3		
	12	MAS 120	Practicum	3	MAS 105, MAS 110	

Total Program Credits 36 MEAS

Nanotechnology, AAS

School of Math, Science and Engineering

The Nanotechnology AAS prepares students for work in diverse fields such as biotechnology, pharmaceutical research, nanomanufacturing, semiconductor manufacturing, and more. Students learn to work with materials at nanoscale in analysis, production, and data collection. Graduates' skills include product flow, quality control, and problem solving. Students complete the first three semesters at Westmoreland then complete nanotechnology courses at the Nanofabrication Facility at Penn State University (PSU) in University Park, PA. Students need to apply for admission for the nanotechnology program at PSU at least one semester prior to the semester at PSU. Tuition for MPT courses completed at Penn State will be equal to Westmoreland tuition.

Career Opportunities

Occupations for graduates of this program include laboratory, quality control, and manufacturing technicians in fields such as bionanotechnology, medicine, pharmaceutical and semiconductor manufacturing, optoelectronics, biomedical applications, and microelectromechanical devices.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of nanotechnology principles and concepts
- Apply concepts from chemistry, engineering, electronics and mathematics to nanotechnology experiments and nanomanufacturing.
- Apply understanding of nanofabrication manufacturing systems to practical situations and laboratory results to experimental applications.
- Operate and maintain nanotechnology electromechanical equipment used in nanotechnology laboratories and basic nanofabrication manufacturing.
- Identify, analyze and troubleshoot problems using systems approach.
- Schedule production, test materials, integrate systems.
- Communicate effectively and appropriately; record and report information significant to the job.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	MPT 101	Introduction to Nanotechnology	1		
	3	MTH 157	College Algebra	3-4	MTH 100, 100A or Placement	MTH 158, 172, 173, 271, 272, 275, 277, 108, or 109
	4	ENG 161	College Writing	3		
	5	CHM 107	Intro. Concepts in Chemistry I	4	MTH 052, 052A or Placement	CHM 108, 155, 156, or 225
1st Spring	6	ENG 162	Technical Communication	3	ENG 161	ENG 164
	7	CPT 145	Intro. to Computer Technology	3		CPT 150, 160, DFT 258, or 266
	8	PHY 107	Applied Physics	4	MTH 100, 100A, 108, or Placement	PHY 155, 156, 255, or 256
	9	Elective	Restricted Program Elective	3-4		
	10	Elective	Restricted Program Elective	3-4		
2nd Fall	11	SOC 155	Principles of Sociology	3		PSY 160, ECN 255, 256, or GEO 155
	12	PHL 155	Introduction to Logic	3		PHL 161, SPC 155, or 156
	13	Elective	Restricted Program Elective	3-4		
	14	Elective	Restricted Program Elective	3-4		
2nd Spring	15	MPT 211	Material Safety & Equipment	3	MTH 157 & ENG 161	
	16	MPT 212	Basic Nanotechnology Process	3	MTH 157 & ENG 161	
	17	MPT 213	Materials in Nanotechnology	3	MTH 157 & ENG 161	
	18	MPT 214	Patterning in Nanotechnology	3	MTH 157 & ENG 161	
	19	MPT 215	Material Modification for Nano	3	MTH 157 & ENG 161	
	20	MPT 216	Testing of Nano Structures and Materials	3	MTH 157 & ENG 161	
Total Program Credits				60-65*		NNT

*This program requires at least 60 credits. Courses taken to fulfill Restricted Program Electives may not also be used to fulfill other course requirements within the program.

Restricted Program Electives:

ALH 122; BIO 107; BIO 145; BIO 155; BIO 156; BIO 171; BIO 172; BIO 210; BIO 255; BIO 265; BIO 285; BUS 158; BUS 262; CHM 107; CHM 108; CHM 150/151; CHM 160/161; CHM 260/261; CHM 270/271; CHM 225; CHM 275; CPT 145; CPT 150; CPT 160; CPT 163; CPT 180; CPT 182; CPT 213; DFT 112; EGR 104; EGR 210; EGR 221; EGR 227; ELC 102; ELC 106; ELC 107; ELC 114; ELC 202; ELC 206; ELC 213; MTH 160; PHY 107; PHY 155; PHY 156; PHY 255; PHY 256; PHY 258; PHY 259;

Nursing, AAS

School of Health Professions

Program Description

The Westmoreland County Community College Associate Degree Nursing Program is a selective admission program that prepares students for a career path in nursing. Nursing students are equipped with the skills needed to assess clinical scenarios, navigate patient interactions and work collaboratively with other healthcare professionals to improve patient outcomes. Enrollment is limited by the clinical placement necessary to complete the nursing course requirements.

The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta , GA 303266; phone 404-975-5000. The ACEN is responsible for the specialized accreditation of nursing education programs and is nationally recognized as a specialized accrediting agency for both postsecondary and higher degree programs in nursing education. The Nursing program is approved by the PA State Board of Nursing, https://www.dos.pa.gov. The Nursing program utilizes Standardized testing to assess student performance.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

Caring (QSEN: Patient Centered Care)
1. Provide safe, quality, evidenced-based, patient centered care with respect for diversity across the lifespan.

Competency (QSEN: Safety)
2. Implement technical aspects of care by following the standards of safe, professional practice.

Communication (QSEN: Teamwork and Collaboration)
3. Implement therapeutic and professional communication when participating in the collaborative care of patients and their families.

Clinical Judgment (QSEN: Evidence-Based Practice and Informatics)
4. Use the nursing process, critical thinking, and clinical reasoning to manage patient care.
5. Use information technologies to coordinate safe care for individuals and their families.

Commitment (QSEN: Quality Improvement)
6. Incorporate nursing actions within the legal and ethical framework of nursing practice by conducting self in a civil and professional manner.

Traditional Daytime Program Option Apply to the Nursing Program by January deadline

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq(s)	Options Available
1st Fall	1.	BIO 172	Anatomy & Physiology II	4	BIO 171	
	2.	NSG 112	Introduction to Professional Nursing	3	BIO 171, CPT 150	
	3.	NSG 114	Health and Physical Assessment	3	BIO 171, CPT 150	
	4.	NSG 116	Foundations of Nursing Care	7	BIO 171, CPT 150	
1st Spring	5.	NSG 124	Medical/Surgical Nursing Care of the Adult	9	BIO 172, NSG 112, NSG 114, NSG 116	
	6.	PSY 160	General Psychology	3		
	7.	ENG 161	College Writing	3	Placement	
	8.	MTH 157	College Algebra	3	Placement	MTH 100, MTH 160
2nd Fall	9.	NSG 212	Specialty Nursing Care Across the Lifespan	10	NSG 124, PSY 160, ENG 161, MTH Elective	
	10.	BIO 265	Microbiology	4		
	11.	ENG 164	Advanced Composition	3	ENG 161	
2nd Spring	12.	NSG 224	Advanced Medical/Surgical Care of the Adult	7	NSG 212, BIO 265, ENG 164	
	13.	NSG 236	Transition to Practice/RN	4	NSG 224	

Total Program Credits 62 program credits + 7 program prerequisite credits= 69 for AAS

Nursing, AAS
School of Health Professions

Traditional Evening Program Option Apply to the Nursing Program by May deadline						
Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq(s)	Options Available
1st Spring	1.	BIO 172	Anatomy & Physiology II	4	BIO 171	
	2.	NSG 112	Introduction to Professional Nursing	3	BIO 171, CPT 150	
	3.	NSG 114	Health and Physical Assessment	3	BIO 171, CPT 150	
	4.	NSG 116	Foundations of Nursing Care	7	BIO 171, CPT 150	
1st Fall	5.	NSG 124	Medical/Surgical Nursing Care of the Adult	9	BIO 172, NSG 112, NSG 114, NSG 116	
	6.	PSY 160	General Psychology	3		
	7.	ENG 161	College Writing	3	Placement	
	8.	MTH 157	College Algebra	3	Placement	MTH 100, MTH 160
2nd Spring	9.	NSG 212	Specialty Nursing Care Across the Lifespan	10	NSG 124, PSY 160, ENG 161, MTH Elective	
	10.	BIO 265	Microbiology	4		
	11.	ENG 164	Advanced Composition	3	ENG 161	
2nd Fall	12.	NSG 224	Advanced Medical/Surgical Care of the Adult	7	NSG 212, BIO 265, ENG 164	
	13.	NSG 236	Transition to Practice/RN	4	NSG 224	

62 program credits + 7 program prerequisite credits= 69 for AAS

Advanced Standing LPN to RN All Level I General Education, and Science courses must be completed with C grade of better and overall GPA of 2.5 prior to NSG 200 (BIO 171, BIO 172, CPT 150, PSY 160, ENG 161, Math Elective = 20 credits)						
Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq(s)	Options Available
#1 SU/FA	1.	NSG 200	Transition to the Role of the RN	3	BIO 171, BIO 172, CPT 150, PSY 160, ENG 161, Math Elective	
	2.	NSG 114	Health and Physical Assessment	3	BIO 171, CPT 150	
CPL	3.	NSG 112	Introduction to Professional Nursing	3	CPL	
	4.	NSG 116	Foundations of Nursing Care	7	CPL	
	5.	NSG 124	Medical/Surgical Nursing Care of the Adult	9	CPL	
1st Fall Spring	6.	NSG 212	Specialty Nursing Care Across the Lifespan	10	NSG 124, PSY 160, ENG 161, MTH Elective	
	7.	BIO 265	Microbiology	4		
	8.	ENG 164	Advanced Composition	3	ENG 161	
1st Spring Fall	9.	NSG 224	Advanced Medical/Surgical Care of the Adult	7	NSG 212, BIO 265, ENG 164	
	10.	NSG 236	Transition to Practice/RN	4	NSG 224	

52 program credits + 20 program prerequisite credits= 72 for AAS

Office Administration, AAS
School of Business

The Office Administration AAS is designed to prepare students for administrative positions in an office setting. Course work is presented in general education, office technology, business procedures and computer technology.

Career Opportunities

Graduates of the Office Administration AAS may find employment as administrative assistants, executive office managers, office managers, executive secretaries, receptionists and personnel clerks. Following provided pathways may also help graduates find employment as medical administrative assistants, medical office personnel, patient access representatives, hospitality administrative assistants, and legal administrative assistants. Opportunities are available in large corporations, small business offices, insurance offices, nonprofit organizations, medical and legal offices, hospitality businesses, and government offices. See Pathway plans.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Use advanced keyboarding, document processing and information management skills.
- Effectively use the Microsoft Office Suite in word processing, spreadsheets, database applications, presentation and desktop publishing software applications.
- Proofread and edit copy with a high degree of accuracy.
- Use appropriate office procedures in records management, telephone communications, electronic and hard copy mail, meetings and conferences, travel arrangements and financial matters.
- Adapt to the changing nature of technology, equipment and procedures while retaining appropriate office practices.
- Work independently or in teams to demonstrate effective interpersonal and problem-solving skills, attitudes, work habits, professional behavior and ethics.
- Provide ethical service to a diverse customer base

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A, or Placement	
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	OFT 110	Document Processing I	3	OFT 100 or Placement	
	5	OFT 140	Office Procedures	3		
	6	OFT 190	Word for Windows	3		
1st Spring	7	Elective	Restrictive Elective	3		
	8	BUS 145	Excel for Business Environment	3		
	9	ENG 163	Business Communications	3	ENG 161	ENG 162
	10	OFT 185	PowerPoint	1		
	11	SPC 156	Interpersonal Communication	3		SPC 155
	12	Elective	Social Science Elective	3		
2nd Fall	13	CPT 196	Access for Windows	3		
	14	ACC 230	Integrated Accounting Software	3		
	15	OFT 220	Transcription	3	OFT 110	
	16	OFT 235	Customer Service	3		
	17	OFT 102	Acrobat Essentials	1		
	18	Elective	Restricted Elective	3		See List
2nd Spring	19	CPT 278	Integrated Office Applications	3	CPT 195, CPT 196, OFT 185 & OFT 190	
	20	OFT 225	Proofreading	3		
	21	OFT 280	Office Management	3	OFT 110, OFT 140, and 20 hours of OFT courses	OFT 299
	22	BUS 188	Social Media	3		
	23	Elective	Restricted Elective	3		See List

Total Program Credits 63 OTA

Legal Pathway
LAS 101 The Legal Assistant
LAS 111 Legal Analysis
LAS 210 Legal Writing

Business Pathway
BUS 140 Introduction to Business
BUS 158 Principles of Management
BUS 241 Human Resource Management
BUS 275 Organizational Behavior

Healthcare Pathway
HCM 145 Medical Office Procedures
HCM 150 Introduction to Health Information
HCM 155 Electronic Health Records

Hospitality Pathway
FSM 103 Introduction to the Hospitality Industry
HMT 262 Lodging and Property Management
HMT 266 Event Management

Office Administration, Diploma

School of Business

The Office Administration Diploma offers course work in office administration, office procedures and computer applications. Courses in this diploma may be applied toward the Office Administration AAS.

Career Opportunities

Graduates of the Office Administration Diploma may find employment as administrative assistants, office managers, receptionists, personnel clerks and word processors. Opportunities are available in large corporations, small business offices, insurance offices, nonprofit organizations, legal offices and government offices.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Key documents using touch-typing with a high degree of speed and accuracy.
- Understand filing principles and office procedures
- Achieve proficiency using Microsoft Office word processing, spreadsheets and presentation software applications.
- Compose and edit business correspondence, reports and forms.
- Provide ethical service to a diverse customer base.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		
	3	ENG 161	College Writing	3	ENG 085 or Placement	
	4	OFT 110	Document Processing I	3	OFT 100 or Placement	
	5	OFT 140	Office Procedures	3		
	6	OFT 190	Word for Windows	3		
Spring	7	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	8	BUS 145	Excel for Business Environment	3		
	9	ENG 163	Business Communication	3	ENG 161	
	10	OFT 185	PowerPoint	1		
	11	OFT 235	Customer Service	3		
	12	Elective	Restricted Elective	3		See List

Total Program Credits 32 OADM

Restricted Electives: BUS 140; BUS 158; BUS 241; BUS 275; HCM 150; LAS 101;

Office Administration, Certificate

CUSTOMER SERVICE

School of Business

The Customer Service Certificate is designed to reach quality customer service by examining the attitudes, knowledge and skills that are needed to work effectively in any job that has contact with clients, customers or patients. Course work combines customer service skills with other courses that emphasize interpersonal communications, keyboarding, mathematics and computer applications. Topics will include improving customer loyalty, customer service, handling complaints and customer relations. Courses in this certificate may be applied toward the Office Administration AAS.

Career Opportunities

Graduates of the Customer Service Certificate may find employment as customer service assistants, customer service representatives, office managers, technical support clerks, customer service clerks and administrative assistants.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Provide ethical service to a diverse customer base.
- Demonstrate skills in using Microsoft Office.
- Perform mathematical calculations required by business.
- Perform data entry with speed and accuracy.
- Professionally communicate verbally and in writing.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	CPT 150	Microcomputer Concepts	3		
	3	OFT 110	Document Processing I	3	OFT 100 or Placement	
	4	SPC 156	Interpersonal Communication	3		
Spring	5	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	6	BUS 140	Introduction to Business	3		
	7	OFT 235	Customer Service	3		
Total Program Credits				19		OTCSV

Office Administration , Certificate

School of Business

The Office Administration Certificate is designed to provide a concentration in keyboarding and the Microsoft Office software products. Office applications covered include Word, Excel and PowerPoint. Courses in this certificate may be applied toward the Office Administration AAS.

Career Opportunities

Graduates of the Office Administration Certificate may find employment as administrative office support, receptionists and personnel clerks.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Develop keyboarding, word processing, spreadsheet and presentation skills.
- Use appropriate office procedures in records information management, telephone communications, electronic and hard copy mail, meetings and conferences and travel arrangements.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	OFT 110	Document Processing I	3	OFT 100 or Placement	
	3	OFT 140	Office Procedures	3		
	4	OFT 190	Word for Windows	3		
Spring	5	BUS 145	Excel for Business Environment	3		
	6	OFT 185	PowerPoint	1		
	7	OFT 235	Customer Service	3		
Total Program Credits				17		OADMN

Legal Studies/Paralegal, AAS

School of Art, Humanities, Social Sciences and Public Service

The Legal Studies/Paralegal AAS is designed to provide students with the knowledge and skills needed to perform legal services on a paraprofessional level, usually under the direct supervision of a lawyer. Typical tasks include legal research, client interviewing, investigation, drafting of pleadings, motions, memoranda and other documents, and creating and maintaining client files.

Career Opportunities

Paralegals are employed by law firms, corporations, government agencies and community legal service agencies. Many legal assistants specialize in one area of the law such as corporate law, real estate, labor law, litigation, domestic law, or estates and trusts.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate effective communication skills, orally and verbally, by actively listening, and by reading and understanding legal documents
- Utilize and apply mathematical concepts and numerical computational skills utilized in a legal setting
- Demonstrate a thorough understanding of diversity in the workplace and in society, citizenship, ethics and human relations.
- Apply effective critical thinking and problem solving skills in interpersonal situations with clients and other professionals in the workplace.
- Collect, analyze, evaluate, and organize information from clients, personnel in the legal system, and apply good research and investigative skills utilizing the appropriate legal terminology.
- Utilize effective interpersonal skills with others in the legal environment, including supervisors, clients, and other legal professionals.
- Illustrate the ability to change and adapt to changing circumstances, including the continuing learning environment of the legal professional, along with the responsibility to change and adapt themselves, personally and professionally.
- Demonstrate effective use of technology, including computer-assisted legal research, the Internet, and other technology utilized for research, investigative skills and applications in a legal setting.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 Placement	
	3	CPT 150	Microcomputer Concepts	3		
	4	LAS 101	The Legal Assistant	3		
	5	LAS 111	Legal Analysis	3		
	6	BUS 120	Mathematics of Business	3	MTH 050, 050A, or Placement	
1st Spring	7	ENG 163	Business Communications	3	ENG 161	
	8	HUM 156	Critical Thinking	3		
	9	LAS 115	Torts	3	LAS 101 & 111	
	10	LAS 125	Litigation I	3	LAS 101 & 111	
	11	LAS 210	Legal Writing	3	ENG 161 & LAS 111	
Summer	12	LAS 140	Domestic Relations	3	LAS 101 & 111	
2nd Fall	13	LAS 120	Estates and Trusts	3	LAS 101 & 111	
	14	LAS 215	Legal Research	3	LAS 210	
	15	OFT 140	Office Procedures	3		
	16	RLS 210	Laws of Real Estate	3		
	17	Elective	Social Science Elective	3		Page 43 Column III
2nd Spring	18	Elective	Restricted Elective	3		See List
	19	CRJ 160	Criminal Law I	3		
	20	LAS 293	Internship	3	LAS 215 & GPA of 2.0	
	21	Elective	Restricted Elective	3		See List

Total Program Credits 61 LEA

Restricted Electives: ACC 155; BUS 205; BUS 249; CRJ 163; CRJ 261; CRJ 263; OFT 110

Legal Studies/Paralegal, Diploma

School of Art, Humanities, Social Sciences and Public Service

The Legal Studies/Paralegal Diploma is designed to provide a solid foundation in the principles and practices involved in performing certain paraprofessional services.

Career Opportunities

Graduates of the program typically work in areas involving legal research, preparation of documents, maintenance of files and client interviewing.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Use good research skills.
- Understand basic legal terminology.
- Gain familiarity with computer operations and applications
- Prepare, under supervision, legal documents such as deeds and mortgages.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	RLS 210	Laws of Real Estate	3		
	4	LAS 101	The Legal Assistant	3		
	5	LAS 111	Legal Analysis	3		
Spring	6	LAS 210	Legal Writing	3	ENG 161 & LAS 111	
	7	LAS 125	Litigation I	3	LAS 101 & 111	
	8	Elective	Social Science Elective	3		Page 43 Column III
	9	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
Fall	10	LAS 215	Legal Research	3	LAS 210	
	11	CPT 150	Microcomputer Concepts	3		
	12	Elective	Restricted Elective	3		See List

Total Program Credits 34 LEAS

Restricted Electives: ACC 155; BUS 205; BUS 249; CRJ 163;CRJ 261; CRJ 263; OFT 110

Phlebotomy/Specimen Processing, Certificate

School of Health Professions

Program Description

The purpose of the program is twofold. First the student must function as a phlebotomist in a hospital or other healthcare setting. The second purpose is to prepare the student to function as a laboratory specimen processor or laboratory aide in a clinical laboratory setting.

Admission to the program is limited by the availability of clinical sites. A separate application to the Phlebotomy/Specimen Processing Program is required. Students with previous phlebotomy certification and documented two years of clinical experience may apply to test out of the phlebotomy courses and earn a Specimen Processing Only Certificate.

The Phlebotomy Only Certificate option is for those students who desire to be a phlebotomist only and not to learn the laboratory specimen processor skills.

Graduates are eligible to sit for the Registered Phlebotomy Technician (RPT) examination and the Certified Phlebotomy Technician (CPT) examination.

This is a selective admission program. Please see the college website for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Collect, transport, handle, and process laboratory specimens for analysis.
- Demonstrate professional conduct, stress management, and interpersonal and communications skills with patients, peers, and other healthcare personnel.
- Display an understanding of requisitioning and the legal implications of their work.
- Recognize and act upon individual needs for continuing education as a function of growth and maintenance of professional competency.

Phlebotomy/Specimen Processing Certificate

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	ALH 122	Medical Terminology	3		
	3	PHB 101	Clinical Phlebotomy	4	ALH 122, PHB 105 (if applicable)	
	4	PHB 105	Specimen Processing	4	Co: ALH 122, PHB 101 (if applicable)	
	5	PHB 110	Specimen Processing Practicum	4	Successful completion of PHB 101 and PHB 105 (If applicable) during first 8 weeks of semester	

Total Program Credits 16 PHBSP

Phlebotomy ONLY Certificate

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	ALH 122	Medical Terminology	3		
	3	PHB 101	Clinical Phlebotomy	4	ALH 122, PHB 105 (if applicable)	
	4	PHB 110	Specimen Processing Practicum	4	Successful completion of PHB 101 and PHB 105 (If applicable) during first 8 weeks of semester	

Total Program Credits 12 PHLEB

Plastic Manufacturing Technology, Certificate
School of Technology

Program Description

The Certificate in Plastic Manufacturing Technology provides the introduction to manufacturing safety and plastic composites materials.

Skills learned in the Plastic Manufacturing Technology program can readily transfer to a variety of manufacturing fields including aerospace, maritime, construction, medical devices, space, automotive, and military/defense. The certificate prepares students to work as a technician in a variety of fields.

Career Opportunities

The Plastic Manufacturing Technology Certificate is a good primer for students seeking an entry-level job in a wide range of positions in research and development, manufacturing, sales, design, inspection, or maintenance.

This certificate also serves well for those already working, seeking to supplement their career with more in-depth knowledge of engineering, drafting, and welding.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Communicate technical information effectively
- Demonstrate scientific observation skills
- Operate equipment and/or relevant software
- Promote safety and quality in the workplace
- Define the technical properties of plastics and apply them using quantifiable methods
- Summarize plastic mold concepts and determine how to avoid costly design mistakes
- Describe methods to communicate the troubleshooting process and solutions

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A, or Placement	
	3	PMT 105	Introduction to Plastic Materials	3		
	4	PMT 120	Introduction to Plastic Manufacturing Processing	3	PMT 105	
Spring	5	PMT 130	Plastic Processing and Machinery	3	PMT 105	
	6	PMT 135	Plastics Quality and Testing	3	PMT 105	

Total Program Credits 17 PMT

Plumbing, AAS
School of Technology

The Plumbing AAS program provides students with an in-depth background of the plumbing industry. By combining theory and practical shop experiences, students will develop the skills needed for design, installation, maintenance, and troubleshooting plumbing systems for residential and commercial applications. The plumbing AAS degree is designed to prepare students for entry-level positions in the plumbing field. Students learn the tools used in the industry, the meaning of quality customer service, design a plumbing design to standards, and perform plumbing tasks. The skills to install and service plumbing hardware are stressed. Students will install and service water based heating and cooling systems, and residential and commercial water supply and waste systems. Successful completion of this program leads to the associate of applied science degree.

Career Opportunities

Plumbing program graduates can obtain jobs with the following titles: Sprinkler fitter, fitter, pipe fitter, steamfitter, master plumber, plumbing apprentice, service plumber, residential plumber, plumber gasfitter.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify typical plumbing tools and power tools.
- Install fixtures and faucets, plastic pipe and fittings, drain, waste and vent systems.
- Install copper pipe and fittings, cast iron pipe and fittings.
- Install water heaters.
- Introduce fuel gas supply systems.
- Develop an understanding of the servicing of piping systems, sizing, fixtures and appliances.
- Sewage systems including backflow prevention, indirection and special waste systems.
- Understand water booster pumps, recycling systems, and sump pump systems.
- Identify different types of venting systems.
- Develop an understanding of compressed air and other pressurized systems.
- Understand processes for water supply treatment.
- Identify methods for locating buried water and sewer lines.
- Study the installation of plumbing for mobile homes and mobile home parks.
- Understand the practices necessary for swimming pools and hot tub installation.
- Develop the skills to install and service hydronic and geothermal systems.
- Study the different related trades that apply to the plumber

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	PMB 101	Plumbing I	4		
	3	CMT 101	Related Trades	4		
	4	ENG 161	College Writing	3	ENG 085 or Placement	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
1st Spring	6	WEL 125	Introduction to Welding	4		
	7	DFT 258	AutoCAD	4		
	8	CHM 107	Introductory Concepts in Chemistry I	4	MTH 052, MTH 052A, or Placement	
	9	PMB 200	Plumbing Code	3		
	10	HAC 105	Blueprint reading	2		
2nd Fall	11	PMB 121	Estimating for the Plumber	2		
	12	CMT 121	Contracts for the Tradesman	2		
	13	WEL 227	GTAW	4	WEL 125	
	14	ENG 162	Technical Communications	3	ENG 161	
	15	HAC 256	Geothermal and Solar Technology	3		
2nd Spring	16	Elective	Social Science Elective	3		Page 25 Column II
	17	HAC 260	Hydronics	4		
	18	Elective	Drafting Elective	3-4		Any 3 or 4 credit DFT course
	19	WEL 230	Pipe Welding	3	WEL 227	
	20	PMB 250	Advanced Plumbing Techniques	4		

Total Program Credits 64-65 PMB

Plumbing, Diploma
School of Technology

This program provides students with an in-depth background of the plumbing industry. By combining theory and practical shop experiences, students will develop the skills needed for design, installation, maintenance, and troubleshooting plumbing systems for residential and commercial applications. The plumbing diploma is designed to prepare students for entry-level positions in the plumbing field. Students learn the tools used in the industry, the meaning of quality customer service, create a plumbing design to standards, and perform plumbing tasks. The skills to install and service plumbing hardware are stressed. Students will install and service water based heating and cooling systems, and residential and commercial water supply and waste systems. Successful completion of this program leads to the plumbing diploma.

Career Opportunities

Plumbing program graduates can obtain jobs with the following titles: Sprinkler fitter, fitter, pipe fitter, steamfitter, plumbing apprentice, service plumber, residential plumber.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify typical plumbing tools and power tools.
- Install fixtures and faucets, plastic pipe and fittings, drain, waste and vent systems.
- Install copper pipe and fittings, cast iron pipe and fittings.
- Install water heaters.
- Introduce fuel gas supply systems.
- Develop an understanding of the servicing of piping systems, sizing, fixtures and appliances.
- Sewage systems including backflow prevention, indirection and special waste systems.
- Understand water booster pumps, recycling systems and sump pump systems.
- Sizing water supply piping systems.
- Identify different types of venting systems.
- Develop an understanding of compressed air and other pressurized systems.
- Understand processes for water supply treatment.
- Identify methods for locating buried water and sewer lines.
- Study the installation of plumbing for mobile homes and mobile home parks.
- Understand the practices necessary for swimming pools and hot tub installation.
- Develop the skills to install and service hydronic and geothermal systems.
- Develop quality soft skills.
- Study the different related trades that apply to the plumber.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	PMB 101	Plumbing I	4		
	3	HAC 256	Geothermal and Solar Technology	3		
	4	PMB 121	Estimating for the Plumber	2		
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
Spring	6	CMT 101	Related Trades	4		
	7	PMB 200	Plumbing Code	3		
	8	HAC 105	Blueprint Reading	2		
	9	PMB 250	Advanced Plumbing Technologies	4		
	10	HAC 260	Hydronics	4		

Total Program Credits 31 PLMB

Plumbing, Certificate

School of Technology

This program provides students with an in-depth background of the plumbing industry. By combining theory and practical shop experiences, students will develop the skills needed for design, installation, maintenance, and troubleshooting plumbing systems for residential and commercial applications. The plumbing certification is designed to prepare students for entry-level positions in the plumbing field. Students learn the tools used in the industry, create a plumbing design to standards, and perform plumbing tasks to standard code. The skills to install and service plumbing hardware are stressed. Students will install and service water based heating and cooling systems, and residential and commercial water supply and waste systems. Successful completion of this program leads to the plumbing certification.

Career Opportunities

Plumbing program graduates can obtain jobs with the following titles: Sprinkler fitter, fitter, pipe fitter, steamfitter, plumbing apprentice, service plumber, and residential plumber.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify typical plumbing tools and power tools.
- Install fixtures and faucets, plastic pipe and fittings, drain, waste and vent systems.
- Install copper pipe and fittings, cast iron pipe and fittings.
- Install water heaters.
- Introduce fuel gas supply systems.
- Develop an understanding of the servicing of piping systems, sizing, fixtures and appliances.
- Develop the skills to install and service hydronic and geothermal systems.
- Develop blueprint reading and job estimating skills.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	PMB 101	Plumbing I	4		
	3	HAC 260	Hydronics	4		
	4	PMB 121	Estimating for the Plumber	2		
	5	HAC 105	Blueprint Reading	2		
	6	PMB 200	Plumbing Code	3		
Total Program Credits				16		PLUMB

Radiology Technology, AAS
School of Health Professions

Program Description

The Radiology Technology program offers the academic preparation and clinical training needed for a career as a Radiologic Technologist (radiographer). While many radiographers provide services in a hospital setting, others provide services in stand- alone medical imaging centers, mobile radiography providers and private physician offices. Radiography is the gateway to other specialized imaging modalities. With additional education through either employer based training or formal education, radiographers can progress to careers in Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Angiography, Mammography and Quality Management. The program includes clinical experience in various off campus locations that provide radiologic imaging services.

Students who complete the Radiology technology program satisfactorily are eligible to apply to take the American Registry of Radiologic Technologists (ARRT) national certification exam.

This is a selective admission program. Please see the college website for details.

Purpose

The radiology technology program provides students with a complete educational experience for those who wish to become health-care providers. The radiology technology program provides each student opportunities to learn and develop competence in patient care, communication skills, critical thinking and technical skills that will permit the student to become a Diagnostic Radiologic Technologist. Integrated educational activities include lecture, laboratory activities, case studies and hands-on clinical training.

Program Mission

Our mission is to provide students with a variety of educational activities and experiences that will prepare them with a level of expertise required to become competent and successful radiographers.

Program Learning Outcomes

1. By the end of the program, students will be able to provide radiographic imaging services within a healthcare setting for a diverse patient population with an awareness of cultural diversity within the community.
2. By the end of the program, students will be able to demonstrate use of the ALARA principle to minimize radiation exposure to the patient, themselves, and the general public.
3. By the end of the program, students will be able to operate various pieces of radiologic equipment safely and effectively to expose, process and evaluate all types of radiographic images.
4. By the end of the program, students will be able to apply computation skills to provide safe medical radiation to patients by developing a thorough understanding of the creation and safe application of medical radiation.
5. By the end of the program, students will be able to use computers and computerized equipment in the process of imaging and caring for patients.
6. By the end of the program, students will be able to demonstrate appropriate practice standards that meet all of the Ethical requirements of the ARRT practice standards as well as maintain all the confidentiality requirements of HIPAA.
7. By the end of the program, students will be able to utilize and demonstrate effective interpersonal skills in treating a diverse population of patients as well as communicating with other members of the health care team.
8. By the end of the program, students will be able to demonstrate proficiency in dealing with life threatening medical emergencies that could occur in the radiology environment as assessed by simulated activities in the lab setting.
9. By the end of the program, students will be able to independently use critical thinking to adjust the radiographic imaging plan based on physiologic condition or recognized disease process.

Program Goals

- To produce graduates prepared for entry into the healthcare field.
- To produce graduates who have demonstrated the skills, professional values and ethics to function as entry-level radiographers.
- To produce graduates with the ability to think independently and value lifelong learning.
- To produce graduates with the ability to effectively communicate with patients and other health care providers.
- To produce graduates prepared for the American registry of radiologic technologist examination.

Radiology Technology, AAS
School of Health Professions

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Prior to Program Start	1	BIO 171	Anatomy and Physiology I	4	CHM 107, CHM 150/151, CHM 225 or high school chemistry (C or better) and ENG 095 or Placement.	
1st Fall	2	PDV 101	First Year Seminar	1		
	3	ALH 122	Medical Terminology	3		
	4	BIO 172	Anatomy and Physiology II	4	BIO 171 (C or better)	
	5	RAD 111	Intro to Radiographic Procedures and Patient Care I	4	BIO 171 Co: ALH 122, BIO 172, RAD 121	
	6	RAD 121	Principles of Radiology Image Capture & Display	3	BIO 171 Co: ALH 122, BIO 172, RAD 111	
1st Spring	7	PHY 125	Physics for Radiology	3	High school Physics (C or better), PHY 107 or PHY 110; Co: RAD 131, RAD 141, RAD 146	
	8	MTH 157	College Algebra	3	MTH 100 (C or better), MTH 100A (C or better) or Placement	
	9	RAD 131	Digital Image Acquisition & Display	3	RAD 111, RAD 121; Co: MTH 157, PHY 125, RAD 141, RAD 146	
	10	RAD 141	Radiographic Procedures & Patient Care II	4	RAD 111, RAD 121; Co: MTH 157, PHY 125, RAD 131, RAD 146	
	11	RAD 146	Clinical Education I	4	RAD 111, RAD 121; Co: PHY 125, RAD 131, RAD 141	
1st Summer	12	RAD 215	Clinical Education II	3	RAD 146	
	13	RAD 255	Clinical Education III	3	RAD 215	
2nd Fall	14	CPT 150	Microcomputer Concepts	3		
	15	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
	16	PSY 160	General Psychology	3		
	17	RAD 211	Radiographic Procedures & Patient Care III	4	RAD 215 Co: RAD 216	
	18	RAD 216	Clinical Education IV	4	RAD 255; Co: RAD 211	
2nd Spring	19	ENG 162	Technical Communication	3	ENG 161	
	20	RAD 221	Radiographic Pathology & Job Search Preparation	3	RAD 211, RAD 216; Co: RAD 226, RAD 231	
	21	RAD 226	Clinical Education V	5	RAD 211, RAD 216; Co: RAD 221, RAD 231	
	22	RAD 231	Radiology Technology Capstone	1	RAD 211, RAD 216; Co: RAD 221, RAD 226	
	23	SPC 156	Interpersonal Communication	3		

Total Program Credits 74 RAD

Robotics, AAS

School of Technology

A robotics graduate will function as a skilled technician who can work with modules and components in a complex automated system. This would include analysis of these systems as a whole. The program is designed to provide students with the knowledge they need to assist manufacturing, mechanical and electrical engineers in all phases of design, development, production, testing and operations. Graduates will have the knowledge and skills required to manage, investigate, repair and troubleshoot automated systems with the aim of operational efficiency. Robotics graduates would usually carry out their work at production facilities, workshops or service sites.

Career Opportunities

Advanced manufacturing and robotics is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Robotics AAS may accept positions such as industrial technician, process specialist, and automation technician.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe what an advanced manufacturing and robotics system is and the inter-relationships of components and modules within a system.
- Explain the role of mechanical components and electrical devices in automated systems, modules and subsystems.
- Describe the basic components and operation of a programmable logic controller.
- Describe the basic components and operation of industrial robotics.
- Apply various techniques to analyze and troubleshoot automated systems including industrial robotics.
- Explain the role of electronic devices in complex automated systems.
- Work effectively as part of a technology team.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	3	RBT 111	Electrical Components	4		
	4	RBT 135	Industrial Robotics	4		
	5	RBT 140	Digital Fund & Programmable Logic Controllers	4	RBT 111	
1st Spring	6	ENG 161	College Writing	3	ENG 085 or Placement	
	7	RBT 121	Mechanical Components & Electric Motors	4		
	8	RBT 130	Electro-Pneumatic & Hydraulic Control Circuits	4		
	9	RBT 225	Industrial Electronics in Advanced Manufacturing	4	RBT 111	
	10	RBT 235	Industrial Robotics II	4	RBT 135	
	11	RBT 245	Robotics Control Systems	4	RBT 111 and RBT 140	
2nd Fall	12	RBT 230	Automated Systems	4	RBT 140	
	13	RBT 240	Motor Control	4	RBT 111 and RBT 121	
	14	ENG 162	Technical Communications	3		
2nd Spring	15	RBT 221	Process Control Technology	4	RBT 111	
	16	DFT 258	AutoCAD	4		
	17	PSY 160	Psychology	3		
	18	RBT 165	Robotics and Automation	4	RBT 135 & RBT 245	

Total Program Credits 66 ROB

Robotics, Certificate

BASIC SYSTEMS

School of Technology

This Basic Systems Certificate introduces the student to basic electrical, mechanical and computerized components used in basic manufacturing systems. Topics covered include functional descriptions, physical properties and operation of electrical and mechanical components and devices. An introduction to digital logic devices, programmable logic controllers and programming is also covered. Technical documentation such as data sheets, schematic diagrams, wiring diagrams, timing diagrams and system specifications are covered. System materials, lubrication requirements and surface properties are investigated. Students receive hands-on practical experience in the use and application of basic electrical instruments and mechanical measuring devices. An emphasis is placed on safe work habits and procedures, systematic preventive maintenance, localization and correction of malfunctions, and troubleshooting techniques.

Career Opportunities

Manufacturing systems is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Basic Systems Certificate will be able to configure and troubleshoot basic manufacturing systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe and apply safety rules while working on basic manufacturing systems.
- Explain the physical operation of electromagnetic and electrostatic components such as coils, solenoids, relays and various sensors used in basic manufacturing systems.
- Describe the inter-relationships of components and modules within basic manufacturing systems with a focus on electro- pneumatic and electro-hydraulic control systems.
- Describe troubleshooting, maintenance and safety issues associated with basic manufacturing systems.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	3	RBT 111	Electrical Components	4		
	4	RBT 121	Mechanical Components & Electric Motors	4		
	5	RBT 135	Industrial Robotics	4		
	6	RBT 140	Digital Fund & Programmable Logic Controllers	4	RBT 111	

Total Program Credits 17

Robotics, Certificate

TECHNICIAN I

School of Technology

A Robotics Technician I will function as a skilled technician who can analyze and assess complex manufacturing systems as well as work with modules and components in these systems. This technician can manage, investigate, repair and troubleshoot advanced manufacturing systems with the aim of operational efficiency and cost control. Topics covered include both theory and hands-on experience with process control systems, advanced programmable controller functions and operation, microcontrollers and industrial electromechanical control systems. An emphasis is placed on safe work habits and procedures, systematic preventive maintenance, localization and correction of malfunctions, and troubleshooting techniques. Students must complete the Basic Systems before enrolling in the Robotics I certificate.

Career Opportunities

Manufacturing systems is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Robotics Technician I Certificate will be able to configure and troubleshoot manufacturing systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe and apply safety rules while working on manufacturing systems.
- Analyze the technical specifications of manufacturing systems, modules and components.
- Derive and determine parameters for manufacturing systems and components.
- Tune proportional, integral and derivative (PID) control loops.
- Connect regulating components to PID control systems.
- Measure, interpret and analyze electrical, microcontroller and PLC values.
- Operate and program industrial robotic systems.
- Apply understanding of electronic systems and devices to manufacturing systems.
- Perform scheduled and preventive maintenance.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Spring	1	PDV 101	First Year Seminar	1		
	2	RBT 130	Electro-Pneumatic & Hydraulic Control Circuits	4		
	3	RBT 225	Industrial Electronics in Advanced Manufacturing	4	RBT 111	
	4	RBT 235	Industrial Robotics II	4	RBT 135	
	5	RBT 245	Robotic Control Systems	4	RBT 111 and RBT 140	
Total Program Credits				17		ROBT1

Robotics, Certificate

TECHNICIAN II

School of Technology

A Robotics Technician II will function as a skilled technician who can analyze and assess complex manufacturing systems as well as work with modules and components in these systems. This technician can manage, investigate, repair and troubleshoot advanced manufacturing systems with the aim of operational efficiency and cost control. Topics covered include both theory and hands-on experience with advanced mechanical systems, industrial robotics systems, motor drive systems, manufacturing work cell applications and project management. An emphasis is placed on safe work habits and procedures, systematic preventive maintenance, localization and correction of malfunctions, and troubleshooting techniques. Students must complete the Basic Systems and Technician I certificates before enrolling in the Robotics Technician II Certificate.

Career Opportunities

Manufacturing systems is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Advanced Manufacturing and Robotics Technician II Certificate will be able to configure and troubleshoot manufacturing systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Program manufacturing systems and modules including PLCs.
- Connect and configure PLC networks.
- Analyze systems operations.
- Incorporate relevant technical literature into understanding system operations.
- Apply understanding of electrical systems and devices to manufacturing systems.
- Propose procedural and operational changes based on sound judgment.
- Observe, follow and influence cost control and process efficiency procedures.
- Describe and apply safety rules while working on manufacturing systems.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
2nd Fall	1	PDV 101	First Year Seminar	1		
	2	RBT 221	Process Control Technology	4	RBT 111	
	3	RBT 225	Industrial Electronics In Advanced Manufacturing	4	RBT 111	
	4	RBT 250	Mechanical Components and Systems	4	RBT 121	
	5	RBT 265	Robotics and Automation	4	RBT 135 and RBT 245	

Total Program Credits 17 ROBT2

Social Work, AAS

School Art, Humanities, Social Sciences and Public Service

The Social Work program is designed to provide students with the knowledge base for the profession and general skills to enter into the workforce and/or transfer to a bachelor's program. Students who want to pursue a career in social work have a sincere concern for others, ability to motivate others and desire to make a change in the world. The program allows for classroom instruction about the field including networking with agency workers in the area and learning about available programs. The program includes the opportunity to spend one semester in an agency where the skills and knowledge acquired in the classroom will be applied. The student will also earn general education credits that will apply to a bachelor's program.

Career Opportunities

Students who complete this program of study may be employed as entry-level case aides or caseworkers, resident counselors in youth and adult programs and other entry-level human services and social work positions in the community. Students in this program are usually interested in working in the fields of child welfare, counseling, adoption, drug and alcohol, healthcare, mental health, aging, community organization, politics and race relations.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Identify societal issues and their impact on vulnerable populations and advocate for at-risk populations at the micro, mezzo, and macro level.
- Conduct assessments, identify strengths, create action plans, counsel on an individual and group level, and provide case management for at-risk populations.
- Provide culturally competent services and adhere to the National Association of Social Workers Code of Ethics.
- Use knowledge of the history of the social work profession and analysis of social policy to create change.
- Analyze how political, community, and societal structures affect social service programs and funding.
- Express self-awareness, personal values, and attitudes about self in relation to others and identify self-care strategies

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	SWK 155	Introduction to Social Work	3		
	3	PSY 160	General Psychology	3		
	4	SOC 155	Principles of Sociology	3		
	5	ENG 161	College Writing	3	ENG 085 or Placement	
	6	Elective	Math Elective	3	MTH 052, 052A or Placement	Page 43 Column III
1st Spring	7	ENG 164	Advanced Composition	3	ENG 161	
	8	SWK 157	Interviewing and Recordkeeping Skills	3	SWK 155	
	9	PSY 161	Human Growth and Development	3	PSY 160	
	10	Elective	Tech Literacy Elective	3		Page 43 Column VI
	11	Elective	Restricted Elective	3		See List
2nd Fall	12	SWK 160	Group Process	3	SWK 155 and 157	
	13	SWK 161	Solutions-Focused Counseling	3	SWK 155 and 157	
	14	SWK 171	Introduction to Gerontology	3		
	15	PSY 270	Abnormal Psychology	3	PSY 160	
	16	Elective	Restricted Elective	3		See List
2nd Spring	17	SWK 170	Race & Diversity in the US	3		
	18	SWK 172	Drug and Alcohol Dependency	3		
	19	Elective	Restricted Elective	3		
	20	Elective	Humanities Elective: PHL 160 or 161 recommended	3		Page 43 Column II
	21	Elective	Restricted Elective	3		See List

Total Program Credits 61 SWK

Restricted Electives: ASL 101; ASL 102; BIO 155; BUS 158; HIS 155; HIS 156; HIS 255; PHL 160; PHL 161; POL 155; POL 255; PSY 265; PSY 268; SOC 161; SPC 155; SWK 163; SWK 258;

Social Work, Certificate

School Art, Humanities, Social Sciences and Public Service

The Social Work Certificate is designed for those students who are seeking entry-level positions in the field of social work or are currently employed within an agency that will recognize this achievement with compensation and/or advancement.

Career Opportunities

This certificate is intended to increase a person's general knowledge of the field, interviewing skills, ability to run group sessions, understanding of psychological disorders and the facts about drugs and alcohol, treatment and prevention. Individuals completing this program will have advanced knowledge and skills to work in any setting providing direct care.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Utilize knowledge of the social work profession including types of clients, professional ethics, social service systems, diagnosis and treatment when working with clients and agencies.
- Demonstrate social work skills such as interviewing, group counseling and documenting.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Semester	1	PDV 101	First Year Seminar	1		
	2	Elective	Restricted Elective	3		
	3	SWK 155	Introduction to Social Work	3		
2nd Semester	4	SWK 157	Interviewing and Recordkeeping Skills	3	SWK 155	
	5	SWK 172	Drug and Alcohol Dependency	3		
3rd Semester	6	SWK 160	Group Process	3	SWK 155, SWK 157	
	7	PSY 160	Introduction to Psychology	3		
Total Program Credits				19		SOCWK

Restricted Electives: ASL 101; ASL 102; BIO 155; BUS 158; HIS 155; HIS 156; HIS 255; PHL 160; PHL 161; POL 155; POL 255; PSY 265; PSY 268; SOC 161; SPC 155; SWK 163; SWK 259;

Surgical Technology, AAS
School of Health Professions

Program Description

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings such as medical offices, out-patient clinics, and the operating room. The program prepares competent entry-level surgical technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. Students who have completed program requirements may sit for the certifying examination offered by the National Board on Certification for Surgical Technology and Surgical Assisting (NBSTSA).

This is a special admission program. Please see the college catalog for details.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Communicate Effectively
- Read and listen with comprehension.
- Speak and write clearly using Standard English.
- Interact cooperatively with others using both verbal and non-verbal means.
- Demonstrate information processing through basic computer skills.
- Think Critically
- Make connections in learning across the disciplines and draw logical conclusions.
- Demonstrate problem solving through interpreting, analyzing, summarizing, and/or integrating a variety of materials.
- Use mathematics to organize, analyze, and synthesize data to solve a problem.
- Learn Independently
- Use appropriate search strategies and resources to find, evaluate, and use information.
- Make choices based upon awareness of ethics and differing perspectives/ideas.
- Apply learning in academic, personal and public situations.
- Think creatively to develop new ideas, processes, or products.
- Examine Relationships in Diverse and Complex Environments
- Recognize the relationship of the individual to human heritage and culture.
- Demonstrate an awareness of the relationship of the individual to the biological and physical environment.
- Develop an awareness of self as an individual member of a multicultural global community.
- Correlate the knowledge of anatomy, physiology, pathophysiology, and microbiology to their role as a Surgical Technologist.
- Demonstrate a safe and professional level of practice and knowledge in their role as a Surgical Technologist.
- Explain the ethical, legal, moral, and medical values related to the patient and the surgical team during the perioperative experience.
- Correlate the elements, action, and use of medications and anesthetic agents used during the perioperative experience
- Implement safe practice techniques in regards to perioperative routines, patient transportation, positioning, and emergency procedures.
- Integrate principles of surgical asepsis as part of the perioperative experience.
- Accurately apply knowledge and skills of a professional Surgical Technologist to address the biopsychosocial needs of the surgical patient.
- Perform proficiently and competently as an entry-level surgical technologist in the cognitive, psychomotor, and affective learning domains
- Demonstrate the professional attributes of the Surgical Technologist

Surgical Technology, AAS
School of Health Professions

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ALH 122	Medical Terminology	3		
	3	BIO 171	Anatomy and Physiology I	4	CHM 107, CHM 150/151, CHM 225 or high school chemistry (C or better) and ENG 095 or Placement	
	4	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	Page 43 Column IV
	5	ENG 161	College Writing	3	ENG 085 or Placement; Co: ENG 095 or ENG 099 or Placement	
1st Spring	6	BIO 172	Anatomy and Physiology II	4	BIO 171 with a "C" grade or better	
	7	ENG 164	Advanced Composition	3	ENG 161	
	8	CPT 150	Microcomputer Concepts	3		
	9	PSY 160	General Psychology	3		
1st Summer	10	BIO 265	Microbiology	4	BIO 155 or BIO 171 and CHM 107, CHM 150/151, CHM 225 or high school chemistry (C or better), ENG 085 or Placement	
2nd Fall	11	SGT 100	Fundamentals of Surgical Technology	12	Minimum of a "C" grade in ALH 122, BIO 171, BIO 172, BIO 265	
	12	SGT 101	Fundamentals of Surgical Technology Lab	3	Minimum of a "C" grade in ALH 122, BIO 171, BIO 172, BIO 265	
	13	SGT 110	Surgical Pharmacology Principles	2	Minimum of a "C" grade in ALH 122, BIO 171, BIO 172, BIO 265	
	14	SGT 115	Surgical Technology Skills Practicum	3	SGT 101	
2nd Spring	15	SGT 200	Advanced Surgical Technology Theory	9	Minimum of a "C" grade in SGT 100, SGT 110, SGT 115	
	16	SGT 205	Advanced Surgical Technology Practicum	7	Minimum of a "C" grade in SGT 100, SGT 110, SGT 115	

Total Program Credits 68 SGT

Special Alloy Welding, Certificate

School of Technology

The Special Alloy Welding Certificate program is an opportunity for students to earn additional credentials for those who intend to seek employment in fields including but not limited to: energy, pressure vessel, petro-chemical, automotive, research, etc. Students will study the theory, metallurgy, and participate in hands-on advanced procedures welding Special Alloys both manually and robotically. Welding health and safety will be presented in its own course, and incorporated into all welding classes.

Career Opportunities

Students completing the Special Alloy Welding Certificate will earn credentials to aid in employment in fields that utilize special alloys and robotic welding. These fields include but are not limited to; energy, pressure vessel, petro-chemical, automotive, research, etc.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Demonstrate Proper Health and Safety Procedures, with an emphasis on ANSI recommendations and OSHA requirements
- Identify proper joint selection, filler metal selection, and weld
- chemistries of Special alloys
- Weld Special alloy plate in all positions using GTAW
- Weld Special alloy pipe in 6G position using GTAW
- Properly Prepare weld specimens for welding
- Program and Weld using welding robot
- Develop the troubleshooting skills on welding robots
- Read and work with industry blueprints

Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1	WEL 125	Intro to Welding	4		
2	WEL 212	Welding Health & Safety	3		
3	WEL 227	GTAW	4	WEL 125	
4	WEL 229	Special Alloy Welding	4	WEL 227	
5	WEL 232	Robotic Welding	4	WEL 125	
6	WEL 231	Special Alloy Pipe Welding	4	WEL 229	
Total Program Credits			23		WELSP

Video Production & Photography, AAS

VIDEO PRODUCTION

School of Art, Humanities, Social Sciences and Public Service

The Video Production option is designed to prepare students for employment in commercial, industrial and educational settings as audiovisual technicians, video creators, video editors, and artists. Program graduates are prepared to provide for the operation of various equipment and software required to produce multimedia content. Students will acquire production skills in the areas of instructional graphics, video, audio recording, digital photography and interactive multimedia. Under supervision, students complete an internship experience in which they apply theoretical knowledge to workplace situations. Students may, under faculty supervision, create a substantial capstone project that reflects the skills they have learned in the program.

Career Opportunities

Career opportunities exist within in-house corporate audiovisual departments, production crews, educational institutions, and non-profit organizations as well as in advertising agencies and sound or video production houses. A large number of individuals working in the media field are self- employed content creators or freelancers working on a variety of creative and technical multimedia projects.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Design, produce, and analyze media and messages such as presentations, videos, multimedia, graphics/print, photography and interactive multimedia.
- Manage a media production from concept to distribution.
- Communicate effectively and appropriately using vocabulary indicative to the technology.
- Design and create videos and still images for various platforms.
- Edit motion pictures using non-linear editing and motion graphics techniques and software.
- Edit and present still images using industry standard software and equipment.
- Effectively function with associates as a member of a visual communications production team and a production crew.
- Operate various types of standard and well as specialized mediate related equipment and software.
- Practice appropriate safety procedures inherent to the industry.
- Evaluate media production

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	VPP 150	Video Editing	3		
	4	VPP 100	Basic Video	3		
1st Spring	5	VPP 240	Sound Design	3		
	6	GCT 115	Design & Layout I	3		ART 160
	7	VPP 110	Intro to Multimedia	3		
	8	VPP 120	History of Cinema	3		
	9	PSY 160	General Psychology	3		
2nd Fall	10	SPC 155	Effective Speech	3		
	11	VPP 250	Non Fiction Media Production	3	VPP 100	
	12	Elective	Restricted Elective	3		
	13	ENG 162	Technical Communication	3	ENG 161	ENG 165
	14	VPP 170	Digital Compositing and Photography	3		
	15	VPP 260	Interactive Multimedia	3	VPP 150	
2nd Spring	16	VPP 255	Multi Camera Production and Steaming	3	VPP 100	
	17	BUS 120	Mathematics of Business	3	MTH 052, 052A or Placement	
	18	VPP 270	Video II	3	VPP 100, VPP 150	
	19	VPP 290	Animation and Motion Graphics	3	VPP 100 or VPP 150 and VPP 170 or Instructors Permission	
	20	VPP 271	Digital Compositing and Photography II	3	VPP 170	
	21	VPP 299	Internship	3	Permission of Instructor and completion of 30 credits in major course requirements.	
	22	VPP 280	Capstone	3	VPP 100 or VPP 170, VPP 150 and Instructor Permission and 30 VPP credits completed	

Total Program Credits 61 VPP

Restricted Electives: ART 140; ART 160; ART 162; ART 171; BUS 140; BUS 188; ENG 264; GCT 115; GCT 151; MKT 252; MKT 254; VPP 160

Video Production & Photography, AAS

PHOTOGRAPHY

School of Art, Humanities, Social Sciences and Public Service

The Photography option prepares students to function in entry-level positions within commercial, educational, industrial and non-profit organizational settings. Students will acquire production skills in digital photographic imaging and media production. Under supervision, students complete an internship experience in which they apply theoretical knowledge to workplace situations.

Career Opportunities

Career opportunities for photography graduates exist with advertising agencies, studios, service bureaus, educational, non-profit, and corporate in-house communications and media production departments. A large portion of individuals working in this field are self-employed persons working on various creative and technical projects. Photography skills give an advantage to content creators and social media influencers.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Produce a portfolio that demonstrates the ability to implement theory with practical situations.
- Produce photographic imagery appropriate to the subject.
- Communicate effectively and appropriately using vocabulary indicative of the technology.
- Design and produce effective presentations.
- Demonstrate the ability to meet deadlines of required assigned tasks.
- Effectively function with associates as a member of a visual communications production team.
- Operate various types of standard as well as specialized media production equipment and software.
- Practice appropriate safety procedures inherent to the industry.
- Effectively network with others in the art and design field

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	ENG 161	College Writing	3	ENG 085 or Placement	
	3	Elective	Restricted Elective	3		
	4	VPP 160	Basic Photography	3		
	5	GCT 115	Design & Layout I	3		ART 160
1st Spring	6	VPP 170	Digital Compositing and Photography	3		
	7	ENG 162	Technical Communication	3	ENG 161	ENG 165
	8	VPP 100	Basic Video	3		
	9	VPP 161	Portrait Photography	3	VPP 160	
	10	BUS 120	Mathematics of Business	3	MTH 050, MTH 050A or Placement	
	11	SPC 155	Effective Speech	3		
2nd Fall	12	VPP 150	Video Editing	3		
	13	VPP 250	Non-Fiction Media Production	3	VPP 100	
	14	VPP 260	Interactive Multimedia	3	VPP 150 Recommended	
	15	VPP 271	Digital Compositing and Photography II	3	VPP170	
	16	Elective	Restricted Elective	3		
2nd Spring	17	VPP 199	Internship	3	Permission of instructor and completion of 30 credits in major course requirements	
	18	VPP 200	Portfolio Development	3	VPP160 & VPP 170	
	19	VPP263	Documentary Photography	3	VPP 160, VPP 170	
	20	VPP 266	Photography II	3	VPP 160 & VPP 170	
	21	PSY 160	General Psychology	3		

Total Program Credits 61 PHT

Restricted Electives: ART 140; ART 156; ART 160; ART 162; ART 171; BUS 140; BUS 188; ENG 264; GCT 115; GCT 151; MKT 252; MKT 254; VPP 120;

Welding Engineering Technology, AAS

School of Technology

The Welding Engineering Technology AAS provides students with an in-depth background of the welding industry. By combining classroom theory and practical experience, students will develop the skills needed for entry-level jobs in the field of welding. Welding courses include practice for welding certifications offered in house by our AWS Accredited Testing Facility. Those planning careers in welding need manual dexterity, good hand- eye coordination and good eyesight. They should have the ability to concentrate on detailed work for long periods and be physically able to bend, stoop and work in awkward positions, as well as possess good problem-solving aptitude, shop math skills and exhibit a strong work ethic. Successful completion of this program of study leads to the associate of applied science degree.

Career Opportunities

Graduates of the welding engineering technology program have obtained jobs with the following titles: welder, welding supervisor, nuclear service technician, QA/QC inspector, QA supervisor, technical sales representative and entrepreneur.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Successfully weld SMAW, GMAW and GTAW in all positions, on various materials, with or without joint preparation.
- Read, interpret and create blueprints.
- Demonstrate ability to make sound decisions in design and manufacturing of welded fabrications/assemblies based on the following: joint design, welding equipment, metallurgy, material application.
- Communicate technical information effectively, demonstrate accurate record keeping and utilize technical reference materials.
- Identify defects by use of DT/NDT methods.
- Maintain and troubleshoot welding, industrial and plant equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	WEL 125	Welding I	4		
	3	DFT 110	Blueprint Reading	2		
	4	WEL 209	Industrial Maintenance	3		
	5	WEL 220	Welding Codes	3		
	6	DFT 258	AutoCAD	4		
1st Spring	7	MET 105	Welding Metallurgy I	3		
	8	WEL 221	Metal Fabrication	4	WEL 125 & DFT 110	
	9	WEL 228	SMAW	4	WEL 125	
	10	WEL 226	GMAW	4	WEL 125	
2nd Fall	11	MET 205	Welding Metallurgy II	3	MET 105	
	12	WEL 227	GTAW	4	WEL 125	
	13	WEL 222	Fundamentals of Aluminum	4	WEL 125	
	14	MTH 104	Introduction to Applied Mathematics	4	MTH 050, MTH 050A or Placement	
	15	ENG 161	College Writing	3	ENG 085 or Placement	
2nd Spring	16	WEL 224	NDT and DT	3	MET 105	
	17	WEL 225	Advanced Fabrication	3	WEL 221	
	18	WEL 230	Pipe Welding	3	WEL 227	
	19	ENG 162	Technical Communication	3	ENG 161	ENG 163 or 164
	20	Elective	Social Science Elective	3		Page 25 Column III
Total Program Credits				65		WET

Welding Engineering Technology, Diploma

School of Technology

The Welding Engineering Technology Diploma provides students with an in-depth background of the welding industry. By combining classroom theory and practical experience, students will develop the skills needed for entry-level jobs in the field of structural welding. Welding courses include practice for welding certifications offered in house by our AWS Accredited Testing Facility. Those planning careers in welding need manual dexterity, good hand-eye coordination and good eyesight. They should have the ability to concentrate on detailed work for long periods and be physically able to bend, stoop and work in awkward positions, as well as possess good problem-solving aptitude, shop math skills and exhibit a strong work ethic. Successful completion of this program of study leads to the Welding Engineering Technology Diploma.

Career Opportunities

Students who earn their Welding Engineering Technology Diploma will be prepared to enter the workforce as an entry-level structural welder, welder's helper, or entry-level fabricator.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Successfully weld SMAW, GMAW in all positions, on various materials, with or without joint preparation.
- Read, interpret and create blueprints.
- Demonstrate ability to make sound decisions in design and manufacturing of welded fabrications/assemblies based on the following: joint design, welding equipment, metallurgy, material application.
- Communicate technical information effectively.
- Identify defects by use of DT/NDT methods.
- Maintain and troubleshoot welding, industrial and plant equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	WEL 125	Welding I	4		
	3	DFT 110	Blueprint Reading	2		
	4	WEL 209	Industrial Maintenance	3		
	5	WEL 220	Welding Codes	3		
	6	DFT 258	AutoCAD	4		
1st Spring	7	MET 105	Welding Metallurgy I	3		
	8	WEL 221	Metal Fabrication	4	WEL 125 & DFT 110	
	9	WEL 228	SMAW	4	WEL 125	
	10	WEL 226	GMAW	4	WEL 125	
Total Program Credits				32		WELD

Welding Engineering Technology, Certificate I

School of Technology

The Welding Engineering Technology I Certificate provides students with an overview of basic safety, print reading and the fundamentals of welding. By combining classroom theory and practical experience, students will develop the skills needed to supplement an entry-level job in manufacturing or maintenance. Welding courses include practice for welding certifications offered in house by our AWS Accredited Testing Facility. Those planning careers in welding need manual dexterity, good hand- eye coordination and good eyesight. They should have the ability to concentrate on detailed work for long periods and be physically able to bend, stoop and work in awkward positions, as well as possess good problem-solving aptitude, shop math skills and exhibit a strong work ethic.

Career Opportunities

The Welding Engineering Technology I Certificate is a good primer for students seeking an entry-level job in manufacturing. This certificate also serves well for those already working, seeking to supplement their career with a basic knowledge of welding, safety and print reading.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Weld SMAW, GMAW and GTAW in the flat position, on various materials, with or without joint preparation
- Read, interpret and create blueprints
- Communicate technical information effectively.
- Identify plant equipment, and potential problems of plant equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	WEL 125	Welding I	4		
	3	DFT 110	Blueprint Reading	2		
	4	WEL 209	Industrial Maintenance	3		
	5	WEL 220	Welding Codes	3		
	6	DFT 258	AutoCAD	4		
Total Program Credits				17		WELD1

Welding Engineering Technology, Certificate II

School of Technology

The Welding Engineering Technology II Certificate provides students with a practical knowledge of welding. By combining classroom theory and practical experience, students will develop the skills needed for entry-level jobs in the field of welding. Welding courses include practice for welding certifications offered in house by our AWS Accredited Testing Facility. Those planning careers in welding need manual dexterity, good hand-eye coordination and good eyesight. They should have the ability to concentrate on detailed work for long periods and be physically able to bend, stoop and work in awkward positions, as well as possess good problem-solving aptitude, shop math skills and exhibit a strong work ethic.

Career Opportunities

Students who earn the Welding Engineering Technology Certificate II will have the necessary skill to apply for an entry-level production welding job using SMAW, GMAW or FCAW.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Weld SMAW and GMAW in all positions, on various materials, with or without joint preparation.
- Read, interpret and create blueprints.
- Demonstrate the ability to predict the metallurgical changes of steel as they weld and cool their work.
- Communicate technical information effectively.
- Identify defects by use of DT/NDT methods.
- Maintain and troubleshoot welding, industrial and plant equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
Spring	1	PDV 101	First Year Seminar	1		
	2	MET 105	Welding Metallurgy I	3		
	3	WEL 221	Metal Fabrication	4	WEL 125 & DFT 110	
	4	WEL 228	SMAW	4	WEL 125	
	5	WEL 226	GMAW	4	WEL 125	
Total Program Credits				16		WELD2

Welding Engineering Technology, Certificate III

School of Technology

The Welding Engineering Technology III Certificate provides students with an overview of basic safety, print reading and the fundamentals of welding. By combining classroom theory and practical experience, students will develop the skills needed to supplement an entry-level job in manufacturing or maintenance. Welding courses include practice for welding certifications offered in house by our AWS Accredited Testing Facility. Those planning careers in welding need manual dexterity, good hand- eye coordination and good eyesight. They should have the ability to concentrate on detailed work for long periods and be physically able to bend, stoop and work in awkward positions, as well as possess good problem-solving aptitude, shop math skills and exhibit a strong work ethic.

Career Opportunities

The Welding Engineering Technology III Certificate is a good primer for students seeking an entry-level job in manufacturing. This certificate also serves well for those already working, seeking to supplement their career with a basic knowledge of welding, safety, and print reading.

Program Learning Outcomes

Upon successfully completing this program, students will be able to:

- Successfully weld SMAW, GMAW and GTAW in the flat position, on various materials, with or without joint preparation.
- Read, interpret and create blueprints.
- Communicate technical information effectively.
- Identify plant equipment, and potential problems of plant equipment.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
Fall	1	PDV 101	First Year Seminar	1		
	2	MET 205	Welding Metallurgy II	3	MET 105	
	3	WEL 227	GTAW	4	WEL 125	
	4	WEL 222	Fundamentals of Aluminum	4	WEL 125	
	5	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	6	ENG 161	College Writing	3	ENG 085 or Placement	
Total Program Credits				19		WELD3

Course Descriptions

All academic courses offered by Westmoreland are listed below. Course numbers, titles and descriptions are Westmoreland designations. Courses numbered below 100 may not be used to meet degree requirements. The numbers at the far right of each course title indicate the number of lecture hours per week, lab hours per week and credits per semester.

Example: 3-0-3

3 — lecture hours per week
0 — lab hours per week
3 — course credits

All courses are identified alphabetically by a three-letter program code followed by a three-digit numerical course code. The first digit in the numerical code classifies the course as follows:

0 indicates a developmental course. Developmental courses carry no quality points and may not be used to meet degree requirements.
1 indicates a course, which is normally required in the freshman year of study.
2 indicates a course, which is normally required in the sophomore year of study.

Students should note that many courses have prerequisites and/or corequisites, which must be met before registration.

A prerequisite is a course that must be successfully completed prior to registration.

A corequisite is a course that must either be successfully completed prior to registration or must be taken during the same semester.

ACC–ACCOUNTING

ACC 120—QUICKBOOKS 1-0-1

This course covers small business accounting using QuickBooks software. Topics include creating a chart of accounts, recording customer and vendor transactions, and printing reports. In addition, students will set-up a new company and learn to export financial data to Excel.

ACC 155—ACCOUNTING I 3-0-3

Introduces accounting principles and practices, primarily in the context of the sole proprietorship form of business. Emphasis is on analyzing and recording financial transactions and summarizing their effects through the preparation of financial statements. Both the merchandising and service enterprises are examined. Major topics include deferrals and accruals, inventories, plant and intangible assets, cash and receivables, and partnerships. Prerequisite(s): MTH 050, 050A or Placement.

ACC 156—ACCOUNTING II 3-0-3

Continuation of Accounting I. Topics covered include: corporations, cash flow statements, financial statement analysis, managerial accounting concepts, job order costing, process costing, C-V-P analysis, budgetary planning and control, and incremental analysis for decision making. Prerequisite(s): ACC 155

ACC 165—ACCOUNTING FOR MANAGERS 3-0-3

This course is designed to provide business and management majors with the ability to read, understand, and use accounting information for making decisions. Topics covered include: the business environment; cost concepts and allocation costing systems; activity-based systems; cost behavior analysis; profit planning; variance analysis; performance measurement; short- and long-term decision making; quality management; and financial statement analysis. Prerequisite(s): MTH 050, 050A or Placement

ACC 219—MANAGERIAL ACCOUNTING 3-0-3

Interpretation and use of accounting information by management for planning, controlling, decision-making and performance evaluation. Topics covered include cost-volume-profit analysis; operational and financial budgeting; short-term decision-making; capital budgeting; performance evaluation and quantitative methods. Microcomputers will be utilized for problem solving. Prerequisite(s): ACC 156

ACC 222—PRINCIPLES OF AUDITING 3-0-3

This course emphasizes the learning of basic auditing concepts such as risk, control, evidence, and objectivity and important relationships among these concepts. It introduces the student to generally accepted auditing standards, professional ethics and legal liability. A conceptual theory of auditing is discussed and practical examples of auditing techniques and work programs are used to illustrate the application of theory. The course also covers the auditor's reporting standards. Prerequisite(s) ACC 156

ACC 230—INTEGRATED ACCOUNTING SOFTWARE 3-0-3

Uses a fully integrated accounting software system to set up, manipulate and maintain accounting records. Includes modules covering receivables, payables, inventory, payroll and the general ledger. Prerequisite(s): ACC 155

ACC 234—PAYROLL & SPREADSHEET SOFTWARE 3-0-3

A study of the skills required of a full-charge bookkeeper. Emphasis is on detailed preparation of a complete payroll system, including study of laws, regulations, tax return preparation and fringe benefits. Extensive use of computerized payroll systems. May lead to possible certification as a payroll professional. Students will also complete comprehensive computerized general ledger packages from initial recording through year- end procedures and financial statements.

ACC 250—PRINCIPLES OF TAXATION 3-0-3

An introduction to the federal income tax as it applies to individuals. Topics covered include: conceptual framework, tax determination, inclusions and exclusions, deductions and credits, personal and business expenses including depreciation, loss limitations and property transactions.

ACC 251—CORPORATE TAXATION 3-0-3

Covers tax reporting for partnerships and S Corporations, as well as taxation of C Corporations and fiduciaries. Also included is an overview of federal estate gift taxes. The use of microcomputers in the preparation of individual tax returns is an integral part of this course.

ACC 255—INTERMEDIATE ACCOUNTING I 3-0-3

Examines the theory and concepts underlying the mechanics of accounting, including a review of the accounting process. Topics covered include: conceptual framework; income statement; balance sheet; cash flow statement; revenue recognition; cash and receivables; inventories-cost and estimation; plant and intangible assets-acquisition, use and retirement. Prerequisite(s): ACC 156

ACC 256—INTERMEDIATE ACCOUNTING II 3-0-3

Continuation of Intermediate Accounting I. Topics covered include: debt financing; equity financing; long- term investments; leases; pensions; income taxes; contingencies; business segments; accounting changes and error analysis; earnings per share. Prerequisite(s): ACC 156

ACC 299—INTERNSHIP IN ACCOUNTING 1-12-3

Students gain exposure and insight to the accounting industry through supervised and evaluated on-the-job experience. Students select locations for internships from instructor-approved sites, which encompass Southwestern Pennsylvania. Seminars are conducted weekly for students to discuss their experiences. Transportation to off-campus locations is the responsibility of students. Prerequisite: Completion of 30 credits in major course requirements.

ALH–ALLIED HEALTH

ALH 120—PHARMACOLOGY 3-0-3

Introduces the student to current concepts in pharmacology, including basic drug interactions, indications and contraindications for drug therapy, toxicity, side effects and safe therapeutic ranges. Prerequisite: MTH 050, 050A, or Placement.

Course Descriptions

ALH 122—MEDICAL TERMINOLOGY 3-0-3

Studies definitions of medical terms. Greek and Latin word roots, prefixes and suffixes. Emphasis on application of terminology in specialized areas such as cardiology, urology, etc. Also includes discussion of the human element, medical laws and equipment, and methods.

AMT–ADDITIVE MANUFACTURING

AMT 101—INTRODUCTION TO ADDITIVE MANUFACTURING 3-0-3

This course will introduce students to additive manufacturing with discussions ranging from the historical beginning of 3D printing utilized in rapid prototyping through current applications in various precision manufacturing industries. The growing variety of polymer and metal materials along with related three-dimensional printing processes will also be explored. A brief overview of material safety, product design considerations, and post-process procedures will prepare the student for advanced courses in these subject areas.

AMT 102—MATERIAL HANDLING & SAFETY 3-0-3

Students will gain the essential knowledge for proper handling of metal and polymer powders used in the field of additive manufacturing. Topics will detail the storage, documentation, pre-process, post-process, material recovery, and disposal of both metal and polymer powders according to ANSI and UL standards and procedures. An overview of all types of materials currently used in Additive Manufacturing will also be explored. This course must be completed before AMT-201 and 202.

AMT 201—3D PRINTER OPERATION, MAINTENANCE & MANAGEMENT 2-4-4

This course will provide the student with hands-on operating experience of several advanced additive manufacturing 3D printing platforms utilized in industry. Students will convert CADD design files to the appropriate coordinate data necessary for both polymer and metal parts created through a 3D printing process. Maximizing the build environment of a 3D printer will be considered to increase productivity and efficiency of the operation. Pre and post process of printed parts along with operational printer maintenance procedures will be performed. Experience managing and handling both polymer and metal materials according to ANSI and UL standards will be employed. Prerequisites: DFT 105, DFT 266, AMT 102

AMT 202—ADDITIVE MANUFACTURING MOLD DESIGN 2-4-4

3D printing requires an entirely new thought process on the design of molds used in manufacturing. This course will provide students the opportunity to utilize the 3D printing process for the creation of injection and casting molds. Investment casting designs will also be explored. 3D mold design software will be employed to provide the necessary coordinate data for the production of manufacturing molds. Prerequisites: AMT 201. Co-requisites: DFT 208

ARC–ARCHITECTURE

ARC 101—BUILDING MATERIALS & ESTIMATING 3-0-3

Surveys building materials and characteristics used in the construction industry. Course also covers various construction techniques, principles and cost estimating.

ARC 102—CONTRACTS AND SPECIFICATIONS 3-0-3

Covers the basic principles of written contracts and their format. Topics include specifications, language, techniques, bidding and contract responsibilities. Study of building codes and building applications for various types of structures.

ARC 105—ARCHITECTURAL DRAFTING I 2-4-4

Provides a practical approach as it relates to current common architectural drafting standard practices. The principle objectives are basic understanding of orthographic projection, size description and notation. National and local building codes are introduced.

ARC 106—ARCHITECTURAL DRAFTING II 2-4-4

Provides students with more advanced drafting techniques and competencies by applying information about building components to draw detailed sets of architectural construction drawings and improve perception and awareness of problems related to design and building code requirements. Prerequisite(s): ARC 105

ARC 119—INTRODUCTION TO SURVEYING 2-2-3

Study includes linear measurements with tape; differential leveling and vertical control measurements; vertical angles with transit; closed traverse work utilizing bearing, azimuth and deflection methods; use of coordinate systems, computation of areas; stadia and topographic surveying. Benchmark and profile leveling for computation and data for application of cut and fill requirements in road or development construction will also be covered. Prerequisite(s): MTH 104

ARC 199—ARCHITECTURAL DRAFTING AND DESIGN INTERNSHIP 1-12-3

Students will obtain experience in the architectural drafting and design field through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised practical work experience. Prerequisite(s): Permission of instructor.

ARC 210—ARCHITECTURAL AUTOCAD I 2-4-4

The study of architectural drawing, detailing and illustration through the assimilation of computer software. (Most current version of AutoCAD will be used.)

ARC 211—ARCHITECTURAL AUTOCAD II 2-4-4

A continuation of ARC 210. This course teaches advanced drawing and editing commands that may be used to create 2D architectural drawings. Ordinate dimensions, drawing/plotting scales, symbols/block usage, attributes, references and paper space applications are covered. (Most current versions of AutoCAD and 3D parametric modeling software will be used. Prerequisite(s): ARC 210

ARC 215—ARCHITECTURAL PRESENTATION 2-4-4

Students will develop and deliver a presentation on a specific project approved by their instructor. Coordination of previous skills on independent projects utilizing manual drafting and computer graphics software for model building and design. (Most current versions of AutoCAD will be used.) Prerequisite(s): ARC 210

ARC 262—PIPING, STRUCTURAL DETAILING AND ELECTROMECHANICAL DRAFTING 2-4-4

AutoCAD application course that will include piping, structural detailing, electromechanical details and working drawings. The student will experience more complicated problems in this course, and will coordinate previous skills for the graphical solutions. (Most current version of AutoCAD will be used.) Prerequisite(s): ARC 210 or DFT 258

ART–ART

ART 101-STUDIO SAFETY AND STEWARDSHIP 1-4-3

This course provides strategies for students to adjust to college as a first step in pursuing a creative career. Students will learn about the college's resources, services, policies, and educational technology. The course will also teach proper use of tools, equipment, and chemicals, and will introduce digital skills necessary for portfolio documentation. Students will develop skills in educational planning, goal setting, and time management particular to their creative pursuits.

ART 140—ILLUSTRATION 1-4-3

This course is an introduction to inventive drawing techniques, with an emphasis on narrative. Looking at contemporary and historical precedents, students examine strategies for effective communication of story and mood. Students develop skills to create characters, props, and environments. Exercises use both traditional and digital media.

Course Descriptions

ART 142—TYPOGRAPHY 1-4-3

This course is an introduction to and exploration of type design, history and contemporary use. The course examines the development of letter formation, using calligraphic practice, letterpress printing, and digital experimentation. Concepts will be examined for creative potential, corporate identification and personal exploration. Assignments demonstrate visual solutions for typographic design problems, with emphasis on traditional and digital solutions.

ART 143—PRINTMAKING 1-4-3

This course provides a basic introduction to the field of printmaking through its historic and contemporary technological forms and function. It explores the potential with the print variant and print edition. Relief, intaglio, drypoint, monoprint and screen-printing processes will be covered. It introduces an analysis of paper, print matrix, inks and the related fields of bookmaking and letterpress printing. Students will examine the role of the hand- printed image, the digital reproduction and the rich hybrid between these methods of printmaking.

ART 155—INTRODUCTION TO ART HISTORY 3-0-3

Surveys the history and stylistic development of the visual arts. The student is introduced to the process of formal, compositional analysis as it relates to content and historical context, as well as the changing role of art and artist in culture.

ART 156—WORLD ART SURVEY 3-0-3

This survey course examines the function, form, construction and context of objects created across all continents of the globe. It establishes how art objects are an unconscious representation of a culture's ideology. The arts of these areas will be examined from an anthropological approach with particular attention to the dynamic reasons for cross-fertilization of iconography, material and methodologies. Content will be explored primarily in a chronological and geographic framework.

ART 157—INTRODUCTION TO CONTEMPORARY ART 3-0-3

This course examines contemporary art from the 1960s to the present. It covers the fundamental framework and critical ideas that have been documented in recent art history. It explores the major changes in the perception and function of art – how it is made, where it is presented, the role of the audience and how the work is historically recorded. The course focuses on a thematic approach to content. The course considers contemporary art as an evolving dialog that stretches into art history.

ART 158—AMERICAN ART 3-0-3

This course introduces the student to the historical and cultural context of American painting, sculpture, architecture and decorative arts. In addition to the history and progression of art of the United States, students will examine the role of local institutions such as the Carnegie Museum and the Westmoreland Museum of American Art.

ART 159—HISTORY OF GRAPHIC DESIGN 3-0-3

This course spans the first impulses of visual mark-making and symbolic expression to current streams of thought and changes in the graphic design profession. While technology has changed drastically through the years, the basic principles of visual communication are still relevant. The approach is to demonstrate the links between graphic works and the social forces and conditions of their production. Knowing this history gives insights to the reasoning, meaning and critical knowledge to understand the expanding field of graphic professions. This course will be offered online.

ART 160—2-D DESIGN 1-4-3

This course examines the elements and principles of 2D design, including line, shape, value, color, and composition. Students will solve design problems to develop their understanding of visual communication.

ART 161—3-D DESIGN 1-4-3

The basic elements and principles of design are implemented to create three-dimensional projects. Issues of volume, space, fabrication and construction with a variety of materials are applied to design problem- solving. Students explore three-dimensional space in relation to degree of depth from wall-relief to freestanding forms, and investigate the history and theory of spatial design principles. Prerequisite(s): ART 160 or permission of instructor

ART 162—DRAWING I 1-4-3

As the most fundamental of art skills, students will learn to think visually and imaginatively. Drawing from observation is stressed through a sequence of basic rendering techniques, which include the study of spatial relationship structure, light and shadow, linear perspective, proportion and composition.

ART 163—DRAWING II 1-4-3

By focusing on the human figure, students will learn to render complex forms using a variety of strategies and materials. The course mixes anatomical study and observational drawing. Emphasis is placed on a balance of gesture and structure to express the personality and emotion of both artist and subject. Prerequisite(s): Art 162 or permission of instructor

ART 165—PAINTING I 1-4-3

As an introduction, oil paint is the medium of choice with which students will learn the basic properties of the painters' materials, including canvas stretching and preparation. The painters' craft is stressed with color mixing and application. Within a sequence of painting problems, students reinforce their visual vocabulary by painting from observation, to prime the beginner for more interpretive, imaginative subject matter. Prerequisite(s): ART 162 or permission of instructor

ART 166—PAINTING II 1-4-3

As an intermediate level course, Painting II will focus on pictorial space, form and individual exploration of ideas, and grounded in a fundamental understanding of the painting medium. The basics of the idea-development will be studied while refining and experimenting with techniques and materials. Students will learn how to execute a series as the first step to creating a body of work. An exploration of historical and contemporary paintings and artists will be offered to enhance strategies for generating ideas. Prerequisite(s): ART 165 or permission of instructor

ART 170—INTRODUCTION TO GRANT WRITING 3-0-3

This course introduces students to the philanthropic world and the fundamentals of successfully attracting grant funding. Students will become familiar with the vocabulary used in this field and the skills and education needed to pursue a grant-writing career. During the course, students will develop an appreciation of the importance of thorough research and preparation in developing a fundable "ask" and in identifying the best donor match(es) for it. They will be given guidance and asked to build an effective case statement that employs persuasion and critical analytical skills in written discourse.

ART 171—ART LAW – LEGAL ISSUES FOR CREATIVE PROFESSIONALS 3-0-3

This course provides a broad overview of legal issues that may affect artists and creative professionals. It is not designed to make lawyers of students, but rather to create a heightened awareness of legal issues, which may require that the artist seek the counsel of a legal professional. The course will address issues such as: copyright protection, censorship, contract law, forms of business entities online resources.

ART 172—MUSEUM CAREERS 3-0-3

This course will provide an overview of the possible careers within museums, particularly for students undertaking liberal arts/creative degrees. The course is designed to make students aware of the jobs and career paths available so that they can better utilize their degree offerings in order to streamline and strengthen their skills and

education for future employment.

ART 175—ART SPECIAL TOPICS VARIABLE

Art Special Topics is developed to cover specific emerging technologies, issues or specialized content not represented in the main curriculum. Special topics courses meet the variable needs of students, businesses and community and will enhance the disciplinary framework where the content of the course changes each time it is offered. The special topics area will be designated in the course outline of record, and must be approved by the Division Dean. Special topics course descriptions are not printed in the college catalog but are included in the class schedule for the semester they will be offered.

ART 180—CREATIVE BUSINESS BASICS 3-0-3

This course will provide students with the educational foundations to grow or launch a creative business. This course focuses on six essential elements of creative business success- capital, markets, peers, space, guidance, and workforce as the guiding elements for assignments and class discussions. Over the course of the semester, each student will develop a business plan framework for a real or fictional creative business, which will include aspects such as basic legal considerations, art business finances, and marketing. Students will gain the fundamental building blocks to make a living as a creative professional.

ART 183—BOOK ARTS I 1-4-3

This course is an introduction to the materials and techniques used in creating artist's books. Lectures and demonstrations will include hand papermaking, sheet formation, paper grain and applications for book arts. Paper will be used in creating signature binding, book design, new and alternative book forms, and container construction. In addition to lectures and discussions, students will actively learn historical and contemporary binding methods. Well-conceived and crafted books will be assigned to correspond with each section. Students will analyze and discuss work in progress within a group critique. Each student will produce unique books as well as small editions. Books will employ handmade paper and construction will include mock up, title, colophon page, and will be signed. The popularity of recycled materials in the field of contemporary book arts will be explored.

ART 188—TEXTILES I 1-4-3

An investigation of the cultural and aesthetic development of fibers and textiles from its ancient beginning will explore fabric-dying, batiking, weaving and knotting formation. Pattern designs will include screen and combination. An exploration of new formulations will include recycling materials to create unique yardage.

ART 285—PORTFOLIO I 1-4-3

This course is designed to prepare a student's work for acceptance into advanced programs of art and/or professional, competitive employment. The student will be provided with a fundamental set of skills that will be used throughout their developing careers. Self-promotional tools include: assessing and defining goals, writing an artist statement and/or career philosophy, documentation of artwork, presentation, resume and personal web page development. Students are required to enter at least one art competition or graphic publication, locate desirable job descriptions, and participate in a series of mock interviews designed to hone skills for professional presentation.

ART 286—PORTFOLIO II 1-4-3

This course is designed as a capstone experience for the art student to develop and execute a professional gallery exhibition and/or develop a professional artisan product line. Students are required to develop a timeline to execute the exhibition to ensure all components are addressed. These include: designing promotional materials; exhibition design and installation. Emphasis is placed on presenting a cohesive exhibition supported by an exhibition statement and a public reception. Students are also required to document the exhibition and have a faculty review.

ATH–ART THERAPY

ATH 175—EXPRESSIVE THERAPIES 1-4-3

This course is designed as a survey of the use of creative expression in the practice of therapy. Creative theories will be examined in relation to learning, problem-solving and psychological health. Students explore various expressive modalities, how those methods engage personal growth and self-expression and the necessity of these qualities in psychological recovery. The expressive arts explore visual art, music, dance, drama, writing and other creative processes to encourage self-expression and healing for personal and community benefit. This course will explore how the arts are used in various settings such as hospitals, community organizations, mental health services as well as educational environments.

ATH 176—INTRODUCTION TO VISUAL ART THERAPY 1-4-3

This course examines the theory, development and practice of art therapy and the role of self-expression in the process of both personal and communal healing. Students will explore the creative process of visual art and its relationship to the psychological and emotional self. Through various visual art methods and materials, students will investigate the role of self-expression toward personal growth. Students will discover sources of imagery and symbolic language from two perspectives: as creator and viewer, and link the benefits of creative expression to psychological health that have implications for specific local communities as well as the overall health of the community at large.

ASL–AMERICAN SIGN LANGUAGE

ASL 101—AMERICAN SIGN LANGUAGE I 3-0-3

American Sign Language I is an introduction to the language used by members of the deaf community in the United States. This course focuses on conversation in signs, basic rules of grammar and cultural aspects of the deaf community.

ASL 102—AMERICAN SIGN LANGUAGE II 3-0-3

As the continuation of basic American Sign Language and culture study, this course furthers learners' ability to describe and discuss everyday matters and situations in a culturally appropriate manner. The focus of this course remains on conversation in signs, basic rules of grammar, and cultural aspects of the deaf community. Additional vocabulary, more complex grammatical principles, and communicative strategies, which assist the deaf listeners, are presented. Prerequisite(s): ASL 101

ASL 105-AMERICAN DEAF CULTURE AND THE DEAF COMMUNITY 3-0-3

This course is an introduction to deaf culture and examines both the emergence of the deaf community as a linguistic and cultural group and the history of American Sign Language. Students will study cultural norms, values, traditions, and rules of social behavior of the deaf community, as well as dynamics and cross-cultural interactions.

ASL 201—AMERICAN SIGN LANGUAGE III 3-0-3

American Sign Language III is an upper intermediate level course that builds on ASL II, and it is designed to develop the student's ability to master the semantics of ASL. The focus will be on the skills and knowledge necessary to effectively translate passages from either spoken or written English into American Sign Language. Student production skills will be evaluated via videotape. Students will also be required to attend Deaf events and be involved in the Deaf Community. Prerequisite(s): ASL 102

BIO–BIOLOGY

BIO 107—HUMAN BIOLOGY 3-0-3

This course explores the basic structure and function of the human body. All organ systems will be studied; including the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems. Selected disorders and the anatomical and physiological relationships to the body will be discussed. Biological terms and meanings of appropriate terms are emphasized along with the relationships between the

various organ systems in both health and disease.

BIO 120—ENVIRONMENTAL ISSUES 3-0-3

Assesses human impact upon the natural world by reviewing a number of current environmental problems. Topics include ozone depletion, the greenhouse effect, habitat destruction and overpopulation. Basic ecological concepts such as food chains, food webs, cycling of materials and energy flow through an ecosystem, and productivity will also be emphasized.

BIO 145—GENERAL BOTANY 3-2-4

Studies the morphology, anatomy, physiology, life cycles, genetics, taxonomy and evolution of representative non-vascular and vascular plants with emphasis on the local flora.

BIO 155—GENERAL BIOLOGY I 3-2-4

Introduces biology as a science that deals with fundamental concepts and processes common to all living organisms. Topics considered include basic ecological principles, evolution, biological chemistry, cell structure and function, cellular respiration and photosynthesis.

BIO 156—GENERAL BIOLOGY II 3-2-4

Sequel to General Biology I (BIO 155). Includes study of mitosis, meiosis, Mendelian/neoMendelian/molecular genetics and deals with the diversity of organisms and their life processes. Prerequisite(s): BIO 155

BIO 171—ANATOMY AND PHYSIOLOGY I 3-2-4

This is the first course in a two-semester sequence that explores the structure and function of the human body and mechanisms for maintaining homeostasis within the body. Topics include basic organic chemistry, cells, tissues and the following organ systems: integumentary, skeletal, muscular, nervous and endocrine. Also discussed will be interactions between systems as well as selected diseases and the disorders and their relationship to typical anatomy and physiology. Prerequisite(s): CHM 107, CHM 160, CHM 225 or high school chemistry (C or better) and ENG 095 or placement.

BIO 172—ANATOMY AND PHYSIOLOGY II 3-2-4

This is a continuation of Anatomy and Physiology I. Students will continue to explore the structure and function of the human body and mechanisms for maintaining homeostasis within the body. Topics include the cardiovascular, respiratory, lymphatic, digestive, urinary and reproductive systems. Also discussed will be interactions between systems as well as selected diseases and disorders and their relationship to typical anatomy and physiology. Prerequisite(s): BIO 171 with a "C" grade or better.

BIO 210—ZOOLOGY 3-2-4

This course introduces students to the science of animals. It presents a survey of the animal kingdom with emphasis on diversity, evolutionary relationships, phylum characteristics, functional adaptation and environmental interaction. This course is appropriate for science majors and non-science majors alike.

BIO 255—MAKING SENSE OF CLASSICAL GENETICS 3-2-4

Classical genetics is the foundation on which all other genetics courses rest. It is concerned primarily with the ways that genetic traits are passed through generations in plants and animals. Traits may be dominant, recessive, intermediate, polygenic, sex-linked or autosomal, and each will be explained in this course. Today, a prime reason for performing classical genetics is for gene discovery- the finding and assembling a set of genes that affects a biological property of interest. In addition, the inheritance of chromosomes, how they produce a functional protein and how we can use DNA to manipulate these traits will be covered. Finally, the course of traits in entire populations will be analyzed, allowing students to predict the futures of endangered species, and perhaps even humans themselves.

BIO 265—MICROBIOLOGY 3-3-4

Deals with microbial organisms in general by surveying the history, methods and nature of microbiology. Bacteria and viruses are discussed in greater depth, particularly those that cause human disease. Also covered is the beneficial role-played by microbes. Prerequisite(s): BIO 155 or BIO 171 and CHM 107, CHM 160, CHM 225 or high school chemistry (C or better), ENG 085 or placement

BIO 285—MOLECULAR GENETICS 3-3-4

Although the course begins with an introduction to heredity and classical Mendelian genetics, this material will emphasize current ideas in molecular biology including the transfer and expression of genetic information, the interaction and hybridization of genes, and molecular mutagens. The course will focus on the transmission and expression of genetic information, predominantly through eukaryotic molecular genetics. Prokaryotic molecular genetics and the variations from the eukaryotic model will also be discussed. The structure and function of the genetic material at the molecular level, replication and repair of the genetic material, and the regulation and expression of genetic information will be considered. Prerequisite(s): FOR 110, BIO 155, BIO 171 or BIO 210.

BKP–BAKING AND PASTRY

BKP 141—BAKING I 2-4-4

The student learns the fundamentals of baking which involves preparation of yeast rolls, breads, pies, cakes, cookies, tarts and doughnuts. The properties of baking ingredients, use and care of commercial bakeshop equipment, and storage and sanitation of baked products are studied. Uniforms and program tool kit are required. Prerequisite(s): CUL 104

BKP 221—BAKING BISTRO 1-4-3

The student will study and prepare baked goods and pastries used in commercial operations with an emphasis on speed scratch techniques with ready-made components and fresh ingredients. Menus will be evaluated and developed for food and labor cost and where speed scratch techniques can be introduced. Uniform and program tool kit required. Prerequisite BKP 141

BKP 223—BAKING II 1-4-3

A continuation of developing baking and pastry skills. Teaches the reasons for preparing various bakery and pastry products to satisfy the clientele. Students practice quantity baking on commercial equipment that is available to produce the best quality end-product. Emphasis is placed on menu planning, standardizing recipes, and production. The student is made aware of work simplification, cost control organization, and administration. A part of this course is preparing for and operating the Bistro. Prerequisite(s): BKP 141

BKP 245—DECORATING TECHNIQUES 1-4-3

Emphasizes the application of design principles to the art of decorating cakes, petit fours, centerpieces, confectionery and specialty pastry items. Uniforms and program tool kits are required.

BKP 247—SPECIALTY/ARTISTIC TECHNIQUES 1-6-4

Involves the student in the study and preparation of advanced hot and cold specialty dessert items. Emphasis is placed on both classical and contemporary dishes. Students are also provided with the knowledge and understanding of the utilization of artistic principles to effect chocolate and sugar work for consumption and display. Uniforms and program tool kit are required. Prerequisite(s): BKP 223

BKP 249—ADVANCED DECORATING TECHNIQUES 1-4-3

Emphasizes advanced decorating techniques. Design cakes using advanced techniques, which are appropriate to the theme, occasion and level of formality. Utilizes principles of sanitation and safety in decorative work and design. Evaluate final products based on artistic design principles, uniformity and neatness. Develop a level of professional proficiency in advanced decorating techniques. Uniforms and program tool kit are required. Prerequisite(s): BKP 245

BUS–BUSINESS

BUS 120—MATHEMATICS OF BUSINESS 3-0-3

Provides a basic knowledge and skill in the calculations necessary for a business career, including trade discounts, commissions, sales,

payrolls, statistics, depreciation, interest, insurance, annuities, investment, credit and taxes. Prerequisite(s): MTH 050, 050A or Placement

BUS 140—INTRODUCTION TO BUSINESS 3-0-3

Survey of the structure of business, its principle activities and typical problems. The course is designed to provide the student with a working knowledge of business terminology. It covers such facets of business as ownership, management, marketing, purchasing, production, human resources, finance, accounting and government regulation.

BUS 145—EXCEL FOR BUSINESS ENVIRONMENT 3-0-3

Excel for Business Environment focuses on decision making enhanced by Excel spreadsheets. It introduces students to a collection of quantitative tools designed to enhance managerial decision-making. Topics to be covered include financial statement analysis, financial and capital budgeting, forecasting, inventory control models, and linear programming. Extensive use of an Excel spreadsheet will be used in this course. This is an introductory course in business.

BUS 158—PRINCIPLES OF MANAGEMENT 3-0-3

Theory and principles of organization and management with an emphasis on the management processes of planning, organizing, leading, controlling, and the business functions, concepts, and applications related to the manager's role in a decision-making environment.

BUS 188—SOCIAL MEDIA IN BUSINESS 3-0-3

This course examines the current trends in social media and how these popular Internet-based social networking sites can be a powerful marketing tool for businesses and organizations. Through a combination of selected readings and hands-on projects, students will learn which prominent social media tools are best suited for various businesses and organizations in order to maintain a current online profile. Upon completion of the course, students will have the knowledge to develop a basic social media-marketing plan for businesses or organizations.

BUS 205—BUSINESS LAW 3-0-3

Basic principles of law applicable to business action including sources of law, adversary system, crimes, torts, negligence, strict liability, common law essentials of contract law and basic general legal principles.

BUS 240—TECHNIQUES OF SELLING 3-0-3

Retail, wholesale and specialty selling with emphasis on mastering and applying the fundamentals of selling. Sales presentations are required.

BUS 241—HUMAN RESOURCE MANAGEMENT 3-0-3

Considers the role of human resource management as it relates to recruiting and selection procedures, equal employment opportunity orientation and training. Emphasis is placed on performance appraisals, job evaluations and the motivation of employees.

BUS 244—BUSINESS STATISTICS 3-0-3

Principles of statistics as applied to business problems. Presentation and analysis of quantitative data in tabular forms; frequency distributions; measures of central tendency and dispersion; probability theory; sampling; tests of significance and regression analysis. It is advised that students have a background in algebra. Prerequisite(s): MTH 052, 052A or placement

BUS 245—PRINCIPLES OF MARKETING 3-0-3

Principles and functions of marketing. Topics include marketing research, target marketing, marketing segmentation and marketing-mix strategies. Special emphasis is placed on topics such as product, pricing, distribution and promotion decisions.

BUS 249—LABOR RELATIONS 3-0-3

Relation of management theory and the viewpoints of behavioral science to problems of managing people in both union and non-union environments. Topics included are labor relations, contract negotiations, administration, collective bargaining and grievance arbitration.

BUS 250—CALCULUS FOR BUSINESS 3-0-3

This course is an introduction to the differential and integral calculus used in understanding and solving problems arising in business and economics. Topics include limits, differentiation, integration, Taylor series approximations, optimizing functions and constrained optimization, probability and statistics and the Fundamental Theorem of Calculus. Calculus will be applied to real world business and economic applications. Prerequisite(s): MTH 157

BUS 262—ENTREPRENEURSHIP 3-0-3

A practically oriented course focusing on the development of an entrepreneurial venture from idea generation to the opening and operation of a business. Topics include creativity, target market identification, marketing/financial planning, decision-making, recordkeeping, employee coaching and motivation, business valuation, management/control processes, and legal requirements. Designed for the person who desires to develop an entrepreneurial venture.

BUS 275—ORGANIZATIONAL BEHAVIOR 3-0-3

This course is designed to examine behavior modeling in the work environment. Topics include leadership, the motivation of employees and the understanding of organizational cultures. Students will gain an understanding of the behavioral parameters of organizations that compete in both domestic and international markets. Knowledge of workforce diversity will be emphasized as a key to improving workplace performance through effective pluralistic organizational work teams. Special emphasis will be placed on conflict in negotiations, communicating through influence, power and politics, and the management of organizational change.

BUS 278—DATA ANALYTICS 3-0-3

Introduce the fundamental concepts necessary for the design and use of a database. The course will provide practical experience in applying these concepts using commercial database management systems. Students will perform identification, analysis and interpretation of volumes of data that are collected from a wide variety of sources. Students will learn to identify patterns and relationships in large data sets, to resolve business questions and make data-driven decisions, and effectively communicate informed tactical and strategic business objectives. Prerequisite: BUS 244

BUS 285—COMPENSATION MANAGEMENT 3-0-3

This course is designed to show students how to create fairness and equity when building a sound and equitable wage structure. Wage and salary administration is developed to enhance employee motivation. Job analysis, job evaluation and performance appraisal are presented as vehicles for advancing the understanding of fairness as it applies to both internal and external wage equity. Pay models are designed to be consistent with the legal framework as it applies to the job market. Competitiveness in performing a job is explored when considering a merit or seniority pay system.

BUS 288—BUSINESS ANALYTICS 3-0-3

Business analytics focuses on decision-making enhanced by electronic spreadsheets. It introduces students to a collection of quantitative tools designed to enhance managerial decision-making. Topics to be covered include financial statement analysis, financial and capital budgeting, forecasting, inventory control models and linear programming. Extensive use of an electronic spreadsheet will be used in this course. This is a capstone course in the Business Administration option AAS degree program. Prerequisite(s): FIN 220

BUS 296—BUSINESS STRATEGY 3-0-3

This is a capstone course in business that integrates managerial, financial, marketing and accounting principles in strategic

decision-making. The case methods/simulation method of instruction will be used for problem identification, analysis and solution. Prerequisite(s): 45 credits in business courses

BUS 299—BUSINESS INTERNSHIP 1-12-3

A coordinated period of supervised work experience in organizations that will offer students the opportunity to acquire competence in their chosen area of specialization.

CED–COOPERATIVE EDUCATION

CED 155—COOPERATIVE EDUCATION EXPERIENCE I 1-12-3

A work experience program designed to supplement formalized classroom study with supervised on-the-job learning experiences in college approved work locations. Academic credit may be earned for work experience if the student's job is related to his field of study or vocational goal. Prerequisite(s): Completion of 12 hours of course work with a minimum grade point average of 2.0, and approval of the coordinator of Career Connections Center.

CED 255—COOPERATIVE EDUCATION EXPERIENCE II 1-12-3

A work experience program for students with clearly defined career objectives in which a work setting integrates academic study and employment activities. Academic credit may be earned under the supervision of a member of the college faculty. Prerequisite(s): CED 155, completion of 30 hours of course work with a minimum grade point average of 2.5, and the approval of the coordinator of Career Connections Center.

CHM–CHEMISTRY

CHM 107—INTRODUCTORY CONCEPTS IN CHEMISTRY I 3-2-4

A study of the basic concepts in chemistry. Basic atomic and molecular structure are explored with emphasis on vocabulary, periodic properties, chemical reactions, nomenclature, stoichiometry, solutions and problem solving while stressing the applications of chemistry. No prior knowledge of chemistry is assumed. While this course does not have the mathematical rigor of General Chemistry, it does involve calculations and data handling. Prerequisite(s): MTH 052, 052A or placement

CHM 108—INTRODUCTORY CONCEPTS IN CHEMISTRY II 3-2-4

A study of the basic concepts in organic and biochemistry is presented without the emphasis on the theoretical models that are found in the organic chemistry courses. Basic organic chemistry is presented with organic family relationships stressed. Prerequisite(s): CHM 107

CHM 120—CHEMISTRY AND LABORATORY SAFETY 2-0-2

The course provides an introduction to the principles of laboratory safety in biological and chemical laboratories. Topics include safe lab practices; regulatory agencies; Safety Data Sheets (SDS); handling, storage, and disposal of chemicals; protective equipment; emergency response; and chemical and biological hazards. This is a required course for students of the various Laboratory Technician programs.

CHM 150—GENERAL CHEMISTRY I LECTURE 3-0-3

CHM 150 is the first semester of a two-semester general chemistry lecture course that introduces the student to the study of chemistry, focusing on the relationship between the microscopic structure of matter and the chemical and physical properties of matter, including applications to the real world. CHM 150 studies the concepts of atomic structure, chemical periodicity, bonding, naming of molecules and ionic compounds and principles of chemical reactivity. Measurements and problem solving, stoichiometry, solution chemistry, gas laws, thermodynamics and quantum chemistry are presented using a quantitative approach. Conceptual understanding of gasses, the structure of solids and liquids and chemical periodicity are also studied.Prerequisite(s): High school chemistry (C or better) or CHM 107, MTH 052 or 052A

CHM 151—GENERAL CHEMISTRY I LAB 0-2-1

General Chemistry I Laboratory is offered as the laboratory component to accompany CHM 150 (lecture) offering the hands-on experimental approach to collecting and analyzing experimental data in the laboratory. Corequisite(s): CHM 150

CHM 160—GENERAL CHEMISTRY II LECTURE 3-0-3

CHM 160 is the second semester of a two-semester general chemistry lecture sequence following CHM 150. CHM 160 uses the same text as CHM 150 and continues to build upon that material. CHM 160 focuses on the following topics: bonding in molecules, ionic compounds, metals and semimetals, chemical kinetics, equilibrium and thermodynamics. Acid/ base equilibria, pH, titrations and electrochemistry are also explored along with an introduction to band gap theory and real-world applications. A brief introduction to organic chemistry and appropriate applications are presented. Prerequisite(s): CHM 150

CHM 161—GENERAL CHEMISTRY II LAB 0-2-1

General Chemistry II Laboratory is offered as the laboratory component to accompany CHM 160 (lecture) offering the hands-on experimental approach to collecting and analyzing experimental data in the laboratory. Corequisite(s): CHM 160

CHM 199—CHEMISTRY INTERNSHIP I 1-12-3

A supervised work experience, which serves to link the student's academic experience with practical applications of chemistry at an individual site.

CHM 225—CHEMISTRY FOR THE HEALTH SCIENCES 3-2-4

Presents chemical concepts that enhance the student's study of the physiological consideration of the human. Topics from general, organic and biological chemistry are presented. Consideration of factors that influence physiological reactions are stressed. Prerequisite(s): One year of high school chemistry (C or better), CHM 107 or CHM 150

CHM 260—ORGANIC CHEMISTRY I LECTURE 3-0-3

Organic Chemistry I is the first semester of a two-semester Organic Chemistry lecture course. CHM 260 presents the chemistry of carbon containing compounds by laying down the groundwork for a conceptual understanding of the physical and chemical interactions between organic molecules. Structure, charge and resonance are studied in order to explore chemical and physical interactions between organic molecules. Kinetics studies are used where appropriate to verify reaction mechanisms. Classification of organic compounds is presented with an emphasis on naming and reactions of alkanes, alkyl halides, alkenes and alcohols. There is a focus throughout the course on the understanding of reaction mechanisms to work toward a conceptual understanding of the underlying basis of organic reactions. Introduction to gas chromatography and infrared spectroscopy are also covered. Prerequisite(s): CHM 160

CHM 261—ORGANIC CHEMISTRY I LAB 0-4-1

Organic Chemistry I Laboratory is offered as the laboratory component to CHM 260 (lecture) offering the hands-on experimental approach to collecting and analyzing experimental data in the organic chemistry laboratory. Corequisite(s): CHM 260

CHM 270—ORGANIC CHEMISTRY II LECTURE 3-0-3

Organic Chemistry II is the second semester of the lecture course and an extension of Organic Chemistry I. Concepts presented in this course include the relationship of spectroscopy to structure and discussions of the reactions and properties of a variety of organic families, focusing on naming and reactions of ethers, conjugated systems, aromatics, ketones, aldehydes, carboxylic acids, amines and amides. There is continuing focus throughout the course on the understanding of reaction mechanisms to work toward a conceptual understanding of the underlying basis of organic reactions.

Introduction to nuclear magnetic resonance and mass spectrometry are also covered. Prerequisite(s): CHM 260

CHM 271—ORGANIC CHEMISTRY II LAB 0-4-1

Organic Chemistry II Laboratory is offered as the laboratory component to accompany CHM 270 (lecture) offering the hands-on experimental approach to collecting and analyzing experimental data in the organic chemistry laboratory. Corequisite(s): CHM 270

CHM 275—BIOCHEMISTRY 3-3-4

This course is a general study of the chemistry of biomolecules. It will present the conformation and function of enzymes and other proteins, carbohydrates and lipids, and cell membranes, channels, pumps, and receptors. The methods of producing and storing energy through glycolysis and gluconeogenesis, the citric acid cycle, photosynthesis, and the metabolism of glycogen, fatty acids and lipids, and nitrogen-containing molecules will be examined. A brief discussion of the chemistry of genes and chromosomes, DNA and RNA metabolism, and regulation of gene expression will conclude the semester. Prerequisite(s): CHM 108, CHM 225 or CHM 260

CHM 299—CHEMISTRY INTERNSHIP II 1-12-3

Requires the student to apply advanced chemical background to practical applications at an industrial site. The student will work in cooperation with a chemistry specialist who will direct the activities of the student to provide experience in the use of the instruments and functioning found in industry.

CIS–CYBER SECURITY

CIS 168—PRINCIPLES OF INFORMATION SECURITY 3-0-3

This course is designed to introduce the student to the dynamic discipline of information security. Information security covers a broad range of areas from keeping networks secure from hackers to protecting one's own personal information. Areas of study will include ethical, moral, and legal issues; industry-and vendor-specific certifications; encryption and decryption methods and protocols; and the security system design life cycle. Up-to-the-minute developments in information security and network security will also be covered.

CIS 209—NETWORK SECURITY FUNDAMENTALS 3-0-3

This course introduces students to user, hardware, and software security issues associated with local area networks. Topics presented will include user authentication, infrastructure security: devices, media, security topologies, intrusion detection; and software: file system, service packs, patches, directory services and databases. Students will develop an in-depth understanding of network security principles, tools and configurations needed to secure a network.

CIS 212—DIGITAL FORENSICS FUNDAMENTALS 3-0-3

This course introduces the student to the technical and legal aspects of Digital Forensics, including general forensic processes, imaging, hashing, file recovery, file system basics, identifying mismatched file types, reporting and laws regarding computer evidence.

CIS 255—ETHICAL HACKING & SOFTWARE DEFENSE 3-0-3

This course provides students with the knowledge and skills required to look for weaknesses and vulnerabilities in computer systems and networks with a view to enhance defense against cyber-attacks. The course will also cover the objectives of the EC-Council Certified Ethical Hacker (CEH) certification examination. Prerequisite(s): CIS 168 Principles of Information Security

CMT–CONSTRUCTION MANAGEMENT

CMT 101—RELATED TRADES 2-4-4

This course will help the student develop skills to perform some of the additional construction tasks approached by the tradesman in the field.

CMT 121—CONTRACTS FOR THE TRADESMAN 2-0-2

This course will help the student develop skills to perform some of the contractual tasks that the contractor encounters in the field. The legal side of a business is fundamental for any contractor to be successful in a service-based business. The course will provide the student the knowledge for the legal contractual aspect of plumber projects, listing specific expectations, and any applicable requirements.

CNC–COMPUTER NUMERICAL CONTROL

CNC 111—COMPUTER NUMERICAL CONTROL I 1-6-4

This course will introduce students to computer numerical control of machining equipment. Students will be taught manual parts programming using the industrial standard G-code format. Students will operate CNC mills and lathes and create parts using their programs. Corequisite(s): MTH 052, Placement, or Instructor Permission

CNC 112—COMPUTER NUMERICAL CONTROL II 1-6-4

This course will introduce students to software programming of CNC equipment. Students will use MasterCAM to develop part geometry, create tooling paths, and verify machining operations and post-process machining G-code. Students will create parts using CNC mills and lathes. Prerequisite(s): CNC 111 or instructor permission; Corequisite(s): MTH 104, placement, or instructor permission

CNC 213—COMPUTER NUMERICAL CONTROL III 1-6-4

This course will provide students with further training and experience using CNC software and equipment. MasterCAM will be used to produce G-code programs, which will be used to create parts on CNC mills and lathes. Students will be introduced to 4 and 5 axis programming. Prerequisite(s): CNC 112

CNC 214—COMPUTER NUMERICAL CONTROL IV 1-6-4

This course will enable students to develop expertise in programming and operating CNC equipment. Students will work on projects to produce finished parts from raw materials. Production steps will include planning, programming, tooling, fixturing and operations. Prerequisite(s): CNC 213

CPT–COMPUTER TECHNOLOGY

CPT 145—INTRODUCTION TO COMPUTER TECHNOLOGY 3-0-3

This course will survey the field of computer technology and information systems. Students will gain a basic understanding of how computers process information through the integrated use of hardware and software. Students will explore networking computer security, programming, database, e-commerce, decision support systems, mobile computing, ethical issues and other emerging technologies. It is designed as a first course for students pursuing a degree in the computer field.

CPT 150—MICROCOMPUTER CONCEPTS 3-0-3

This course introduces students to the microcomputer and various state-of- the-art software applications; word processing, spreadsheet, database and presentation. The overall goal of the course is to guide the student into becoming a proficient microcomputer user.

CPT 156—PROGRAMMING WITH PYTHON 3-0-3

This course introduces students to computer programming using the Python programming language. Procedural programming, algorithm design and language constructs common to most high-level languages are topics emphasized. A brief introduction to Python classes and object-oriented design is included. Upon completion, students should be able to design, code, test and debug Python language programs.

CPT 160—INTRODUCTION TO PROGRAMMING 3-0-3

This course introduces students to programming logic, design and development. Upon completion of this course, students will be able to: understand the structure of a computer program, plan and execute

good program design, use sequence, selection and iteration as required by a program, and create and use methods. No prior programming experience is required.

CPT 163—JAVA PROGRAMMING I 3-0-3

An introduction to computer programming and the Java language. Topics presented include the logical flow of instructions, control structures and mathematical procedures. Emphasis is placed on the programming process, documentation and Java fundamentals. Prerequisite(s): CPT 160

CPT 172—INTRODUCTION TO NETWORKS (CISCO I) 4-0-4

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CPT 180—C++ PROGRAMMING 3-0-3

This course provides an introduction to object-oriented programming and the C++ programming language. Students will create, document, run and debug programs. Major topics include variables, classes, objects, selection, iteration, strings, arrays, pointers and functions. Emphasis will be placed on solving problems using well-written algorithms, producing readable program documentation and creating programs that produce accurate output. Prerequisite(s): CPT 160

CPT 181—INTRODUCTION TO TELECOMMUNICATIONS 3-0-3

Covers telecommunications, its role in the firm and in informal systems and the planning and design of a telecommunications system. Basic communication theory, components of data communication systems, error detection techniques, network protocols and line control procedures, communication carrier facilities and system planning considerations are covered.

CPT 182—OPERATING SYSTEMS 3-0-3

This course is designed to introduce students to the concepts, components and technologies found in desktop-based operating systems. Operating Systems explores the fundamentals with an overview of MS-DOS and provides hands-on experience with a Windows desktop client OS. Topics include but are not limited to: installation, configuration, operation and troubleshooting of commonly used operating systems. Prerequisite(s): CPT 145

CPT 183—LOCAL AREA NETWORKS 3-0-3

This course is designed to provide the concepts, components, terminology and topologies of Local Area Networks (LANs). Topics include network concepts, network essentials, and maintenance and network administration. Efficient and effective network methodologies are presented to enhance network management fundamentals.

CPT 195—EXCEL FOR WINDOWS 3-0-3

This course is designed to construct spreadsheets that graphically describe business problems and generate charts. Students use statistical, mathematical and financial functions. The course will introduce dynamic linking, macros and importing/exporting data. Successful completion of this course enables the student to sit for the Microsoft Office Specialist (MOS) certification exam.

CPT 196—ACCESS FOR WINDOWS 3-0-3

Microsoft Access is a relational database management system that allows the user to store and retrieve information from related records. The course focuses on a wide range of activities from the fundamentals of good database design and the database terminology to the creation of database applications. Material covered will include creating tables, forms, queries, reports, macros and modules to handle common business applications. Successful completion of this course enables the student to sit for the Microsoft Office Specialist (MOS) certification exam. Prerequisite(s): CPT 150

CPT 199—INTERNSHIP 1-12-3

A coordinated period of supervised work experience in organizations that will offer students the opportunity to acquire competence in their chosen area of technical specialization. Prerequisite(s): Permission of instructor

CPT 201—WEB CONTENT DEVELOPMENT 3-0-3

Use a World Wide Web development tool to create, view, edit and manage simple to complex Web sites. This course will focus on a range of activities from site design and navigation to publishing on the Internet. Topics covered include creating a page and a site, formatting, links, tables, graphics, frames, forms, templates and components.

CPT 203—HTML AND CSS 3-0-3

This course introduces the student to the tools and techniques used to develop documents for transmission to external (Internet) and internal (Intranet) clients. Topics include Hyper Text Markup Language (syntax, formatting, forms, tables and linkage) and cascading style sheets (CSS).

CPT 206—JAVASCRIPT 3-0-3

This course introduces students to Web application programming with scripting languages for interactive Web pages and server processing. Students create, test and debug scripts that may be implemented in HTML pages or deployed on a Web server. Prerequisite(s): CPT 203

CPT 213—JAVA PROGRAMMING II 3-0-3

This course builds on concepts presented in CPT 163-Java Programming. Topics covered in this course include inheritance, polymorphism and application development for graphical user interfaces (GUI). Students will use an integrated development environment (IDE) to create applets. Prerequisite(s): CPT 163

CPT 214—WIRELESS COMMUNICATION 3-0-3

This course introduces the student to the principles of wireless communication, the line-of- sight microwave, line-of-sight laser and line-of- sight propagation techniques. Specific topics include satellite uplink and downlink systems, non-line-of-sight communications methods in addition to various line-of-sight technologies. The communications methods addressed in this course will focus on the direct interface with local and wide area networking technologies. Prerequisite(s): CPT 172 or CPT 183

CPT 216—ROUTING AND SWITCHING ESSENTIALS 4-0-4

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, RIPng, single-area and multi-area OSPF, virtual LANs and inter-VLAN routing in both IPv4 and IPv6 networks. Prerequisite(s): CPT 172

CPT 219—FIBER OPTIC ANALYSIS AND DESIGN 3-0-3

This course is designed to provide training with the tools needed to understand the design, installation and splicing specialization of Fiber Optic Networks. Training focuses on network overview, fiber properties, hanging and routing of hardware, resolution of environment factors and planning to address optical network management issues. Fusion of: ribbon, discrete, pigtail and mid-span cables. Mechanical splicing, inner duct, splice trays and other hardware devices will be used to insure a wide base of installation knowledge. This course is a preparation for the Fiber Optic Specialist/Testing certification. Prerequisite(s): CPT 198

CPT 222—FIBER OPTIC TESTING AND TROUBLESHOOTING 3-0-3

This course is designed to provide training in the testing and troubleshooting of fiber optic systems. Topics include repetitive testing of single-mode fiber, multi-mode fiber, repetitive insertion loss tests on multiple links and repetitive testing with Optical Time Domain

Reflectometry. Emphasis placed on testing and troubleshooting, measuring signal quality and reflectance testing. This course is a preparation for the Fiber Optic Specialist/Testing certification. Prerequisite(s): CPT 198

CPT 235—DATABASE MANAGEMENT SYSTEMS 3-0-3

This course explores the theory behind data management by using a database management system and emphasizes the importance of good database design. Topics introduced include Data Manipulation Language, Data Definition Language and Data Control Language, controlling redundancy, entity-relationship diagram, normalization and Structured Query Language among others. Prerequisite(s): CPT 196

CPT 248—PC HARDWARE 3-0-3

This course focuses on the fundamentals of the components in a personal computer. Topics will include motherboards, processors, memory, drives, expansion boards and selected peripheral devices.

CPT 249—PC TROUBLESHOOTING 3-0-3

This course covers the installation, configuration, operation, and troubleshooting of personal computers using advanced hardware and software concepts and the utilization of information resources found on the Internet. Emphasis is on advanced troubleshooting techniques for repair and maintenance of personal computers. Prerequisite(s): CPT 182 and CPT 248

CPT 256—LINUX DESKTOP 3-0-3

This course is designed as an introduction to the Linux operating system. Course content will include the installation, configuration, upgrading and troubleshooting of the most recent version of UBUNTU Linux. Common Linux utilities and applications will be examined. Emphasis will be placed on the use of Linux as a server operating system. Prerequisite(s): CPT 182

CPT 259—USER SUPPORT OPERATIONS 3-0-3

This course provides those students seeking to become help desk or call center professionals with skills ranging from customer service, troubleshooting software and computer problems, operation of the help desk and creation of manuals. It is expected that students have a prior knowledge of basic computer concepts, word processing, spreadsheet and database applications and Internet experience. Prerequisite(s): CPT 150

CPT 262—WINDOWS CLIENT SERVER 3-0-3

This course is designed to provide the student with the knowledge to install, configure, operate, navigate and administer a Windows client and server computer. Students will learn to design, install, maintain and troubleshoot the services and protocols found in a network environment. Prerequisite(s): CPT 182

CPT 264—WINDOWS SERVER MANAGEMENT 3-0-3

This course covers the installation, configuration and troubleshooting of a Windows network infrastructure. Topics include DNS, DHCP, remote access, network protocols, WINS and IP routing, active directory, sites, organizational units, domains and security groups. Prerequisite(s): CPT 262

CPT 271—PHP AND SQL 3-0-3

This course provides students with two widely used web development tools; introduction to PHP programming techniques in conjunction with an introduction to the Structured Query Language (SQL) as it is used in a variety of database environments. The course content will include creating and modifying queries, the design of effective queries and query programming within an open source relational database management system. Prerequisite(s): CPT 196

CPT 278—INTEGRATED OFFICE APPLICATIONS 3-0-3

This course demonstrates the integration of the Microsoft Office Professional suite components. Using a case study approach, students will implement advanced features for problem analysis and problem solution. Students entering the course are expected to have mastered basic skills in Word, Excel, PowerPoint and Access. Outlook and Publisher are introduced. Prerequisite(s): CPT 195, CPT 196, OFT 185 and OFT 190

CPT 286—SYSTEMS ANALYSIS AND DESIGN 3-0-3

System Analysis and Design introduces the student to the tasks performed by systems analysts and the process that is used to complete successful projects. This course presents the life cycle of a computer system, the tools used by the systems analyst in each phase, and the role of the systems analyst within that life cycle. Stressing the importance of functioning as a member of a team, the course presents techniques to successfully manage a project, as well as communication with other members of the team and the organization. It serves as a capstone course, applying all the knowledge the student has gained into a final cohesive project.

CRJ–CRIMINAL JUSTICE

CRJ 101—HOMELAND SECURITY 3-0-3

This course provides a broad overview of homeland security and homeland defense as undertaken in the United States since 9/11. The goal is to provide the students with an overview of a generally accepted body of knowledge required of the homeland security professional. The course focuses on the enemy, why they hate us and the threat they pose; the homeland security policies and procedures enacted since 9/11; the key players at the federal and state and local levels. Successful students will receive four certifications from the Federal Emergency Management Administration in Incident Command and the National Incident Management System.

CRJ 155—INTRODUCTION TO CRIMINAL JUSTICE 3-0-3

The history, development and philosophy of law enforcement in democratic society, as well as introduction to modern agencies of criminal justice will be discussed. An orientation to criminal justice as a career field will be examined and the criminal justice flowchart and processes will be illustrated.

CRJ 160—CRIMINAL LAW I 3-0-3

Elements of substantive and procedural criminal law and how it applies in both practice and theory are introduced. The structure, definitions and most applicable and pertinent sections of criminal statutes are examined. An understanding of the criminal laws as they apply to preservation and protection of life and property will be summarized with an identification of appropriate punishments and punishment philosophies.

CRJ 162—POLICE ADMINISTRATION I 3-0-3

This course will examine the role of law enforcement in contemporary society relative to crime prevention, community policing, professional development and its effect on the community. Analysis of organizational structure, administration, management practices and operating procedures of law enforcement agencies with emphasis on line services activities. Recruitment, selection, training and career development of police will be discussed.

CRJ 163—CRIMINAL PROCEDURE 3-0-3

Principles, duties and mechanics of criminal procedures as applied to important areas of arrest, force, search and seizure will be examined. An overview of processes involved in the uses of criminal evidence and the court system will be studied. Significant criminal court decisions will be summarized and their effect on the criminal justice system.

CRJ 172—SUBSTANCE ABUSE AND CRIME 3-0-3

Analysis of the role of criminal justice in controlling the use and abuse along with the manufacturing, trafficking and distribution of illicit and legal substances is the primary objective of this course. Students will explore the relationship between drugs, alcohol and criminality along with an overview of law enforcement strategies to combat the war on drugs and evaluate the effectiveness of those strategies. Theories and research regarding causes and consequences of illegal drug usage and trafficking and its effect on the criminal justice system will be evaluated. Students will analyze the current economic and social costs along with the implications of alcohol abuse correlating with such crimes as rape, domestic violence and homicide.

CRJ 180—CORRECTIONS 3-0-3

This course studies special problems and practices in the correctional system. Analysis will be conducted of current correctional ideologies as they apply to historic punishment philosophies and their use by the American criminal justice system in the contemporary correctional environment.

CRJ 195—INTRODUCTION TO PRIVATE SECURITY 3-0-3

This introduction to private security will familiarize the student with basic information that will serve as an overview of the private security field. This will include a historical and philosophical perspective of private security, its principles, its legal authority and its effect on society in general.

CRJ 220—RESEARCH METHODS IN CRIMINAL JUSTICE 3-0-3

An introduction to basic criminal justice methods of research and analysis will be presented. Examination will be conducted of various research techniques, data collection strategies and analytical tools. Research procedures and statistical techniques are identified. Problem solving by research and identification of contemporary social science research sources will be investigated.

CRJ 225—CRIMINOLOGY OF TERRORISM 3-0-3

Students will discuss the criminology of terrorism including the typologies of terrorism, tactics employed by terrorist organizations, terrorist profiles and organizational structures of terrorist groups. Domestic and international terrorist groups will be evaluated. Students will analyze the modus operandi of terrorist organizations, exploring such factors as religion, politics and the social dynamics of the group. This course will examine historical as well as contemporary theories and issues of terrorism.

CRJ 255—JUVENILE DELINQUENCY 3-0-3

This course will explore the historical and contemporary theories of juvenile delinquency and justice in America. Students will analyze the causes of delinquency and discuss the various theories from various behavioral constructs about the treatment and prevention of delinquency. This course will examine various phenomena that exist today such as gangs, school violence, teenage sexuality and underage alcohol use and illegal drug use.

CRJ 262—CRIME PREVENTION 3-0-3

Students will conduct analysis of the nature and extent of crime in the United States and examine problems and techniques in preventing crime. Emphasis is on the organization and function of crime prevention agencies and on community resources in preventing crime.

CRJ 263—INVESTIGATIVE CONCEPTS 3-0-3

Fundamentals of investigative theory; developing informational processes; principles of interviewing and question construction; instrumentation techniques; identification of persons and things; and investigative operations. Covers the history and psychology of criminal investigation, computer technology as a tool in investigation, and current issues involving invasion of privacy.

CRJ 265—WHITE COLLAR CRIME 3-0-3

This course will examine the economic and sociological aspects to white-collar crime as well as the criminological aspects to this growing problem in the American criminal justice system. Topics include dealing with administrative, environmental, labor and manufacturing violations, and unfair trade practices. Will also explore crimes dealing with embezzlement, extortion, fraud and conspiracy.

CRJ 276—COMMUNITY RELATIONS 3-0-3

History and background of community relations programs of police and other law enforcement agencies; public attitudes toward law enforcement agencies; the changing nature of societal controls and the concept of professionalism in law enforcement will be discussed. Case histories of community relations programs by law enforcement agencies will be examined. Various police situations and appropriate police responses in the context of community-oriented policing will be studied.

CRJ 277—ETHICS AND THE CRIMINAL JUSTICE SYSTEM 3-0-3

This course is a comprehensive overview of ethical concepts, principles and theories and their relevance to crime and the criminal justice system. Students will examine practical issues and topics relevant to careers in criminal justice. The course will expose students to many moral dilemmas that they potentially may face as professionals in their chosen field.

CRJ 283—INSTITUTIONAL TREATMENT OF ADULTS AND JUVENILES 3-0-3

Correctional institutions relative to their role in the punishment and rehabilitation of individuals will be studied. The early history of imprisonment, classification and custody of incarcerates, security measures, and the development and organizational structure of jail and prison systems will be examined. Discussion will be conducted on contemporary dilemmas within institutionalization. Students will evaluate juvenile incarceration.

CRJ 287—MULTICULTURALISM AND THE CRIMINAL JUSTICE SYSTEM 3-0-3

A comprehensive overview of multiculturalism in the American criminal justice system. This course will explore the various issues relating to correctional procedures and practices but also employment strategies for minorities and women. We will examine the philosophy of community partnerships and community policing strategies with the emphasis on police-citizen collaboration in dealing with not only crime but a host of social issues affecting the community.

CRJ 290—PRINCIPLES OF CRIMINOLOGY 3-0-3

Introduces historical and current criminological theories with emphasis on the criminal justice system and its role in crime prevention.

CRJ 296—INTRODUCTION TO CRIMINALISTICS 3-0-3

The scientific aspects of criminal investigations including the application of knowledge from the forensic sciences will be examined. Included within this course will be the collection and the use of fingerprints; firearms and ballistics reports; hair, blood and paint samples; tools, poisons and other organic materials as evidence. Discussion of DNA and its relevance as scientific evidence will occur and basic crime scene investigation will be discussed.

CUL–CULINARY ARTS

CUL 104—FOUNDATIONS OF COOKING AND BAKING 1-4-3

This course is designed to prepare students with the foundational knowledge and skills of cooking and baking. Basic skills of dicing, cutting, chopping, egg cookery, stock making, quick breads, cookies, and yeast doughs will be demonstrated and practiced. Emphasis is placed on sanitation and safety. Uniforms and program tool kit required.

CUL 105—FOODS I 2-4-4

Introduction to food preparation and theory will introduce the student to the application of principles of food cookery. Principles relating to various categories of food preparation will be investigated and then applied in a laboratory situation. Sanitation and safety procedures will be emphasized. Uniforms and program tool kit required for all lab classes. Prerequisite: CUL 104

CUL 112—FOODS II 1-6-4

A continuation in food preparation, with some cooking in quantities. Teaches the reasons for preparing foods in various ways to satisfy the clientele; also what commercial equipment is available to produce the best quality end-product. Major emphasis is placed on menu planning, standardizing recipes and food production. The student is made aware of work simplification, cost control organization and administration. Uniforms and program tool kit required. Prerequisite: CUL 105

Course Descriptions

CUL 121—APPRENTICESHIP I 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills and methodology of the field. Job site must be approved by coordinator. Uniforms required. Prerequisite(s): Must be enrolled in the chef apprenticeship program.

CUL 122—APPRENTICESHIP II 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills and methodology of the field. Uniforms required. Prerequisite(s): CUL 121

CUL 123—APPRENTICESHIP III 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills and methodology of the field. Uniforms required. Prerequisite(s): CUL 122

CUL 132—GARDE MANGER 1-4-3

Stresses basic garde manger principles as well as functions and duties of the department as it relates and integrates into the other kitchen operations. In addition, emphasis is placed on introduction to specialty work, which includes ice carving, buffet decorations and culinary competitions. Uniforms and program tool kit required.

CUL 220—CULINARY BISTRO 1-4-3

The student will study and prepare foods used in commercial operations with an emphasis on speed scratch cooking with ready-made components and fresh ingredients. Menus will be evaluated and developed for food and labor cost and where speed scratch techniques can be introduced. Uniform and program tool kit required. Prerequisite(s): CUL 105

CUL 224—APPRENTICESHIP IV 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills and methodology of the field. Uniforms required. Prerequisite(s): CUL 123

CUL 232—FOOD SPECIALTIES 1-4-3

Advanced food preparation skills to include regional and ethnic cuisine, food trends and menus. Uniforms and program tool kit required. Prerequisite(s): CUL 105

CUL 243—NUTRITIONAL COOKING AND BAKING 1-4-3

The student learns the nutrients, their sources and their relation to body functions. General nutrition is discussed including the social, economic and psychological implications of food and eating. Students research current nutritional recommendations and produce recipes including diet modifications. Prerequisite(s) CUL 105 or BKP 141

CUL 251 - APPRENTICESHIP V 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills of the skills and methodology of the skilled culinarian or restaurant/culinary manager. Uniforms required. Prerequisite(s): CUL 224

CUL 253 - APPRENTICESHIP VI 1-40-1

A supervised and evaluated on-the-job training experience designed to provide practical application of the skills and methodology of the skilled culinarian or restaurant/culinary manager. Uniforms required. Prerequisite(s): CUL 251

DAE–EXPANDED FUNCTIONS DENTAL ASSISTING

DAE 100—DENTAL ANATOMY 2-0-2

This course is designed to provide students with a comprehensive study of the morphology and function of the human permanent and primary dentitions and skeletal and dental classifications of occlusion. (Graduates of the Westmoreland Dental Assisting or Dental Hygiene programs are not required to take this course. DAS 101 or DAH 104 will be substituted for DAE 100)

DAE 101—EXPANDED FUNCTIONS DENTAL ASSISTING I 3-6-6

This course is designed to provide students with the knowledge and skills necessary to perform the EFDA functions as delegated by the PA State Board of Dentistry. Lecture and laboratory sessions will present each function in detail and provide students with the opportunity to become competent in the EFDA functions.

DAE 102—EXPANDED FUNCTIONS DENTAL ASSISTING II 1-8-3

This course is designed to provide students with the opportunity to perform EFDA functions and evaluate their performance through journal writing and class discussion. Clinical experience is arranged through approved dental practices. Liability insurance must be maintained by the student while enrolled in the program. Clinical sessions include a wide variety of restorative experiences on many patients. Two four-hour clinical sessions are required per week for 15 weeks. Students who are able to schedule more than eight hours per week may complete the clinical rotation in less than 15 weeks. Prerequisites(s): DAE 100, DAE 101

DAH–DENTAL HYGIENE

DAH 101—INTRODUCTION TO DENTISTRY 2-2-3

Designed to give the student an in-depth study of dental terminology, medical/dental histories, charting, dental instruments, infection control, sterilization, pain control and patient management. Lecture and laboratory sessions introduce the student to each of the dental specialties and provide the student with the knowledge and skills required for application in the clinical setting. Prerequisite(s): BIO 171, CHM 225, PSY 160, SOC 155; Corequisite(s): DAH 102, DAH 104, BIO 172

DAH 102—DENTAL MATERIALS 1-2-2

Lecture and laboratory course designed to familiarize the dental hygiene student with commonly used materials in dentistry. The focus is on properties, proper technique of manipulation, and influence of manipulation upon these properties. Prerequisite(s): BIO 171, CHM 225, PSY 160, SOC 155; Corequisite(s): BIO 172, DAH 101, DAH 104

DAH 103—MEDICAL EMERGENCIES 1-0-1

Prepares students to recognize and manage medical emergencies in a dental office. Emphasis is placed on prevention through the use of medical histories and the team approach to emergency situations. Corequisite(s): DAH 105, DAH 111, DAH 112, DAH 113, DAH 114

DAH 104—HEAD, NECK AND DENTAL ANATOMY 4-0-4

Designed to reinforce the normal anatomical structures, musculature, blood and nerve supply to the head and neck. The administration of local anesthesia, tooth morphology and function are also discussed. Prerequisite(s): BIO 171, CHM 225, PSY 160, SOC 155; Corequisite(s): DAH 101, DAH 102, BIO 172

DAH 105—DENTAL RADIOLOGY 2-2-3

Provides an overview of dental radiology principles and techniques. Topics include X-ray production, radiation safety, exposure technique, film processing, landmark identification and client management. The student will apply didactic concepts in a supervised clinical laboratory setting. Prerequisite(s): DAH 104; Corequisite(s): DAH 103, DAH 111, DAH 112, DAH 113, DAH 114

DAH 106—NUTRITIONAL BIOCHEMISTRY 2-0-2

Introduces the science of nutrition. Sources and functions of nutrients, utilization of food in the body, nutritional requirements for various age groups and rudiments of diet counseling are discussed. Prerequisites(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 109, DAH 115, DAH 117

DAH 109—ORAL PATHOLOGY 2-0-2

Studies the process of diseases with emphasis on diseases and their manifestations in the oral cavity. Recognition and detection of such deviations from normal is stressed. The emphasis is on inflammation,

regeneration, repair, immunity, allergy, oral manifestations of disease, tumors and developmental disturbances. Prerequisite(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 106, DAH 115, DAH 117

DAH 111—DENTAL HYGIENE LECTURE 3-0-3

Provides an introduction to the fundamental concepts of oral health care services, disease control and dental hygiene instrumentation skills. Corequisite(s): DAH 103, DAH 105, DAH 112, DAH 113, DAH 114

DAH 112—DENTAL HYGIENE LAB 0-8-4

Designed for students to observe, discuss and practice the clinical skills required to perform oral health care services. Students will apply didactic concepts in a supervised clinical laboratory setting. Prerequisite(s): BIO 172; Corequisite(s): DAH 103, DAH 105, DAH 111, DAH 113, DAH 114

DAH 113—ORAL HISTOLOGY/EMBRYOLOGY 2-0-2

Studies the embryonic development of the head, face and oral cavity. Histologic structure of the oral tissues with relation to their clinical form and function is discussed. Prerequisite: DAH 104 Corequisite(s): BIO 172, DAH 103, DAH 105, DAH 111, DAH 114

DAH 114—PERIODONTICS I 3-0-3

Designed to study the periodontium in healthy and diseased states. Emphasis is placed on the anatomy of the periodontium, disease classification and etiology, the assessment and documentation of clinical findings and the role of the dental hygienist in non-surgical periodontal therapy. Corequisite DAH 104

DAH 115—CLINICAL DENTAL HYGIENE I 2-12-5

Provides for development of the knowledge and clinical skills required to provide oral health care services. Didactic emphasis is placed on disease control and prevention. Students will provide oral health care services in a supervised clinical setting. Prerequisite(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 106, DAH 109, DAH 117

DAH 117—LOCAL ANESTHESIA 2-2-3

This course is designed to provide the didactic and clinical knowledge of safe and effective pain control through the administration of topical and local anesthetic agents. Prerequisite(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 106, DAH 109, DAH 115

DAH 205—PERIODONTICS II 1-0-1

Designed to study the diagnosis and treatment of periodontal disease. Emphasis is placed on the differentiation of various periodontal surgical procedures, wound healing, implantology, pre- and post-operative patient education and preventive maintenance. Prerequisite(s): DAH 106, DAH 109, DAH 114, DAH 115, DAH 117

DAH 206—CLINICAL DENTAL HYGIENE II 2-16-6

Provides refinement of the knowledge and skills required to provide oral health care services. Didactic emphasis is placed on the provision of services for and the management of patients with special needs. Students will provide oral health care services in a supervised clinical setting. Prerequisite(s): DAH 106, 109, 114, 115, and 117

DAH 207—PHARMACOLOGY 2-0-2

Designed for dental hygiene students to study the physiology, interactions and effects of drugs. Emphasis is placed on drugs commonly used and/ or encountered in dental practice. Prerequisite(s) DAH 115; Corequisite(s): DAH 206, BIO 265

DAH 208—CLINICAL DENTAL HYGIENE III 2-16-6

Designed to expand the students' knowledge and clinical skills, enabling them to render comprehensive oral health care utilizing case based methodology, the reflection on ethical and legal obligations of the dental professional and successful role implementation upon employment. Students will provide oral health care services in a supervised clinical setting. Prerequisite(s): DAH 205, DAH 206

DAH 209—COMMUNITY DENTAL HEALTH 3-0-3

A basic orientation to the principles of community oral health planning and practice. The hygienist's role as an educator and resource person for the community will be emphasized. Students will expand their knowledge and skills necessary to promote oral health care in the community. Corequisite(s): DAH 205, DAH 206

DAS–DENTAL ASSISTING

DAS 100—INTRODUCTION TO DENTAL ASSISTING 4-0-4

This course is designed to give the student an introduction to the scope and depth of dental assisting practice. An introduction to the dental specialties is provided with an emphasis on restorative dentistry procedures. Corequisite(s): DAS 101, DAS 102, DAS 103, DAS 105, BIO 107

DAS 101—ORAL ANATOMY 2-0-2

This course is designed to study the normal anatomy of the oral cavity and the oral facial structures as well as the nerve supply to these areas. Tooth morphology and function are also discussed. Corequisite(s): DAS 100, DAS 102, DAS 103, DAS 105, BIO 107

DAS 102—DENTAL MATERIALS FOR DENTAL ASSISTANTS 1-2-2

Lecture and laboratory course designed to familiarize the dental assisting student with commonly used materials in dentistry. The focus is on appropriate use of the materials and the correct manipulation of the materials. Corequisite(s): DAS 100, DAS 101, DAS 103, DAS 105, BIO 107

DAS 103—DENTAL ASSISTANT LAB 0-8-4

This course is designed for students to observe, discuss, and practice the clinical skills required to perform dental assisting procedures. Students will apply didactic concepts in a supervised clinical laboratory setting. Corequisite(s): DAS 100, DAS 101, DAS 102, DAS 105, BIO 107

DAS 104—DENTAL SCIENCE 4-0-4

This course provides an overview of the dental sciences. Didactic emphasis is placed on pharmacology/pain control, oral histology and embryology, oral pathology and nutrition. Prerequisite(s): DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Corequisite(s): DAS 106. ENG 161, PSY 160

DAS 105—DENTAL RADIOLOGY FOR DENTAL ASSISTANTS 2-2-3

This course provides an overview of dental radiology principles and techniques. Topics include X-ray production, radiation safety, exposure technique, film processing, landmark identification and client management. The student will apply didactic concepts in a supervised clinical laboratory setting. Corequisite(s): DAS 100, DAS 101, DAS 102, DAS 103, BIO 107

DAS 106—CLINICAL DENTAL ASSISTING I 2-12-5

This course provides didactic and clinical practice experience for the student dental assistant. The didactic portion of this course relates to preventive dentistry and the treatment of patients with special needs. Emphasis is also on the dental specialties of pediatric dentistry, endodontics, oral pathology, oral maxillofacial surgery, orthodontics, periodontics, prosthodontics and dental public health. Students will be supervised in all phases of dental assisting while rotating through selected departments at the University of Pittsburgh School of Dental Medicine and the WCCC Dental Hygiene Clinic. Prerequisite(s): DAS 100, DAS 101, DAS 102, DAS 103, DAS 105, BIO 107; Corequisite(s): DAS 104, ENG 161, PSY 160

DAS 108—CLINICAL DENTAL ASSISTING II 1-12-4

This course provides didactic and clinical practice experience for the student dental assistant to be competent to begin practice upon program completion. The didactic portion of this course relates to

preparation for the Dental Assisting National Board Examinations and successful role implementation upon employment. Emphasis is also placed on the legal and ethical issues in dentistry. Clinical emphasis is on obtaining mastery of dental assisting skills. Students will complete a supervised preceptorship in private dental offices. Prerequisite(s): DAS 104, DAS 106, ENG 161, PSY 160; Corequisite(s): DAS 109, SPC 156

DAS 109—PRACTICE MANAGEMENT 2-0-2

This course presents an overview of the administration and management of a dental office. The student will be introduced to the use of the microcomputers and their application in a dental office. Prerequisite(s): DAS 104, DAS 106, ENG 161, PSY 160; Corequisite(s): DAS 108, SPC 156

DFT–DRAFTING

DFT 105—TECHNICAL DRAFTING I 2-4-4

A beginning course for students who have little or no previous experience in drafting. The principle objectives are basic understanding of orthographic projection; size description, detail and assembly work drawings; understanding of principles and appropriate applications of descriptive geometry. A.S.A. Standards are stressed. Interpretation of industrial sketches and prints is introduced to emphasize accepted drawing practices and to develop an early appreciation of engineering graphics.

DFT 106—TECHNICAL DRAFTING II 2-4-4

A continuation of DFT 105 Technical Drafting I. The instructional units will provide the students with more advanced drafting techniques and competencies. Handbooks and other material sources in adherence to the American National Standards Institute will be utilized. Prerequisite(s): DFT 105

DFT 110—BLUEPRINT READING 1-2-2

Introduces the basics of drafting principles and symbology used for interpreting prints for industry. Actual prints are provided for experience in proper interpretation. Topics include title blocks, material identification, revision systems, sketching, orthographic projection theory, dimensioning and tolerance, detail and assembly drawings, sections, thread representation and specifications and callouts for welding processes.

DFT 112—INTRODUCTION TO DESIGN, MATERIALS AND PROCESSING 3-0-3

Focuses on the study of design, materials and the primary processing methods used in manufacturing. A practical course devoted to the many ways in which raw materials are economically converted into useful products. Discussions of primary processing methods-materials additions, removal, and change are grouped together, followed by coverage of applications. Properties of various materials will be covered. Students first build a thorough knowledge of similarities and differences in materials, then processing methods, and that foundation carefully sets the stage for an understanding of how to choose the optimal processes for a specific project.

DFT 199—DRAFTING & DESIGN INTERNSHIP 1-12-3

Students will obtain experience in the drafting and design field through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised work experience. Prerequisite(s): Permission of instructor

DFT 208—PRODUCT DESIGN 2-2-3

Introduces methods of designing a finished product or a simple machine. Students apply the basic design fundamentals and computations needed to produce a product. Prerequisite(s): EGR 101 or DFT 112

DFT 258—AUTOCAD 2-4-4

AutoCAD teaches students to draw, edit, dimension and plot 2-D machine drawings with AutoCAD software. Basic operating features and file management functions of Microsoft Windows will also be taught in the course.

DFT 266—3D SOLID MODELING I (INVENTOR, BASICS) 2-4-4

This course introduces the student to the operation of a 3-Dimensional feature-based parametric solid modeling computer software. Students will create 3D model parts, detailed engineering drawings of solid model parts and assemblies of solid parts. Creation of sheet metal parts and drawings will also be covered. The latest version of Autodesk Inventor solid modeling software will be the primary training platform for this course for lecture and lab assignments.

DFT 267—3D SOLID MODELING II (INVENTOR ADVANCED, SOLIDWORKS INTRO) 2-4-4

A continuation of DFT 266, 3D Solid Modeling I. This course covers advanced part and assembly modeling. Students will develop advanced skills of model analysis, freeform modeling, embossing, animation, rendering and weldments. The latest version of Autodesk Inventor solid modeling software will be the primary training platform for this course for lecture and lab assignments. SolidWorks solid modeling software will also be introduced. Prerequisite: DFT 266

ECE–EDUCATION/PRE-K–GRADE 4

ECE 155—INTRO TO EARLY CHILDHOOD EDUCATION 3-0-3

This course is an introduction to the field of early childhood education. The history of the field and current trends are presented. Theories and models of the field are explored and connected to classroom practice. Professionalism, educator dispositions, and ethics are explored. All content centers the diversity of children, families, and communities as the basis for pedagogy, curriculum, and practice. The course is guided by NAEYC, OCDEL, and PDE standards and requires observations at a licensed child-care center or PreK classroom.

ECE 156—INFANT & TODDLER DEVELOPMENT 3-0-3

The course introduces a global perspective on the field and study of child development, including theories, contexts, and research methods. This course provides a culturally contextualized developmental perspective on the earliest period of human life. It serves as an introduction to the study of the prenatal period through toddlerhood. The course covers topics related to genes and the environment, brain development, infant and toddler programs and curriculum, caregivers and families, and public policy as it pertains to our earliest learners. This course requires observations at a licensed child-care center. Corequisite: ECE 283 Infant & Toddler Practicum (for students enrolled in ECE AAS and ECE Certificate).

ECE 157—CHILD GROWTH AND DEVELOPMENT 3-0-3

The course introduces a global perspective on the field and study of child development, including theories, contexts, and research methods. This course provides a culturally contextualized perspective on development from 3-9 years. Major theories of child development are examined across these domains of development: physical, motor, cognitive, language and literacy, and social and emotional development. Developmentally appropriate practices are discussed and applied through lesson planning. This course requires observations at a licensed child-care center or educational institution.

ECE 165—FAMILY AND SOCIETY 3-0-3

This course explores cultural and social variables and their impact on developing children. Special examination of diversity within families and the impact of families on children are explored. Additional topics include child abuse, alcoholism, poverty, media, violence, childcare and school, and stress. This course requires observations with families and in the community.

ECE 166—EARLY CHILDHOOD LANGUAGE AND LITERACY **3-0-3**

This course examines theories, research and developmentally appropriate practices in language and literacy education. Strategies to promote speaking, listening, reading and writing are a major focus. Materials to foster language and literacy development for children birth to age 9 are featured. This course requires observations at a licensed child-care center or educational institution. This course is a prerequisite to ECE 284. Prerequisite: ECE 155 (C or better)

ECE 167—CREATIVE EXPERIENCES **3-0-3**

This course focuses on the important role of creativity in ECE. The content of the course addresses the importance and development of a developmentally appropriate curriculum in art, fine art, play, technology, music, creative dramatics and early literacy in the early childhood classroom. The role of the adult in a developmentally appropriate classroom is examined with special attention given to observation of children's behavior. This course requires observations at a licensed child- care center or educational institution.

ECE 168—CHILD CARE MANAGEMENT **3-0-3**

This course provides an orientation to the planning and administration of early childhood programs. The course examines interpersonal staff relationships, effective parent communication, program evaluations, regulations, standards and budgets. Professionalism and PA initiatives are emphasized.

ECE 170—CHILD HEALTH, SAFETY, AND NUTRITION **3-0-3**

The course is designed for early childhood educators and parents and covers the components of child health, safety and nutrition. The course identifies risks to children's health and safety and also examines health promotion, disease prevention and basic care of the child at each developmental stage.

ECE 176—CDA PORTFOLIO I **1-0-1**
Corequisite: ECE 156 or 157

ECE 177—CDA PORTFOLIO II **1-0-1**
Corequisite: ECE 170

ECE 178—CDA PORTFOLIO III **1-0-1**
Corequisite: ECE 256

These courses align with the goals of NAEYC and PA OCDEL's guidelines for entry level preparation for the early childhood field. The courses prepare students' work for review for the Professional Portfolio required to complete the Child Development Associate Credential (CDA) with the Council for Professional Recognition. The completed portfolio will showcase students' fundamental knowledge and skills in their setting of choice: center-based Infant and Toddler or center-based Preschool. Students will demonstrate reflection on essential skills that will be used throughout their developing careers and assessed by a CDA Professional Development Specialist. Elements will include proof of education, completed family questionnaires, reflective statements of competence, 22 completed resources, reflective self-assessments, and a professional philosophy statement.

ECE 255—EARLY CHILDHOOD EDUCATION CURRICULUM **3-0-3**

This course is designed to provide a comprehensive study of how to plan developmentally appropriate activities for children ages 3 to 9 years using the PA Educational Standards in the areas of science, social studies, math, anti-bias and multicultural curriculum. PA standards will be used to develop lesson plans. This course requires observations at a licensed child-care center or educational institution. This course is a prerequisite to ECE 284. Prerequisite: ECC 155 (C or better)

ECE 256—ASSESSMENT AND OBSERVATION-YOUNG CHILDREN **3-0-3**

This course highlights principles and techniques for observing children ages birth to 9 years to document their development and to link observation with program planning. Various assessment tools used by teachers are explored. This course requires observations at a licensed child-care center or educational institution.

ECE 257—INTRODUCTION TO EXCEPTIONAL DEVELOPMENT **3-0-3**

This course examines the growth and development of exceptional persons, concentrating on the years from birth through early adulthood. The following exceptionalities are explored: mental retardation, learning disabilities, ADHD, physical impairments, autism spectrum disorder, traumatic brain injury and speech and language impairments. Attention is given to the etiology, prevalence, definitions, characteristics and the education of individuals with exceptionalities. Special attention is given to the laws addressing special education as well as inclusion. Emphasis is placed on the important roles of families in special education. This requires observations at a licensed child-care center or educational institution.

ECE 265—EDUCATION OF YOUNG CHILDREN WITH SPECIAL NEEDS **3-0-3**

This course provides an in-depth study of the education of young children with exceptionalities. The assessment, identification and appropriate education of young children with special needs are the focus with attention given to legal aspects and inclusion. Family-based practices and Division for Early Childhood recommended base practices for early intervention are addressed. Prerequisite(s): ECE 257

ECE 283—INFANT & TODDLER PRACTICUM **0-1-1**

This course offers an in-depth examination of the infant and toddler classroom that builds upon the basic principles of ECE 156. Special attention is placed on the physical safety and care of infants and toddlers, supporting growth and development in all domains, working with families, and lesson design. Professional development is emphasized and the course requires the completion of 50 hours of practicum experience. Corequisite(s): ECE 156.

ECE 284—EARLY CHILDHOOD EDUCATION PRACTICUM **2-10-4**

This course offers an in-depth study of the role of the early childhood educator through field experience of 150 hours. The course provides opportunities to explore and evaluate the practicality of early childhood educational theory as it relates to implementing basic pedagogical strategies. The practicum experience develops an authentic awareness and competency within the field of early childhood education with emphasis on reflective practice, professionalism, lesson design and implementation, developmental appropriateness, and an understanding of the whole child as seen in early childhood settings. Prerequisite(s): Minimum 2.0 GPA, ECE 166 & ECE 255, observation verification logs that document at least 40 hours of completed course observations. Completed learning interest form, learning contract, and liability insurance. Students must verify the prerequisites with the program director and career coordinator prior to the beginning of the semester to register for this course.

ECN–ECONOMICS

ECN 158—ELEMENTS OF ECONOMICS **3-0-3**

This course provides an introduction to economic principles and problems. In examining economic decision making, the course will explore the topics of supply and demand, foundations of the macroeconomic, financial institutions and the Federal Reserve, fiscal and monetary policy, theories of the firm, production, competition and market structures, factor markets and international economics.

ECN 255-MACROECONOMICS **3-0-3**

Introduces the principles of macroeconomics with an emphasis on the United States economic system. In examining aggregate economic performance, the course will explore the topics of scarcity and choice, unemployment, inflation, aggregate supply and aggregate demand,

money and banks, monetary and fiscal policy, policy debates and international economics. Prerequisite(s): MTH 052, 052A or Placement

ECN 256-MICROECONOMICS 3-0-3

Introduces the principles of microeconomics with an emphasis on individual decision-making. In examining competition and theories of the firm, the course will explore the topics of scarcity and choice, markets and price determination, market structures, labor and financial markets, public goods, regulation/deregulation, and international economics. Prerequisite(s): MTH 052, 052A or Placement

ECN 260—MONEY AND BANKING 3-0-3

The nature and functions of financial markets, institutions and monetary policy will be studied. Topics include an overview of the financial system with an emphasis on money, interest rates, the stock market; economic analysis of banking, central banks and the Federal Reserve System; and the tools, strategies, and tactics of monetary policy. The primary objective is to provide students with the knowledge of the structures and practical operations of major financial markets and the underlying forces, which unify them. Prerequisite(s): ECN 255

EDU–EDUCATION

EDU 200—INTRODUCTION TO INSTRUCTIONAL TECHNOLOGY 3-0-3

This course is designed for students in a broad range of teaching areas desiring to implement instructional technologies into the teaching/ learning experience. Students who successfully complete the course will differentiate, evaluate, prepare and utilize a variety of instructional media in the classroom such as non-projected media, audio, film, video and computer-based instruction. The course combines a variety of learning environments such as lecture, discussion, group activities, and hands-on production.

EGR–ENGINEERING TECHNOLOGY

EGR 101—INTRODUCTION TO ENGINEERING 2-2-3

Provides an inspirational exploration of a variety of introductory mathematics, science, engineering and other quantitative topics. Emphasizes units of measure and/or dimensional analysis in all calculations. Introduces problem-solving techniques that involve coordinate systems and vectors; linear, log-log, and semi-log graphs of data; linear interpolation; analytical (algebraic and trigonometric) and numerical methods; computer/calculator programming; and use of the HP-50g calculator (or equivalent), Excel, Working Model, and Python to perform engineering calculations and simulations. Corequisite: MTH 104 or MTH 157.

EGR 104—ENGINEERING MATERIALS 3-0-3

Studies metallic, polymeric, ceramic, and composite engineering materials from the atomic, micro- and macroscopic viewpoints, and the effect of structures, strengthening mechanisms, and heat treatments on mechanical, electrical, thermal, and optical properties. Topics include imperfections, diffusion, equilibrium phase diagrams and transformations, failure mechanisms, material testing techniques, and applications and processes. Prerequisite: EGR 101

EGR 110—DESCRIPTIVE GEOMETRY 2-2-3

Provides an in-depth study of the principles of orthographic projection of 3D objects by using and/or constructing front, horizontal (top), profile (side), and primary and secondary auxiliary views with the help of "skip-a-view," revolution, and other techniques. Topics include the analysis of lines (true length, bearing, grade and slope), planes (true size and shape, edge views, intersection of and true angle between and among planes and lines); piercing points (of lines through planes); parallelism; and perpendicularity.

EGR 199—ENGINEERING TECHNOLOGY INTERNSHIP 1-12-3

Students will obtain experience in the engineering field through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised practical work experience. Prerequisite(s): Permission of instructor.

EGR 210—QUALITY CONTROL 3-0-3

Covers the fundamentals of statistical process control (SPC) and continuous improvement of products, processes and systems. Topics include lean manufacturing and six-sigma; product liability issues; SPC diagrams, charts, and techniques; fundamentals of probability and statistics; control charts for both variables and attributes; and an introduction to reliability. Prerequisite: EGR 101; Corequisite: MTH 172

EGR 221—STATICS AND STRENGTH OF MATERIALS 3-2-4

Topics covered include concurrent force systems in equilibrium found in trusses, frames, and machines; free-body diagrams; equilibrium of rigid and deformable bodies with non-concurrent point, distributed, torsional, and frictional loads; moments, couples, and equivalent force systems; centroids, center of mass, and second moment of areas; normal and shear stress, strain, and deformation; shear force, bending moment, and deflection calculations and diagrams for beams. Graphical, analytical and numerical techniques are used to solve problems with the help of a vector-capable engineering calculator. Prerequisite: EGR 101

EGR 227—KINEMATICS 2-2-3

Includes the in-depth study of two-dimensional motion of mechanisms and machine elements to determine linear and angular position, velocity, and acceleration of joints and points of interest on the mechanism. Analysis techniques include graphical, analytical, and numerical methods such as relative velocity and acceleration, instant centers, and vector loop. Students are required to do a semester-long project that includes a detailed analysis of all kinematic aspects of a two-dimensional mechanism of their choice. Prerequisite(s): EGR 101

ELC–ELECTRONICS

ELC 100—PROGRAMMABLE LOGIC CONTROL I 3-2-4

Introduces students to the fundamental industrial processes and their control. This course will also include design, function and applications of various industrial controllers.

ELC 102—ELECTRONIC DEVICES 3-2-4

Includes study of semiconductor diodes, transistors and field effect transistors. The characteristics of these devices and their use in design are studied. Emphasis is given to the transistor as a linear amplifying device. Prerequisite(s): ELC 106

ELC 106—CIRCUIT ANALYSIS I 3-2-4

Considers the principle electrical quantities; current, voltage and resistance; electrical properties of materials, Ohms law, DC power calculations, series and parallel circuits and series- parallel networks; circuit analysis and conversions, network theorems, measurement instruments and techniques; AC sine wave characteristics, inductive and capacitive circuit and analysis. Corequisite: MTH 104

ELC 107—CIRCUIT ANALYSIS II 3-2-4

Mathematical techniques developed in Circuit Analysis I are extended to Advanced DC circuits including capacitive and inductive reactances. Exponential responses are investigated. Methods for determining circuit responses with varying frequency sinusoidal voltage and current sources driving them are investigated. Complex notation and complex algebra are used extensively in solving network problems. Prerequisite(s): ELC 106

ELC 114—DIGITAL TECHNIQUES 3-2-4

Concerned with electronic systems based on Boolean algebra using electronic devices in a switching mode. Logic gates are identified and their characteristics described in terms of Boolean algebra. Boolean theorems and manipulative techniques are used to design combinational logic circuits. Significant logic families and their characteristics are described. Number systems and their conversions are investigated with emphasis on those systems most used in the computer field. Logic devices are combined into the three classes of

multi-vibrators. Sequential logic combinations of multi-vibrators, their uses and waveforms are studied. Binary arithmetic and the relevant circuits are investigated. Interfacing of the analog and digital worlds is considered. Prerequisite(s): ELC 106

ELC 191—BASIC PRINCIPLES OF INDUSTRIAL ELECTRICITY 3-2-4

This course is an introduction to single-phase and three-phase circuits as well as industrial electrical equipment. Detailed explanations of machine construction, principles of their operation, and their connections are operated. Safety is strongly emphasized and special attention is given to explaining all electrical formulas and calculations clearly. Consistent, easy- to-understand explanations and examples are used to explain how each type of machine might be used. A blend of theory, formulas and historical information stimulates interest in the study of industrial electric circuits, symbols and drawings. Hands-on use of equipment occurs in the lab setting.

ELC 192—INDUSTRIAL ELECTRICAL EQUIPMENT 3-2-4

This course is a continuation in the study and practical application of industrial electrical equipment. This course includes a more in-depth study of industrial electrical devices. During this course, the student will learn how to operate and troubleshoot various types of industrial electrical equipment. Control and power circuit wiring is performed in the lab. Drawings are made and power distribution panels and connections are completed. Prerequisite(s): ELC 191

ELC 199—ELECTRONICS ENGINEERING INTERNSHIP 1-12-3

Students will obtain experience in the electronics-engineering field through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised practical work experience. Prerequisite(s): Permission of instructor

ELC 200—PROGRAMMABLE LOGIC CONTROL II 3-2-4

Introduces students to the basic concept of automated manufacturing systems including drive mechanisms and sensing devices. This course will give students a background in today's flexible systems. Prerequisite(s): ELC 100

ELC 202—LINEAR ELECTRONICS 3-2-4

A continuation of ELC 102 of the study of linear amplification of signals. In this course the frequency effects of reactive circuit components and device reactances are considered. Operational amplifiers are developed and studied as amplifying devices in negative feedback circuits. Applications of negative feedback amplifiers, both linear and nonlinear, are investigated. Voltage regulation in power supply circuits and the techniques involved are studied. Oscillators and the criteria for oscillation are established. Prerequisite(s): ELC 102, ELC 107

ELC 206—MICROPROCESSORS 3-2-4

Students will become familiar with the microprocessor as a circuit device, with its architecture and its role in micro- processor-based systems. The organization of these systems will be investigated to specify the roles of buses and ancillary integrated circuits and input and output functions. Particular attention will be given to the interfacing of the microprocessor system with the outside world in both parallel and serial. The student will learn assembly language programming and the use of an assembler to generate object code. Prerequisite(s): ELC 114

ELC 209—INSTRUMENTATION AND PROCESS CONTROL 3-2-4

Investigates the electronic techniques that are used for measurement and control in process control systems. Closed-loop systems including transducers signal conditioning and analog and digital controllers will be considered. The overall objective is to prepare graduates to install, adjust and maintain electronic and related parts of commercial and industrial systems. Prerequisite(s): ELC 106

ELC 213—MICROPROCESSOR APPLICATIONS 3-2-4

A continuation of Microprocessors and includes a more in-depth study of peripherals and interfacing, microprocessors with peripheral devices. Students study later generation chips to include 16-bit microprocessors. Special purpose microprocessor-based systems are introduced and related to microcomputer and industrial applications. Prerequisite(s): ELC 206

ELC 223—POWER DISTRIBUTION AND TRANSMISSION 3-2-4

This course is designed to develop a comprehensive understanding of the activities associated with electric utility line work, specifically; sub-transmission circuits, distribution substations, primary feeders, distribution transformers, secondary power systems, and customer connections. Students will engage in classroom and laboratory activities to develop the basic technical skills necessary to obtain a working knowledge and understanding of power distribution and transmission systems. Safety is strongly emphasized and special attention is given to explaining relevant electrical formulas and calculations. Consistent, easy-to-understand explanations and examples are used to explain the operation of each system. A blend of theory, formulas, lab work and historical information stimulates interest in the continuing study of electric utility line work. Hands-on use of equipment occurs in a lab setting. Prerequisite(s): ELC 106, ELC 107, ELC 191, EUT 101, EUT 102

ENG–ENGLISH

ENG 085—COLLEGE LITERACY I 4-0-4

College Literacy I develops proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies and recognition and composition of well-developed, coherent and unified texts. Students will also cover the fundamentals of study strategies, grammar, punctuation, mechanics, and sentence and paragraph structure. Upon completion, students should be able to demonstrate and apply those skills toward an understanding of a variety of complex academic and career texts while also composing texts, incorporating relevant, valid evidence. Students who pass ENG 085 with a B or C may register for ENG 095/ENG 161. The criteria for exempting from ENG 095 are as follows: A in the course overall, A on the final assessment and a score of 1300 or higher on the Lexile Locator. Prerequisite(s): Appropriate scores on the Placement Test.

ENG 095—COLLEGE LITERACY II 3-0-3

College Literacy II develops proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent and unified texts. The skills taught include but are not limited to thesis statement, supporting details, critical reading, documentation and vocabulary development. Upon completion, students should be able to demonstrate and apply those skills toward understanding a variety of complex academic and career texts and composing texts, incorporating relevant, valid evidence. To be considered to have met their developmental requirements, students must complete ENG 095 with a C or better.

ENG 099- FUNDAMENTALS OF COLLEGE WRITING 1-0-1

ENG 099 provides support for the development of critical reading, thinking and writing skills integrated with standard *College Writing* assignments. The curriculum is tailored to support the coursework completed in ENG 161, so that the student has the best possible success in *College Writing*.

ENG 161—COLLEGE WRITING 3-0-3

This course covers the fundamentals of college writing including the paragraph, expository essay patterns and the argumentative essay. Emphasis is placed on developing a coherent thesis, writing concisely and clearly, and adapting ones writing to a particular audience. In addition, it will foster an appreciation of cultural diversity, explain how experiences and attitudes shape an individual's reading and demonstrate how language can shape thinking. This course also emphasizes self-editing, mechanics, grammar and word choice. It

provides the basis for students to produce a range of effective writing from technical and business communications to research papers and critical essays. Prerequisite(s): ENG 085 or Placement.

ENG 162—TECHNICAL COMMUNICATION 3-0-3

Technical personnel are called upon to communicate in a variety of ways in their daily work. This course includes training in the writing of memos, business letters, instructions, resumes, summaries, proposals and technical reports such as the progress report. The course also addressed the proofreading and editing of one's own writing, reading critically in a technical field, developing listening skills, and interacting in discussion and problem-solving groups. Prerequisite(s): ENG 161

ENG 163—BUSINESS COMMUNICATION 3-0-3

Stresses the application of skills central to all types of communications business personnel are called upon to use in their daily work in the office and the marketplace. Includes training in the writing of business correspondence, job related forms and formal reports; proofreading and editing; reading and understanding the vocabulary of the business world; methods of gathering and organizing information; preparing and presenting daily data orally before groups; using the concepts of advertising and public relations and participating in problem-solving discussion groups. Prerequisite(s): ENG 161

ENG 164—ADVANCED COMPOSITION 3-0-3

This course further develops and refines the student's abilities in expository and argumentative writing, introducing the student to the methods, techniques and materials of research. The written work of the course includes the completion of an in-depth research paper done by the student under the instructor's supervision. The course continues to stress conciseness and clarity of expression; reviews mechanics implicit in correction and revision of written composition; and teaches English usage and grammar as needed. Prerequisite(s): ENG 161

ENG 165—CREATIVE WRITING 3-0-3

Acquaints students with the techniques of writing description, poetry and short fiction. Student writings will be viewed as statements of the individual's creative self as well as work to be considered for publication. It is advised that students complete a literature course before taking this course. Prerequisite(s): ENG 161 or permission of instructor

ENG 168—POLICE REPORT WRITING 3-0-3

Course stresses skills necessary for criminal justice writing. In addition to stressing writing skills, the course focuses on the practical application skills central to all types of communications criminal justice personnel are called upon to use in their daily work. The course includes training in job-related forms and the reports, such as narrative reports, search warrants, affidavits of probable cause, and reports for tracking and logging of evidence. Course stresses proofreading and editing, research methods, reading in the field, development of listening skills, and interacting in discussion and problem-solving groups. Special emphasis is placed on separating factual information and interpretive analysis. Prerequisite(s): ENG 161

ENG 200 - WRITING ABOUT LITERATURE 3-0-3

Writing About Literature is an entry point into the English major, providing the techniques for compositions that demonstrate an informed, critical analysis of literary works. Students will read short fiction, poetry, and drama, develop analytical interpretations supported by research and critical theory, and compose a series of essays that emphasize clear and original understanding of the work and appropriate MLA documentation and format.

ENG 225—HIP HOP STUDIES 3-0-3

This course identifies and examines the theoretical, cultural and socio-historical foundations of Hip Hop. This course will analyze the conceptual roots and principles of Hip Hop particularly examining both the urban American origins of Hip Hop and its wider socio-political implications and influence. This course will also examine the role of the Hip Hop imagination on America and the world.

ENG 240—SCIENCE FICTION 3-0-3

Introduces the foundations, traditions and trends of the genre of science fiction. In examining classic and contemporary works, the course will explore themes such as time travel, social satire dehumanization, utopia, visions of technical innovations and encounters with aliens. Corequisite(s): ENG 161

ENG 250—TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES 3-0-3

This course examines methods of language instruction, providing prospective teachers with tools for teaching child, adolescent and adult English Language Learners. Language acquisition theory, assessment, cultural and linguistic context and Pennsylvania ELL standards for PreK-12 will be addressed.

ENG 255—INTRODUCTION TO LITERATURE 3-0-3

Introducing students to literary analysis, the content of this course varies, but relies most heavily on short stories and emphasizes both critical analyses of the works presented as well as the social/historical contexts in which they were written. Students are encouraged to develop their own ideas as they become familiar with various critical approaches to the texts. Students are asked to identify that which constitutes literary value in a text and are encouraged to broaden their definitions of literary culture.

ENG 258—WORLD LITERATURE 3-0-3

World Literature covers western and non-western literary classics and their relevant modern counterparts. The types of literature covered include the epic, the tale, the novel, drama, the essay, and poetry. A comparative approach is used in dealing with such themes as war, adventure, love, social customs, and death and the afterlife.

ENG 260—AMERICAN LITERATURE 3-0-3

This survey of American literature covers the period of exploration and settlement to the current era. Students will study and write about works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts, and in consideration of what constitutes a national identity in literature. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

ENG 270—ENGLISH LITERATURE I 3-0-3

This course examines the masterpieces of English literature from the epic poem Beowulf to the end of the Renaissance. Students will explore the history, psychology, and theology of the people and their literature from Anglo Saxon times through the Middle Ages, with emphasis on Geoffrey Chaucer's Canterbury Tales. The course also includes the Renaissance with a focus on the life and works of William Shakespeare.

ENG 275—WORLD MYTHOLOGIES 3-0-3

A survey course designed to introduce students to definitions of and theories about myth; to discuss and analyze myths of various cultures around the world and throughout time. The relevance of myth to everyday, modern life will also be stressed. Themes covered will be the creation of the cosmos, the natural environment and humans; ideas about divinity and heroism; concepts about death and the afterlife.

ENG 276—AFRICAN AMERICAN LITERATURE 3-0-3

This course will examine the literary contributions of African American writers beginning with works from the oral tradition, with an emphasis on writers' African roots, proceeding chronologically to the contemporary writers of the Neo-realistic (1970-present) movement. The course will also explore historical and cultural issues, as well as societal problems encountered by African American authors from the Colonial through the antebellum period and into the Harlem Renaissance. The course will introduce students to traditional literary forms including poetry, narrative and drama, but may also include speeches, letters, sermons and/or nonfiction essays.

ENG 279—WOMEN'S LITERATURE 3-0-3

This course will familiarize students with the main issues surrounding the texts of women writers, their audiences and the mythological representations that work for and against their literary activism. It will concentrate on the diversity of women's writing as it pertains to genre; to the cultural, economic and political identities of women; and to the transformative power of their voices within their cultures. Students will develop an understanding of women's creative writing through feminist critical theory and new historical criticism.

EPS–EARTH AND PLANETARY SCIENCE

EPS 150 — ASTRONOMY 3-2-4

An introductory course for non-science majors. It provides a broad introduction to Astronomy including basic observing skills and scientific reasoning; the historical development of the subject; basic physics of motion, gravity, light and atoms; telescopes and other instrumentation; planets, moons, and other objects in our solar system; extrasolar planets; the Sun and other stars; the evolution of stars; the Milky Way galaxy and other galaxies; distant quasars and other active galaxies; the expanding universe; cosmology based on the Big Bang theory; and life in the universe. This course covers most of the areas of modern astronomy at a level, which requires only basic algebra and mathematics. Prerequisite(s): MTH 052, 052A or placement.

EPS 160—EARTH SCIENCE 3-0-3

A physical science course with emphasis on topics from astronomy, meteorology, oceanography and geology, focusing on the earth as the physical environment in which we live. This course also covers man's impact on the environment.

EPS 163—INTRODUCTION TO PHYSICAL GEOLOGY 3-2-4

Deals with materials, landforms and structural features of the earth and the biological, chemical and physical processes that produced them. Topics include water; wind and glaciers; the construction and composition of rocks and minerals; the formation and deformation of rock beds; earthquakes and volcanoes; the interior processes and origins of the earth.

ESL–ENGLISH AS A SECOND LANGUAGE

ESL 100—ENGLISH AS A SECOND LANGUAGE 3-0-3

Utilizing an integrated skills approach, this course provides learners of English as a second/additional language with appropriate instruction and training to enable them to engage confidently in communication tasks required for academic success. All four-language skills (speaking, listening, reading and writing) are employed to engage students in the comprehension and production of academic discourse as practiced in the United States. Prerequisite: First language other than English

FIN-FINANCE

FIN 155—PERSONAL FINANCE 3-0-3

This course analyzes the personal and financial situations that confront individuals in our society today. Topics include: basic economics as it relates to individuals, budgeting and financial planning, renting versus owning a home, home financing options, purchasing versus leasing a vehicle, savings and borrowing techniques, liability and health insurance options, investment planning and strategies, retirement and estate planning, and the safety and security implications of purchasing items over the Internet.

FIN 220—BUSINESS FINANCE 3-0-3

This course examines the organization and financial management of a firm with an emphasis on risk and return. Topics include financial statement and cash flow analysis, time value of money, valuation of stocks and bonds, capital budgeting and financing decisions. Prerequisite(s): ACC 155 or ACC 165

FIN 266—FINANCIAL STATEMENT ANALYSIS 3-0-3

This course emphasizes the use of financial and accounting information. This course helps students develop a systematic approach to analyzing reported data and understanding the underlying risks and possible inconsistencies across companies. Topics will center on ratio analysis, financial projections, working capital management, capital budgeting, the cost of capital, capital structure and planning and divided policy. Prerequisite(s): FIN 220

FOR-FORENSIC

FOR 110—INTRODUCTION TO FORENSIC BIOLOGY 4-0-4

A survey of the biological aspects of forensic science, the mechanisms leading to death and the analysis of biological evidence from crime scenes. Includes discussion of topics including the cause and manner of death, body decomposition, assessment of time of death, trauma, natural disease processes, the effects of environmental stressors and multidisciplinary approaches to evidence analysis. Crime laboratory topics to be discussed include toxicology, DNA evidence, biometrics (e.g. fingerprinting), drug metabolism, ballistic trauma and other related issues. Forensic autopsy will also be discussed as it relates to biological evidence.

FOR 130—INTRODUCTION TO FORENSIC PATHOLOGY 4-0-4

A survey of disease processes of the human body as they relate to biological forensic evidence. The basic mechanisms of infection, cancer, trauma, blood clotting, hemorrhage and related topics will be discussed along with their importance to forensic investigation, crime scene assessment and autopsy findings. Significant disease processes of the heart, lungs, liver, kidneys, brain, muscles, bones, and other organs are explained and analyzed to allow an understanding of their effects on the human body and how they relate to death.

FOR 160—INTRODUCTION TO FORENSIC TOXICOLOGY—POISONS, DRUGS, AND DEATH 4-0-4

A survey of the effects of poisons, drugs, heavy metals, venoms, carbon monoxide and other toxic substances on the human body as it relates to forensic science and investigation. The mechanisms leading to toxicology-related deaths and the biological effects of various substances on the organs of the human body are assessed. Includes discussion of topics such as the cause and manner of drug-related deaths, obtaining toxicological evidence after decomposition of the body, assessment of the time that drugs remain in the human body, effects of toxic substances on organs.

FRN–FRENCH

FRN 155—BEGINNING FRENCH I 4-0-4

A beginning language course with emphasis on elementary speaking, reading, writing and comprehension.

FRN 156—BEGINNING FRENCH II 4-0-4

Continuation of FRN 155; increased conversational ability and emphasis on reading and writing French. Prerequisite(s): FRN 155

FRN 255—INTERMEDIATE FRENCH I 3-0-3

A continuation of FRN 156. Although the approach will be a communicative one, writing and reading skills will be developed along with speaking and listening skills. The course will be organized according to the guidelines for proficiency language learning. Prerequisite(s): FRN 156

FRN 256—INTERMEDIATE FRENCH II 3-0-3

A continuation of FRN 255. Students will continue to improve communication skills with four areas of speaking, listening, reading and writing being stressed. A proficiency oriented approach and materials will be used. Prerequisite(s): FRN 255

FSM–RESTAURANT/CULINARY MANAGEMENT

FSM 101—FOOD SAFETY CERTIFICATION 1-0-1

A study of food and the methods needed to control contamination

and microbial growth. The principles of HACCP and food safety standards and regulations will be presented. Emphasis is given to developing a working environment, which will provide the consumer with wholesome, safe food that conforms to the standards of the regulatory agencies. This course is offered in conjunction with the Educational Foundation of the National Restaurant Association. The certificate received for successful completion of the ServSafe exam is recognized by the Pennsylvania Department of Agriculture for food employee certification. Students must pass the exam to successfully complete the course.

FSM 103—INTRODUCTION TO THE HOSPITALITY INDUSTRY **3-0-3**

An overview of the careers and opportunities in food service, lodging and tourism with an emphasis on employability skills. Individual responsibilities, current industry issues and future trends are explored. Transportation to off-campus locations and the cost of the required etiquette event are the responsibility of the student.

FSM 113—CUSTOMER SERVICE **3-0-3**

Students will be taught to deliver high-quality service in various positions throughout the hospitality and tourism industry. Emphasis will be given to establishing a service strategy, selecting and training service employees, and delivering customer-friendly systems of operation. Students are responsible for the cost of the required secret diner experience.

FSM 117—WAIT STAFF/DINING ROOM TRAINING **1-0-1**

Emphasizes techniques, procedures and styles of proper food and beverage service. The responsibilities, qualifications and conduct of wait staff personnel will also be presented. The course is designed for students and managers who are interested in the training of food servers. It is also designed for those individuals who are employed in the field or those who are seeking employment as a wait staff person and have had no training. Dining room attire required.

FSM 118—SANITATION **2-0-2**

A study of food and environmental sanitation and safety in food service. Emphasis is given to the study of foodborne illnesses and their origins as well as the precautionary measures that must be taken to prevent these illnesses. Providing the consumer with wholesome, safe food that conforms to the standards of the regulatory agencies is stressed. Upon completion of the course, a final certification exam furnished and corrected by the Educational Foundation of the National Restaurant Association will be administered. The certificate received for successful completion of the ServSafe exam is recognized by the Pennsylvania Department of Agriculture for food employee certification. Students must pass the exam with a minimum score of 70% to successfully complete the course.

FSM 119—BEVERAGE MANAGEMENT **1-0-1**

A study of beverage and dining room services. Information will be given on cost and product controls, inventory control, industry standards and personnel training and staffing. Emphasis will be given to liquor liability responsibilities and government agencies. Basics of mixology will also be presented. Dining room attire required.

FSM 120—WINE APPRECIATION AND SERVICE **1-0-1**

An in-depth study of wine production and classifications. Emphasis is given to pairing of wine and food, formal wine service, and service needed to enhance customer appreciation. Dining room attire required.

FSM 159—NUTRITION **3-0-3**

The student learns the nutrients, their sources and their relation to body functions. Each stage of the life cycle will be studied as it relates to changing nutritional requirements. General nutrition is discussed including the social, economic and psychological implications of food and eating.

FSM 170—FOOD CULTURE AND RELIGION **3-0-3**

This course identifies and investigates the relationship of food/cuisine to culture and religion. Emphasis will be given to religious dietary laws and practices, food symbolism and taboos, religious and cultural feasts, festivals and traditions.

FSM 213—A LA CARTE KITCHEN **1-6-4**

A combination of learning experiences, self-evaluation and operating systems that pertains to a la carte service. The student will manage and operate the student-run Cafe. The learning experience includes purchase requisitions, recipes, costing, production schedules and inventory. Uniforms and program tool kit required. Prerequisite(s): CUL 105 and CUL 112

FSM 215—PURCHASING AND OPERATIONS **3-0-3**

Includes factors to consider in selecting, purchasing, receiving and storing various foods. Emphasis is given to the development of purchasing policies, procedures, inventory control, storage, costing, financial controls and menu development and management. Computer application is included in the course.

FSM 219—HOSPITALITY INTERNSHIP **1-12-3**

A supervised and evaluated on-the-job training experience in a hospitality setting. Students will discuss their experience and career opportunities. Job-site must be approved by the instructor. Uniforms, cutlery set and decorative tips may be required. Prerequisite(s): Permission of instructor

FSM 225—HOSPITALITY STUDY TOUR I **3-0-3**

Allows students to experience the cultural and economic aspects of the hospitality industry in this study location. Actual observation and the study of systems of operation unique to this area will occur and what you learn will be applied to the American industry. Travel expenses and fees are the responsibility of the student. Prerequisite(s): Permission of instructor

FSM 235—SUPERVISION AND TRAINING **3-0-3**

Involves supervision and training for personnel in the hospitality industry. The course plan of study includes history of management, functions of management, management challenges of the future and industry regulations and personal development to achieve goals within the hospitality industry.

GCT–COMMUNICATION DESIGN

GCT 100—DESIGN TECHNOLOGY I **1-0-1**

This fundamental course explores the essential concepts of file preparation and management as it relates to print production and web and mobile media creation. Students explore communicating and sharing resources, image design and preparation, and file conversion/optimization, and printing directly from devices.

GCT 115—DESIGN & LAYOUT I **3-0-3**

This fundamental course in two-dimensional design exposes students to the profession of graphic design. The focus is on visual thinking, experimentation, and exploring the relationship of elements. Students explore page layout, design principles, color decisions, typography choices, and working with vector and pixel-based imagery through the creation of practical projects.

GCT 126—MOTION GRAPHICS **3-0-3**

An introductory course incorporating vector graphic, digital imaging, and animation/motion software for generating static and motion content for web, mobile, and games. Students gain experience designing, creating, and optimizing loading gifs, cinemagraphs, cartoons/animations, sprite sheets, bitmap textures, social media imagery, and motion-based media elements.

GCT 131—TYPE & PUBLISHING I **3-0-3**

This course emphasizes page layout and design techniques for creating a variety of static printed materials such as posters, flyers, brochures, and interactive digital publications, e-books and PDFs. Basic tools and techniques merge with digital publishing and

interactive PDFs to design, create, and distribute engaging communications via mobile and tablet viewing, social networks, URLs, or email.

GCT 151—ART & ILLUSTRATION I 3-0-3

An introductory course where students apply their art and design skills to create visually compelling, vector-based artwork for creative entertainment, print media, advertising and branding, design elements for web and mobile content, and for the digital media industry.

GCT 156—GRAPHICS PRODUCTION 3-0-3

Environmental graphic design involves the coordination of research, design elements, digital technology with design thinking and creative problem-solving to create symbols, signs, and wayfinding orientation. This course introduces students to various printing technologies from apparel decoration, graphics production and installation to functional printing of simple and complex close register images for various printing market segments. Prerequisite: GCT 151

GCT 161—CREATIVE IMAGING I 3-0-3

An introductory course exploring creative imaging concepts and techniques to create, correct and improve digital images. This course emphasizes the importance of nondestructive imaging using layers and channels, selections and masks, adjustment layers and typographic design. It focuses on preparing images for print production, and web and mobile media creation.

GCT 164—INTERACTIVE DESIGN 3-0-3

An introductory course exploring the constantly changing landscape of web design: visual layout and design considerations including user interface design (UI), and user experience (UX). Students will implement these aesthetic influences, web technology, and web standards to address usability issues, layout/positioning methods, image optimization, and web typography in the creation of innovative, credible, functional responsive web design. Prerequisite: GCT 126

GCT 200—DESIGN TECHNOLOGY II 3-0-3

This course is designed to introduce students to emerging technology and software as it becomes available for today's "*create anytime, anywhere*" social, cultural practice. This course meets the changing needs of students and businesses as developing technologies, that are not within the curriculum, are explored before they become mainstream. Prerequisite: GCT 100

GCT 290—DESIGN WORKS 3-0-3

Students prepare marketing and self-promotion materials, create a LinkedIn profile page, and develop a digital and web-based showcase portfolio under faculty guidance. Under the supervision of the Career Connections Center, students are involved in an on-campus pre-internship experience in preparation for interviewing for an off-campus internship. Prerequisite(s): Completion of 24 credits within GCT program

GCT 296—UI/UX DESIGN 3-0-3

Students explore Adobe's design, prototype and sharing software in learning the fastest way to design any user experience with intuitive tools and integration with many of the Adobe apps. Students convert wireframes into interactive prototypes with voice interactions and animation, and then share user experiences from websites to mobile apps with team and developers for feedback and deployment to production on both Mac and Windows. Prerequisite: GCT 164

GCT 299—DESIGN INTERNSHIP 0-12-3

Students gain experience involving production art techniques, technical support, and customer service or sales responsibilities that broaden their understanding of the graphic/communications design profession through supervised and evaluated workplace experience in design studios, marketing and advertising agencies, digital fabrication, graphic production, and digital publishing environments. Transportation to off-campus site is the responsibility of individual student. Prerequisite(s): GCT Program Director recommendation.

GEO–GEOGRAPHY

GEO 155—INTRODUCTION TO HUMAN GEOGRAPHY HUMAN SETTLEMENTS AND GLOBAL CHANGE 3-0-3

This is a geography course about the interacting relationships between earth and humans. The focus is on the physical and human geographical aspects of the global environment with emphasis on the environmental impact of human settlement.

GEO 160—PHYSICAL GEOGRAPHY AND THE GLOBAL ENVIRONMENT 3-2-4

This course covers elements of the physical environment, atmosphere, climate, vegetation, soil and landforms. Emphasis will be on the conservation of resources and the nature and distribution of geographic regions. Labs are designed to bring students into contact with the landscape, developing an understanding of their own as well as other parts of the world.

GER–GERMAN

GER 155—BEGINNING GERMAN I 4-0-4

Beginning German I is an introductory course that requires no prerequisite knowledge or background in the German language or culture; the course will focus on establishing basic reading, writing, listening and speaking skills in German. It will also address social, cultural, political, and historical themes in English at the instructor's discretion and depending on student interest. Additionally, there will be an emphasis on the development of circumlocution skills and effective communication in real-life situations in German.

GER 156—BEGINNING GERMAN II 4-0-4

Beginning German II is an intermediate course in German language and culture. It requires the prerequisite knowledge of an introductory German level I course. Additionally, it will build upon vocabulary and grammar knowledge, as well as listening, writing, reading and speaking skills already established in entry level German. It will also address social, culture, political, and historical themes in English at the instructor's discretion and depending on student interest. Additionally, there will be continued emphasis on the development of circumlocution skills and effective communication in real-life situations in German.

HAC–HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION

HAC 101—INTRODUCTION TO REFRIGERATION/ AIR CONDITIONING 2-4-4

This course is designed to introduce students to refrigeration and air-conditioning systems. Individual components and controls found in refrigeration and air-conditioning are evaluated and tested in the classroom and the HVAC lab. Students will learn to use and apply meters, gauges, hand tools and power tools to troubleshoot and repair refrigeration equipment.

HAC 105-BLUEPRINT READING FOR HVAC TECHNICIANS 1-2-2

This course will develop skills reading the different blueprints used in the industry including residential and commercial blueprints.. The student will read an architectural scale, understand architectural drawings, plumbing drawings and symbols, electrical drawings and symbols, and mechanical drawings and symbols.

HAC 150—ACCA MANUAL J AND MANUAL D LOAD ESTIMATING 2-4-4

The class and lab experiences in the HAC 150 ACC Manual J and Manual D Load Estimating will teach the student HVACR equipment sizing and selection using ACCA manuals and the study of the properties of air, measurement of air and its effects upon human comfort. Advanced control terminology, electronic control circuits and pneumatic control circuits are discussed in detail.

Course Descriptions

HAC 170—HVACR CONTROL SYSTEMS 1-2-2

Provides a fundamental understanding of electrical and mechanical control circuits as applied to refrigeration, heating and air-conditioning systems. Reading and understanding ladder and schematic diagrams are covered in detail. Troubleshooting circuits using electrical meters and pressure gauges are emphasized in labs. Installation and replacement of controls are covered.

HAC 175-DIRECT DIGITAL CONTROLS 1-2-2

The class and lab experiences in HAC 175 Direct Digital Controls will help the student develop skills in utilizing advanced digital and pneumatic controls to repair building automation systems. Electronic and pneumatic control circuits, the control loop and knowledge in control terminology are stressed.

HAC 199—HVAC INTERNSHIP 1-12-3

Students will obtain real world on the job experience working for an HVAC contractor or as a maintenance person working on HVAC equipment. This course takes previously learned classroom knowledge and allows a student to apply these skills to the jobsite. Students will be supervised by their job boss who will issue progress reports detailing the student's job progress.

HAC 240—HVAC DUCT FABRICATION 1-2-2

Designed to aid the installer in the skills and techniques necessary to layout, fabricate and install ductwork for residential and commercial HVAC systems. Sheet metal fitting, identification and fabrication are covered. Venting systems and combustion air inlet fabrication and installation are also examined.

HAC 250—GAS AND OIL HEATING TECHNOLOGY 2-4-4

In residential and commercial gas and oil heating; equipment installation, operation, troubleshooting and repair are covered in detail. Classroom theory and hands-on labs offer students an understanding of the concepts needed to become HVACR technicians. Lab skills offer students hands-on experience on real residential and light commercial equipment.

HAC 255—AIR CONDITIONING/HEAT PUMPS 2-4-4

This course covers the operation, troubleshooting, repair of reverse cycle air source and ground source air conditioners and heat pump systems and their individual components. Heat pump control check out, replacement or repair will be demonstrated by the students in the lab.

HAC 256—GEOTHERMAL AND SOLAR TECHNOLOGY 1-4-3

The class and lab experiences in the HAC 256 Geothermal and Solar Technology course will help the student develop skills through multimedia training software, lecture and lab experiences to accompany geothermal trainers and geothermal heat pumps.

HAC 257—COMMERCIAL REFRIGERATION 2-4-4

This course covers the operation, troubleshooting, and repair of commercial refrigeration equipment and their individual components. Equipment control check out, replacement and repair will be demonstrated by the students in lecture and lab experiences.

HAC 260—HYDRONICS 2-4-4

This class covers gas, oil and electric boilers and water heaters used in residential and light commercial systems. Steam boiler theory is covered in class. Piping material selection, preparation and installation are demonstrated in labs. Hydronic equipment controls and accessories are tested by using meters and gauges in the lab.

HAC 280—RESIDENTIAL WIRING 1-4-3

This course provides the HVAC student a basic understanding of residential electrical wiring techniques. Areas to be discussed are electrical safety, electrical load requirements, electrical equipment and wiring selection. Students will demonstrate proper connection of switches, receptacles, breakers and fuses to electrical boxes and loads. Installation, troubleshooting and repair of electrical accessories are also taught in this class and lab.

HAC 290—EPA REFRIGERANT EXAM PREPARATION 3-0-3

This course is designed to prepare HVAC students to take and pass the EPA Refrigerant Certification Examination. Students will learn and demonstrate proper refrigerant handling techniques that include recovery, recycling and storage. Students will use refrigeration gauges, vacuum pumps, recovery machines and recovery cylinders to properly charge and recover refrigerants. EPA regulations, refrigerant chemistry, refrigerant lubricants, transportation and disposal are presented in this course.

HCM-HEALTHCARE MANAGEMENT

HCM 130—A&P FOR MEDICAL OFFICE 3-0-3

Designed for students enrolled in medical administration; it acquaints students with basic information about all the body systems, common diseases and disorders of each body system. The course will first discuss the structure (anatomy) of the body system, how the individual parts work together when healthy (physiology), and then discuss the diseases that most often occur within the body system (pathophysiology). Prerequisite(s): BIO 107 or BIO 171 & 172

HCM 145—MEDICAL OFFICE PROCEDURES 3-0-3

Designed for prospective medical billers/coders who handle insurance claims for health care facilities and insurance companies. Patient's records and encounter forms are used to complete required insurance claim forms. The students will gain experience in identifying and correcting charge entry errors, as well as using up-to-date medical coding.

HCM 150—INTRODUCTION TO HEALTH INFORMATION 3-0-3

Familiarizes students with computerized account management and develops skills in using medical management software. Includes recordkeeping, controlling inventory, patient accounting, billing, insurance form preparation, appointment scheduling, payroll, word processing and database management.

HCM 155—INTRODUCTION TO ELECTRONIC HEALTH RECORD 3-0-3

This course introduces students to the functional knowledge about the Electronic Health Record (EHR): What it is, how it benefits the healthcare industry and workplace, what is required to implement it in the provider office and what its basic structural components are, and how its content is determined.

HCM 165—LAW & ETHICS FOR HEALTHCARE 3-0-3

This course introduces students to complex legal, moral and ethical issues. Students use Law & Ethics for Healthcare as a guide to help resolve the many legal and ethical questions that they will be confronted with daily. Upon completion of this course, students will have a foundation of law and ethics, legal issues for healthcare professionals and also deal with social and interpersonal health care issues.

HCM 199—MEDICAL INTERNSHIP 1-12-3

A coordinated period of 180 hours of supervised experience in agencies that will offer students an opportunity to perform a variety of procedures and develop technical competence in their area of specialization. Prerequisite(s): HCM 145, HCM 250 or HCM 260; QPA of 2.0 overall in major

HCM 250—DIAGNOSTIC MEDICAL CODING 3-0-3

This course prepares students for medical coding positions by helping them to understand how to find the correct diagnosis codes using the International Classification of Diseases, 10th Revisions, Clinical Modification (ICD-10-CM). Students will learn to convert widely accepted uniform descriptions of medical, surgical and diagnostic services rendered by health care providers with numeric codes. Prerequisite(s): BIO 107 or BIO 171/172

HCM 260—PROCEDURAL MEDICAL CODING 3-0-3

This course prepares students for medical coding positions by helping

them to understand how to find the correct procedural codes using CPT (Current Procedural Terminology) and HCPCS. Students will learn to convert widely accepted uniform descriptions of medical, surgical and diagnostic services rendered by health care providers with five-digit numeric codes. Prerequisite(s): BIO 107 or BIO 171/172

HCM 270—HOSPITAL BILLING AND CODING 3-0-3

This course is a comprehensive look at the hospital and facility coding and billing. The student will have the opportunity to work with the entire workflow, from patient intake through the billing process for both the inpatient and outpatient facility. The student will have chapter exercises as well as extensive billing (UB-04 completion) and coding exercises (including the assignment of DRGs or APCs). This course cannot be applied to the Health Information Technology degree. Prerequisite(s): BIO 107, HCM 130, HCM 250, HCM 260

HCM 285—ADVANCED MEDICAL CODING 3-0-3

This course provides extensive, hands-on abstract medical coding. The course will review methodologies for the abstracting of physician's notes in many different specialties. The student will also have the opportunity to take a mock exam, which is developed from the CPC and CCS-P national exam. Prerequisite(s): HCM 145, HCM 250, HCM 260 and 20 hours of HCM courses

HCM 299—VIRTUAL CAPSTONE 3-0-3

This course provides virtual office experience for those completing the health care management associate degree. Students will gain valuable experience working strictly online from a home environment. Students will develop proper communication skills, time management, proper office etiquette, appropriate ethical and legal responsibilities with office staff and management by working with other classmates and the instructor of the course. Course Prerequisite(s): BIO 107 and or BIO 171/172, HCM 145, HCM 150, HCM 155, HCM 165, HCM 250, and HCM 260

HIS–HISTORY

HIS 155—EARLY WESTERN CIVILIZATION 3-0-3

A survey and analysis of western civilization from its origin through the 17th century. Major political, social, economic and cultural trends and their influence on modern civilization are examined.

HIS 156—MODERN WESTERN CIVILIZATION 3-0-3

A survey and analysis of western civilization from the 18th century to the present. Nationalism, industrialism, imperialism and major intellectual and social developments are emphasized.

HIS 249—THE CIVIL WAR 3-0-3

A survey and analysis of the American Civil War and Reconstruction. This course is a study of the origins and causes of the war, the nature and direction of the war itself, and its results and consequences. Particular attention is given to economic, social, political, military and ideological aspects of the American Civil War.

HIS 255—EARLY US AND PA HISTORY 3-0-3

A survey course in United States history from the discovery of the New World to the close of the Civil War. The story of our American heritage told against the backdrop of revolution, expansion, nationalism, industrial growth and sectional strife.

HIS 256—MODERN US AND PA HISTORY 3-0-3

A survey course in United States history from the end of the Civil War to the present. Examination of political, social, economic and cultural trends with emphasis on the impact of reconstruction, industrialism, progressivism, isolationism, imperialism, conservatism and liberalism.

HIS 257—THE WORLD IN THE 20TH CENTURY 3-0-3

An introduction to the history of the world in the 20th century. This course examines the forces, which have produced significant changes in the modern world, and integrates the experiences of Asia, Africa and Latin America with that of Europe and America. An assessment is made of the impact of war, peace, racism, nationalism, imperialism, ideology, religion and family upon the peoples and cultures of the 20th century.

HIS 262—MODERN LATIN AMERICAN HISTORY 3-0-3

A survey of Latin American history from the 16th century through the present, this course is a general but comprehensive study following a topical approach by focusing on social, cultural, political and military developments in the Caribbean, Central America and South America. Major topics include the colonial period, independence movements, nation building, Amerindians, Africans, and Mestizos, governance in the early 20th century, global challenges and the contemporary era.

HIS 268—WORLD HISTORY TO 1500 3-0-3

A survey of world history from early human societies through the sixteenth century, this course is a general, but comprehensive, study following a topical approach by focusing on social, cultural and military developments of the period. Major topics include the early complex societies, the formation of classical societies, the postclassical era, and cross-cultural interactions.

HIS 269—WORLD HISTORY SINCE 1500 3-0-3

A survey of world history from the sixteenth century to the present, this course is a comprehensive study following a topical approach by focusing on social, cultural, political, economic and military developments of the period. Major topics include the origins of global independence, the age of revolution, industry, and empire, and contemporary global realignments.

HMT–HOTEL/MOTEL MANAGEMENT

HMT 266 - EVENT MANAGEMENT 3-0-3

The events industry is an ever changing and evolving industry. Many aspects such as social media, global interaction, sustainability, social responsibility, and the economic and cultural shifts have driven rapid expansion and increased competition. This course will provide comprehensive coverage of the theory, concepts and practice of event management. It will cover creating, organizing, promoting, and managing special events of all kinds.

HON–HONORS

HON 295, 296, 297, 298—HONORS SEMINAR 3-0-3

Honors Seminar is a unique type of college course. In this course you will design, implement, edit, produce and report on a project that you have designed in consultation with your faculty mentor. The project, as described when you were recruited to participate, is a topic of your own choosing. This topic of interest and concentration is one that enlarges on an honors project then allows the student to enrich his or her knowledge in an area of concentration while also engaging in further development of the techniques of research and writing. The key to success in an Honors Seminar course is self-discipline and self-direction in performing the necessary level of work to complete your chosen project. The faculty mentor provides support and guidance as needed. Honors Seminar enriches not only the student's academic experience, but their personal sense of accomplishment and autonomy as well.

HPE–HEALTH AND PHYSICAL EDUCATION

HPE 156—HEALTH AND PHYSICAL EDUCATION 3-0-3

Lectures deal with wellness, exercise, nutrition, tension control and mental health, sexually transmitted diseases and HIV prevention, cancer and heart disease prevention, date rape awareness, alcohol and drugs, and injury treatment as they relate to a preventative medicine lifestyle. Concepts stressed are flexibility, strength, aerobic exercise, heart and cancer disease and risk factors, proper nutrition, stress management techniques, STD and HIV prevention. A pre- and post-fitness evaluation is performed. An individually prescribed exercise program is performed twice a week.

HPE 157—PERSPECTIVES IN HEALTH 3-0-3

Examines today's health issues and presents contemporary approaches to maintaining good health. Focuses on such topics as stress, hypertension, nutrition, depression, smoking and sexually transmitted diseases.

Course Descriptions

HUM–HUMANITIES

HUM 140—SOCIAL MEDIA: SOCIETY AND CITIZENSHIP **3-0-3**

This course is designed to enable students to make safe and legal use of the Internet by identifying best practices, tools and methods that also respect free expression. It develops the critical thinking skills necessary to understand the challenges, risks and opportunities regarding current computer-mediated communication technologies. Topics include rights and responsibilities of the digital citizen, Internet safety, social networking, privacy and creative content creation. Legal, technical, psychological and social dynamics will be addressed with an emphasis on practical application. The course builds a foundation by looking at the technical aspects of social media and exploring the tools and skills necessary to enhance students' online potential by building a culture of responsible online behavior. The second half of the course will focus on the more complex dynamics of collaboration, privacy, content creation and economic and political societal participation.

HUM 156—CRITICAL THINKING **3-0-3**

Designed to show an order associated with the learning process. Observation and listening skills are developed as an introduction to critical thinking. Relationships among observation, interpretation, perception and generalization are considered. Critical thinking and analysis to reach reasonable end points are developed by applying necessary skills to a variety of written and oral topics.

LAS–PARALEGAL

LAS 101—THE LEGAL ASSISTANT **3-0-3**

The legal environment, including duties, limitations and ethical constraints of legal assistants, professional responsibilities and expectations, sources and relationships of the various bodies of law along with the structure of national government and the court system will be studied. The course will examine substantive areas of the law, including torts, contracts, property law, domestic relations, estates and trust, and business law.

LAS 111—LEGAL ANALYSIS **3-0-3**

An introductory level course designed to equip the student with the basic skills of legal analysis and research. The student will be exposed to legal analysis in the form of reading, synthesizing, and abstracting judicial opinions; various methods of legal research, including use of the Uniform System of Citation, legal publications and reporters and Shepard's Citations will be explored.

LAS 115—TORTS **3-0-3**

A study of the concept of civil wrongs and their treatment in law, to include the intentional torts, negligence and strict liability as applied to persons, property and business. Specific topics to be considered include negligence, strict liability, products liability, intentional torts including assault, battery, defamation, nuisance and defenses to tort actions. Prerequisite(s): LAS 101, LAS 111

LAS 120—ESTATES AND TRUSTS **3-0-3**

A study of the law pertinent to wills, estates and trusts including estate succession, will drafting and execution, codicils, uses and effects of different types of trusts, the probate process and distribution. Relevant state statutes will be utilized as well as practical application of materials dealt with. Prerequisite(s): LAS 101, LAS 111

LAS 125—LITIGATION I **3-0-3**

A survey of the process of pursuing a civil action through the legal system. Topics include choice of courts, jurisdiction, venue, pleading and related motions, discovery, pretrial actions, preparation and trial and appellate procedures. Emphasis will be on the legal assistant's role in gathering and organizing materials, interviewing and investigating, drafting, interrogatories and pleadings, the trial notebook and assisting during the trial. Prerequisite(s): LAS 101, LAS 111

LAS 140—DOMESTIC RELATIONS **3-0-3**

A study of laws affecting family-related matters such as marriage, divorce, separation, child custody/support and adoption. Prerequisite(s): LAS 101, LAS 111

LAS 210—LEGAL WRITING **3-0-3**

An introduction to the types of research sources, procedures and case documentation for which the legal assistant is typically responsible. Students will learn to prepare common legal documents and develop written briefs for attorneys based on their research. Prerequisite(s): ENG 161, LAS 111

LAS 215—LEGAL RESEARCH **3-0-3**

A continuation of LAS 210. The student will be required to complete several major research projects as part of the course, including interoffice memoranda and trial and appellate briefs. Prerequisite(s): LAS 210

LAS 293—INTERNSHIP **1-12-3**

Supervised experience in legal agencies that provide the student with the opportunity to apply legal assistant theory and skills while performing tasks in the legal assistant profession. Prerequisite(s): LAS 215 and QPA of 2.0 or better.

MAS–MEDICAL ASSISTING

MAS 100—INTRODUCTION TO MEDICAL ASSISTING **3-2-4**

Introduces the student to the role of the medical assistant in a variety of patient care settings. Develops communication skills directed towards the role of the medical assistant in receiving, organizing, prioritizing and transmitting information. Develops interviewing skills for obtaining patient histories. Provides an ethical framework in which the medical assistant functions within the health care setting. Acquaints the student medical assistant with the process and requirements for certification.

MAS 105—ADMINISTRATIVE PROCEDURES **3-0-3**

Establishes a legal framework related to the duties of the medical assistant. Appropriate documentation of patient information is taught and guidelines are presented for the handling of patient record information. Confidentiality is stressed. Procedures for disposing of controlled substances in compliance with government regulations are addressed. Offers the student an opportunity to understand acceptable practices related to initiating and terminating medical treatment. Emergency office procedures are taught. Prerequisite(s): MAS 100

MAS 110—CLINICAL PROCEDURES **3-2-4**

Covers theory and practical applications of asepsis, medication administration, lab and specimen collection and processing, vital signs, venipuncture, EKG, and preparation of the patient for examination and treatment. The laboratory component of this course provides the student with the opportunity to practice selected skills related to the clinical procedures. Prerequisite(s): MAS 100

MAS 120—PRACTICUM **0-15-3**

This course provides a supervised clinical placement to practice the administrative and clinical skills necessary to function as a medical assistant in a physician's office and other designated medical settings. Administrative skills include receptionist duties and appointment scheduling, medical correspondence, record handling, medical transcription, maintaining patient accounts, billing and processing insurance claims. Clinical skills include patient preparation and assisting with diagnostic and surgical procedures, examination assisting, specimen collection and processing, performing basic office diagnostic procedures, medication administration, and aseptic technique. Prerequisite(s): MAS 105, MAS 110

MET–METALLURGY

MET 105—WELDING METALLURGY I **3-0-3**

A study of the manufacturing of metals and alloys emphasizing their properties as to weldability. Demonstrations in the use of tensile testor, impact testor, metallograph, metallurgical microscopes and polishing techniques.

MET 205—WELDING METALLURGY II 3-0-3

A study of the manufacturing of Nonferrous Metals and alloys emphasizing their properties and weldability. Study of microstructure and the relationship of physical characteristics vs. alloy content and heat treatment as well as failures. Prerequisite(s): MET 105

MKT–MARKETING

MKT 251—CONSUMER BEHAVIOR 3-0-3

This course is a comprehensive attempt to understand why people buy things and to appreciate how products, services and consumption activities contribute to the broader social world we experience. Progressive ideas on e-commerce and globalization are presented. Cross-cultural examples are discussed within a framework of marketing theory and strategy.

MKT 252—PUBLIC RELATIONS 3-0-3

The purpose of this course is to introduce students to the concepts of effective public relations and prepare them to deal with the situations and arrive at the solutions that distinguish the practice of communication in a world experiencing the unbridled growth of the Internet. At the same time, the integration of the relationship among agencies, clients and the media is incorporated along with the practice and management of public relations.

MKT 254—ADVERTISING AND PROMOTION 3-0-3

Studies the basic facets of advertising including its planning, creation and implementation. Course emphasis is on the development of advertising strategies to meet the challenges of marketing situations. Students investigate the process of budget planning, the practical application of market research to the creation of advertising campaigns, media planning, and the coordination of media advertising and promotional techniques as part of the overall marketing strategy of a business enterprise.

MKT 299—MARKETING INTERNSHIP 1-12-3

Students will gain exposure and insight into the marketing/retail industry through supervised and evaluated on-the-job experience. Students will select locations for internships from instructor- approved business sites in southwestern Pennsylvania. Seminars will be conducted weekly for students to discuss their experiences. Prerequisite(S): 18 completed credits

MPT–MANUFACTURING PROCESS TECHNOLOGY

MPT 101 - INTRODUCTION TO NANOTECHNOLOGY 1-0-1

Nanoscale science and nanotechnology are broad, interdisciplinary areas, encompassing not just materials science but everything from biochemistry to electrical engineering and more. This will be a survey course introducing some of the fundamental principles behind nanotechnology and nanomaterials, as well as applications of nanotechnology. The role of physics and chemistry in nanotech will be emphasized. Nanoscale tools such as surface probe and atomic force microscopy, nanolithography, and special topics such as molecular electronics will also be covered.

MPT 211—MATERIAL, SAFETY AND EQUIPMENT OVERVIEW FOR NANOTECHNOLOGY 2-2-3

This course will provide an overview of basic nanofabrication processing equipment and materials handling procedures. The focus is on procedural, safety, environment and health issues in equipment operation and materials handling. Topics to be covered will include: cleanroom operation, safety and health issues; vacuum pump systems operation, environmental safety, and health issues (covering direct drive mechanical, roots blowers, turbomolecular, and dry mechanical systems); furnace operation, safety, environmental and health issues (covering horizontal, vertical, rapid thermal annealing tools); chemical vapor deposition system operation, safety, environmental and health issues (covering gas delivery, corrosive and flammable gas storage and plumbing, regulators, and mass flow controls); and vacuum deposition/etching system operation, safety, environment and health issues covering microwave and RF power supplies and tuners, heating and cooling units, vacuum gauges, valves and process controllers. Specific materials handling issues will include DI water, solvents, cleansers, ion implantation sources, diffusion sources, photoresists, developers, metals, dielectrics, and toxic, flammable, corrosive and high purity gases as well as packaging materials. Prerequisite(s): MTH 157 and ENG 161.

MPT 212—BASIC NANOTECHNOLOGY PROCESSES 2-2-3

This course will provide an overview of basic processing steps in nanofabrication. The majority of the course details a step-by-step description of the equipment and processes needed to fabricate devices and structures. Processing flow will be examined for structures such as microelectromechanical (MEM) devices, biomedical "lab-on-a-chip" structures, display devices and microelectronic devices including diode, transistor and full CMOS structures. Students will learn the similarities and differences in both equipment and process flow for each configuration by undertaking "hands-on" processing. Prerequisite(s): MTH 157 and ENG 161.

MPT 213—MATERIALS IN NANOTECHNOLOGY 2-2-3

This course will cover thin film deposition and etching practices in nanofabrication. The deposition techniques to be included in the first part of the course will include atmospheric, low pressure, and plasma enhanced chemical vapor deposition and sputtering; thermal evaporation; and beam evaporation physical vapor deposition. Materials to be considered will include dialectics (nitride, oxide), polysilicon (doped and undoped) metals (aluminum, tungsten, copper), adhesion promoters and diffusion barriers. The second part of the course will focus on etching processes and will emphasize reactive ion etching (single wafer, batch), high-ion-density reactors, ion beam etching and wet chemical etching. Students will receive hands-on experience in depositing and etching dielectric, semiconductor and metal materials using state-of-the-art tools and practicing many of the steps critical to nanofabrication of semiconductor devices including microelectronic, MEMs devices, display structures and structures used in the biotechnology fields. Prerequisite(s): MTH 157 and ENG 161.

MPT 214—PATTERNING FOR NANOTECHNOLOGY 2-2-4

This specific course will cover all aspects of lithography from design and mask fabrication to pattern transfer and inspection. The course is divided into three major sections. The first section describes the lithographic process from substrate preparation to exposure. Most of the emphasis will be on understanding the nature and behavior of photoresist materials. The second section examines the process from development through inspection (both before and after pattern transfer). This section will introduce optical masks, aligners, steppers and scanners. In addition, critical dimension (CD) control and profile control of photoresists will be investigated. The last section will discuss advanced optical lithographic techniques such as phase shifting masks and illumination schemes as well as 3-beam, X-ray, EUV, and ion beam lithography. Prerequisite(s): MTH 157 and ENG 161.

MPT 215—MATERIALS MODIFICATION FOR NANOTECHNOLOGY APPLICATIONS 2-2-3

This course will cover in detail the processing steps used in modifying material properties in nanofabrication. Included will be growth and annealing processes utilizing horizontal and vertical furnaces as well as rapid thermal annealing. The impact of thermal processing and thermal processing on defects, gettering, impurities and overall electrical mechanical, optical, electrical and chemical properties will be studied. The student will grow and measure gate and field oxides, implant and activate source and drain regions, and evaluate thermal budget requirements using state-of-the-art tools. Included also will be other modification technologies such as ion implantation, diffusion and surface preparation and treatment. Substrate preparation processing such as slicing, etching, polishing and epitaxial growth will be covered. Prerequisite(s): MTH 157 and ENG 161.

MPT 216—TESTING OF NANOTECHNOLOGY STRUCTURES AND MATERIALS 2-2-3

This course will examine a variety of techniques and measurements essential for controlling device fabrication and final packaging. Monitoring techniques such as residual gas analysis (RGA), optical emission spectroscopy (OES) and end point detection will be

discussed. Characterization techniques such as SEM, XPS/Auger, surface profilometry, advanced optical microscopy, optical thin film measurements, ellipsometry and resistivity/conductivity to yield analysis and process control will also be stressed. These will include breakdown measurements, junction testing, C-V and I-V tests and simple transistor characterization. In addition, we will examine mechanical as well as electrical characteristics of some simple MEMs devices and chemical and biological responses of nanofabricated biomedical structures. The student will also learn about the manufacturing issues involved in subjects such as interconnects, isolation and final device assembly. Aluminum, refractory metals and copper deposition techniques and characterization will be discussed in detail along with topics such as diffusion barriers, contact resistance, electromigration, corrosion, stress effects and adhesion. The importance of planarization techniques such as deposition/etchback and chemical/mechanical polishing will be emphasized. Lastly, packaging procedures such as die separation, inspection bonding, sealing and final test for both conventional ICs and novel MEM and biomedical devices will be examined. Prerequisite(s): MTH 157 and ENG 161.

MTH–MATHEMATICS

MTH 050—BASIC MATHEMATICS 3-0-3

Designed for students who need to develop the basic mathematical skills that are essential to success in more advanced college level work. Content material includes computational skills of whole numbers, fractions, decimals and integers; ratios; proportions; and elementary algebra. Word problems are strategically placed throughout the course to both motivate and reinforce learning. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): Placement

MTH 050A-BASIC MATHEMATICS EMPORIUM 3-0-3

This course is designed for students who need to develop the basic mathematical skills that are essential for success in more advanced college- level work. Content material includes computational skills of whole numbers, fractions, decimals, percents, ratios, proportions and elementary algebra. Word problems are strategically placed throughout the course to both motivate and reinforce learning. Developmental courses may not be used to fulfill degree requirements.

This course is taught in a self-paced environment. Motivated students may be able to complete the requirements for MTH 050A and MTH 052A in a single semester.

MTH 052—FOUNDATIONS OF ALGEBRA 3-0-3

An introduction to elementary algebra that provides basic principles, concepts and techniques that are necessary for student success in higher-level mathematics courses. Content material includes integers, operations with rational expressions, positive and negative exponents, factoring, solving first and second-degree equations, and word problems. Designed for students with little or no algebra background. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): MTH 050, MTH 050A (C or better) or Placement

MTH 052A—FOUNDATIONS OF ALGEBRA EMPORIUM 3-0-3

An introduction to elementary algebra that provides basic principles, concepts and techniques that are necessary for student success in higher-level mathematics courses. Content material includes integers, operations with rational expressions, positive and negative exponents, solutions of first and second-degree equations and word problems. Designated for students with little or no algebra background. Developmental courses may not be used to fulfill graduation requirements. Prerequisite(s): MTH 050 or Placement

This course is taught in a self-paced environment. Motivated students may be able to complete the requirements for MTH 052A and MTH 100A in a single semester.

MTH 061—INTEGRATED REVIEW FOR MODERN MATH 0-1-1

This course provides a just-in-time review of algebra skills for students who are taking MTH 161 Modern College Mathematics. Topics include operations on numbers and expressions, solving linear equations, graphs of linear equations, properties of exponents, the square root property of equations, and problem solving including proportions and variation. Taking this course concurrently with MTH 161 replaces MTH 161's prerequisite of MTH 052.

MTH 100—INTERMEDIATE ALGEBRA 3-0-3

This course is designed for students with some previous algebra background and further enhances these algebraic skills while developing others necessary for achievement in College Algebra. Topics include: linear and compound inequalities; absolute value equations and inequalities; factoring; rational and radical expressions; rational exponents; complex numbers; and solving rational, radical and quadratic equations and word problems. Prerequisite(s): MTH 052, MTH 052A (C or better) or Placement

MTH 100A—INTERMEDIATE ALGEBRA EMPORIUM 3-0-3

This course is designed for students with some previous algebra background and further enhances these algebraic skills while developing others necessary for achievement in College Algebra. Topics include: linear and compound inequalities; absolute value equations and inequalities; factoring; rational and radical expressions; rational exponents; complex numbers; and solving rational, radical and quadratic equations and word problems. Prerequisite(s): MTH 052, MTH 052A or Placement Test

This course is taught in a self-paced environment. Motivated students may be able to complete the requirements for MTH 100A and MTH 157 in a single semester.

MTH 104—INTRODUCTION TO APPLIED MATHEMATICS 4-0-4

A course for applied industrial majors emphasizing a practical approach to algebra and geometry. Topics include measurement, estimation, propagation of error, solving first degree equations and modeling with linear equations, problem solving with rates and proportions, unit conversations, area and volume calculations, the coordinate plane, and trend lines. Prerequisite(s): MTH 050 (C or better) or Placement

MTH 108—MATHEMATICS FOR THE TECHNOLOGIES I 4-0-4

A course for technology majors emphasizing application and problem solving. Topics include review of fundamental algebra; formula transformation; dimensions and units; radicals; systems of linear equations; graphing of data, equations and functions; right triangle trigonometry; and quadratic equations and functions. Prerequisite(s): MTH 104 (C or better) or Placement

MTH 109—MATHEMATICS FOR THE TECHNOLOGIES II 4-0-4

A course for technology majors emphasizing application problem solving and proof. Topics include graphs of trigonometric functions, operations with complex numbers, logarithmic and exponential functions and equations, introduction to analytic geometry, algebraic radicals, trigonometric identities and equations. Prerequisite(s): MTH 108 (C or better) or Placement

MTH 157—COLLEGE ALGEBRA 3-0-3

This course builds upon the algebraic skills from Intermediate Algebra. Topics include: graphing and slope; functions and relations including circles and linear, polynomial, rational, exponential and logarithmic functions; transformations and analysis of functions including symmetry; function composition and inverses; polynomial and rational inequalities; variation; properties of logarithms; linear and nonlinear systems of equations in two and three variables; and systems of inequalities in two variables. Prerequisite(s): MTH 100 (C or better), MTH 100A (C or better) or Placement

MTH 160—INTRODUCTION TO STATISTICS 3-0-3

An introduction to statistics with an emphasis on application rather than theoretical development. Topics covered include frequency distributions, measures of central tendency, and measures of dispersion, statistical inference, testing of hypotheses, confidence Intervals, regression and correlations. Elementary research designs are included. It is advised that students have a background in algebra.

Prerequisite(s): MTH 052, 052A (C or better) or Placement

MTH 161—MODERN COLLEGE MATHEMATICS 3-0-3

This course is intended to satisfy the mathematics general education requirements for students who are non-science majors, as well as students preparing for the pre-nursing examination. Rather than focusing on one particular topic, this course gives an overview of topics from a variety of areas and fields in mathematics. Topics may include propositional logic, algebraic modeling, Euclidean geometry, graph theory, probability, statistics and/or consumer math. Prerequisite(s): MTH 052, 052A (C or better) or Placement

MTH 167—COLLEGE TRIGONOMETRY 3-0-3

This course is designed to prepare students with the necessary background in trigonometric functions for the Calculus sequence. Topics include right triangle trigonometry, unit circle trigonometry, periodic functions, trigonometric identities, vectors, and application problem solving involving trigonometry. Prerequisite(s): MTH157 (C or better) or Placement

MTH 170—COLLEGE PRECALCULUS 4-0-4

This course is intended to prepare students with the necessary background of function manipulation for the Calculus sequence. Discussion of functions includes transformations of functions, inverse functions; algebraic functions (including power functions, radical functions, polynomial functions, and rational functions); exponential functions, logarithmic functions; trigonometric functions, and inverse trigonometric functions. Additional topics include systems of equations, analytic geometry, and triangle trigonometry.Prerequisite(s): Placement

MTH 172—ANALYTICAL GEOMETRY AND CALCULUS I 4-0-4

A first course in calculus and analytical geometry. Topics include limits and derivatives of algebraic and trigonometric functions; applications of derivatives, continuity and basic integration techniques. Prerequisite(s): C or better in one of : MTH 109, MTH 167 or MTH 170 or Placement

MTH 173—ANALYTICAL GEOMETRY AND CALCULUS II 4-0-4

Continuation of MTH 172. Differential and integral calculus of algebraic and transcendental functions; analytical geometry, techniques of integration and application of the integral, sequences and series, convergence and divergence theorems. Prerequisite(s): MTH 172 (C or better)

MTH 180—ELEMENTS OF MATHEMATICS I 3-0-3

A presentation of mathematics central to a comprehensive elementary and middle school mathematics curriculum. The four-step problem solving process is stressed throughout the course. Topics included are sets, numeration, operations and properties of real numbers, number theory, fractions, decimals, and percent, ratio and proportion, and algebra basics. Prerequisite(s): MTH 052 (C or better) or Placement.

MTH 185—ELEMENTS OF MATHEMATICS II 3-0-3

Designed to follow Elements of Mathematics I and continue with more advanced topics in mathematics focusing on the problem solving process. Areas of emphasis include probability and statistics, geometry, computer topics, logic, and measurement. Prerequisite(s): MTH 180 (C or better)

MTH 271—ANALYTICAL GEOMETRY AND CALCULUS III 4-0-4

This is a continuation of MTH 173. Topics include two and three dimensional vectors, areas and surfaces, multi-variable and partial derivatives, double and triple integrals and applications. Prerequisite(s): MTH 173 (C or better)

MTH 275—LINEAR ALGEBRA 3-0-3

An introductory course in matrix algebra and vector spaces. Topics include systems of linear equations, matrices, determinants, general vector spaces, inner product spaces, eigenvectors and eigenvalues, and linear transformations. Prerequisite(s): MTH 172 (C or better)

MTH 276—ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS 4-0-4

A study of ordinary and partial differential equations with applications. First order equations, second order linear equations, initial value problems, boundary value problems The Laplace transform and convolution. Methods for nonlinear equations including power series, special functions. Systems of differential equations and phase plane analysis. Fourier series and partial differential equations. Prerequisite(s): MTH 173 (C or better) Co-Requisite(s): MTH 271

MTH 277—DISCRETE MATHEMATICS 3-0-3

An introduction to discrete mathematical structures for students studying mathematics and computer science. Topics include logic, set theory, elementary number theory, methods of proofs and proof writing (direct, indirect and math induction), combinatorics, probability, relations and functions, and graph theory. Prerequisite(s): MTH 172 (C or better)

MTT–MACHINE TECHNOLOGY

MTT 101—BLUEPRINTS 3-2-4

This course will introduce students to the basic principles, terminology and symbology used on machining blueprints. The course will include instruction in both conventional dimensioning and geometric dimensioning and tolerancing. Machining prints will be examined and interpreted. Corequisite(s): MTH 052, placement, or instructor permission

MTT 111—MACHINING I 1-6-4

This course will introduce students to manual shop machining. Topics will include safety, measurement, benchwork, layout, hand tools, cutoff machines, offhand grinding, holemaking, workholding, drill press, mills, lathes, grinders, and feeds and speeds. Corequisite(s): MTH 052, placement, or instructor permission

MTT 112—MACHINING II 1-6-4

This course will introduce students to basic milling, lathe and grinding operations. Topics include machine parts, machine operations, toolholding, holemaking, chucks, cutting tools, facing, turning, knurling, threading, endmills, cutters, abrasives and surface grinding. Prerequisite(s): MTT 111 or instructor permission; Corequisite(s): MTH 104, placement, or instructor permission

MTT 201—INSPECTION 1-4-3

This course will introduce the students to the principles and procedures used to inspect machined parts, using both mechanical and electronic inspection equipment. The students will conduct hands-on inspections to determine part acceptability. Quality control will also be discussed. Prerequisite(s): MTT 101

MTT 202— MAINTENANCE 1-4-3

This course will introduce students to the basic principles and procedures used to maintain machine shop equipment. Both preventative maintenance and machinery repair will be covered. The students will spend time disassembling, repairing and reassembling machine shop equipment. Prerequisite(s): MTT 111

MTT 207—TOOL DESIGN 1-4-3

Designing and detailing drawings, cutting tools, dies, jigs, fixtures and forming tools that enable a tool and die maker to make tools capable of producing duplicate parts on a production basis. Prerequisite(s): MTT 111 and CNC 111

MTT 213—MACHINING III 1-6-4

This course will provide students with further training and experience using mills, lathes and grinders. Topics will include squaring, angular machining, rotary tables, indexing heads, grooving, slotting, radii, pocketing, taper turning, sine chucks, cylindrical grinding and EDM. Prerequisite MTT 112

MTT 214—MACHINING IV 1-6-4

This course will enable students to develop expertise in manual shop machining. Students will work on projects to produce finished parts from raw materials. Production steps will include planning, layout, sawing, tooling, fixturing, milling, turning, grinding and inspection. Prerequisite MTT 213

MUS-MUSIC

MUS 155—MUSIC LISTENING: A SURVEY 3-0-3

Introduces the study of the elements of music, instruments of the orchestra and the lives and works of composers from the Renaissance, Baroque, Classical, Romantic and Contemporary eras. Corresponding listening selections are provided in class.

MUS 156—EARLY CHILDHOOD MUSIC 3-0-3

This course covers basics in music for the non-music specialist, including pedagogical methods for effectively incorporating music into early childhood classrooms.

MUS 255—AMERICAN POPULAR MUSIC 3-0-3

Open to all interested students, this course offers a panoramic view of the history of American popular music from the beginnings to the present. Upon completion of this course, the student will be able to identify and discuss each of the following aspects of American popular music: specific styles and style periods, pivotal compositions and composers, ethnic traditions which have been major contributors in the development and evolution of popular music, song forms and their contribution to style period development, influences on American history and historical influences on popular music.

NSG–NURSING

NSG 112—INTRODUCTION TO PROFESSIONAL NURSING AND HEALTH PROMOTION ACROSS THE LIFESPAN 2.55-4.08-3

The five critical elements of the Westmoreland nursing program - caring, competency, communication, critical thinking and commitment - serve as a framework of the course. The course focuses on the profession of nursing, health care environment and health promotion/disease prevention. Broad course content includes the fundamental knowledge, skills and behaviors necessary to assimilate values, concepts and ethical standards central to nursing practice. Emphasis is placed on strategies to promote health and prevent disease for individuals and families across the lifespan in community settings. Prerequisite(s): BIO 171, CPT 150; Corequisite(s): BIO 172, NSG 114, NSG 116

NSG 114—HEALTH AND PHYSICAL ASSESSMENT THROUGHOUT THE LIFESPAN 2.33-2.10-3

The five critical elements of the Westmoreland nursing program - caring, competency, communication, critical thinking and commitment - serve as the framework of the course. This course provides the basic knowledge needed to assess the health status of individuals from infancy through old age, including physical, developmental, psychological, cultural and spiritual dimensions. The laboratory experience, focused on the adult individual, provides students the opportunities for skill acquisition in history taking, assessment skills and documentation of findings. Prerequisite(s): BIO 171, CPT 150; Corequisite(s): BIO 172, NSG 112, NSG 116

NSG 116—FOUNDATIONS OF NURSING CARE 3-12-7

The five critical elements of the Westmoreland nursing program - caring, competency, communication, clinical judgment and commitment - serve as a framework of the course. The course presents the basic concepts and practices skills that are fundamental to providing nursing care across the lifespan for individuals with basic human needs. An integration of principles from the biological, physical and behavioral sciences with nursing theory, prepares the student to use the nursing process to promote, maintain and restore health. The teaching of related practice skills takes place in the campus laboratory. The opportunity to develop and practice selected skills will be provided in the Simulation Laboratories, acute care settings. Prerequisite(s): BIO 171, CPT 150; Corequisite(s): BIO 172, NSG 114

NSG 124—MEDICAL-SURGICAL NURSING CARE OF THE ADULT 4.5-13.5-9

The five critical elements of the Westmoreland nursing program - caring, competency, communication, clinical judgment and commitment - serve as a framework of the course. The course emphasizes the role of the nurse as provider and manager of care for adults, with common health problems who have alterations in physiologic, safety, esteem and self-actualization of human needs. In addition, an emphasis is placed on health promotion, risk reduction, disease prevention and treatment to prevent health problems from occurring or reoccurring. The opportunity to develop and practice selected skills is provided in the campus laboratory, Simulation Laboratories, and in the acute care clinical setting. Prerequisite(s): BIO 171, BIO 172, CPT 150, NSG 112, NSG 114, NSG 116; Corequisite(s): PSY 160

NSG 200—LPN TRANSITION INTO ASSOCIATE DEGREE NURSING 2.5-4.38-3

The five critical elements of the Westmoreland nursing program - caring, competency, communication, clinical judgment and commitment - serve as a framework of the course and is designed specifically for the LPN who meets the criteria for advanced placement in the ADN program. The course provides theoretical knowledge and practical experience, which assists the student in making the transition from the practical to the professional nursing student role. The LPN will be familiarized with the nursing program at Westmoreland. The course includes critical thinking concepts and the nursing process, organization of assessment data using functional health patterns, communication and care across lifespans with emphasis on beginning therapeutic communication skills. Students will demonstrate application of these concepts and technical skills/math skills in the campus lab and clinical lab segment of the course. Prerequisite(s): Level I ADN support courses, must be an LPN and accepted into the ADN program Corequisite(s): None

NSG 212 - SPECIALTY NURSING ACROSS THE LIFESPAN 7.5-7.5-10

The five critical elements of the WCCC Nursing Program: caring, competency, communication, clinical judgment and commitment serve as the framework for this course. Students are introduced to the role of the nurse as the provider of care to clients in specialty settings across the lifespan. Specific focus is on health promotion during common processes for women, children, infants and families as well as health restoration for individuals experiencing alterations in psychosocial needs. Emphasis is placed on caring communication, teaching and learning and identifying and responding to health alterations. Students will have opportunities to practice skills in the clinical and laboratory settings. Learning activities will take place in a variety of simulations, direct care clinical and community settings providing the student with a rich and diverse experience.

NSG 224 - ADVANCED MEDICAL-SURGICAL NURSING CARE OF THE ADULT 4.5-7.5-7

The five critical elements of the Westmoreland County Community College Nursing Program - caring, competency, communication, clinical judgment and commitment - serve as the framework for this course. This course emphasizes the utilization of the nursing process in the care of individuals with alterations in basic human needs. Evidence-based research and practices are employed to focus on advanced health problems in acute care settings. In addition, an emphasis is placed on health promotion, risk reduction, disease prevention, and treatment to prevent health problems from occurring or reoccurring. The opportunity to practice psychomotor and clinical judgment related to patient care and symptom management is provided in the campus laboratory and acute care clinical settings.

NSG 236 - CAPSTONE: TRANSITION TO PRACTICE 1-9-4

The five critical elements of the Westmoreland County Community College Nursing Program - caring, competency, communication,

clinical judgment and commitment - serve as the framework for this course. Students are provided the opportunity to comprehensively apply and integrate learned concepts from previous nursing courses into a capstone experience. An emphasis is placed on the development of personal and professional strategies needed to make the transition from student to graduate nurse. Supervised learning experiences in faculty and/or preceptor-guided college nursing laboratories, clinical settings, and/or simulated environments are utilized.

OFT–OFFICE TECHNOLOGY

OFT 100—BASIC KEYBOARDING 1-0-1

This course instructs students on the basics of touch typing using a microcomputer. Emphasis is placed on correct posture and finger positions. The basic keyboard, including numbers and symbols, is the focus of this one-credit course.

OFT 102—ACROBAT ESSENTIALS 1-0-1

An introduction to converting documents to PDF format, setting navigation for PDFs, setting security options, creating bookmarks, and adding hyperlinks and interactivity to documents using the standard for cross- platform file sharing without sacrificing the original design. Macintosh/Windows and Word skills recommended.

OFT 110—DOCUMENT PROCESSING I 3-0-3

Students will create and edit office correspondence such as business letters, interoffice memorandums, business reports, and tabulated columnar material by using Microsoft Word. Emphasis is placed on keyboarding speed, accuracy and document formatting using keyboarding software. Prerequisite(s): OFT 100 or Satisfactory Skills Test

OFT 140—OFFICE PROCEDURES 3-0-3

This course is designed to provide a foundation in the skills required by the office professional. The course explores the work environment, the use of technology in the modern office, and performing as part of the administrative team. Office communications and writing skills will be emphasized.

OFT 185—POWERPOINT 1-0-1

This course focuses on Microsoft PowerPoint as a professional tool for the development of visual presentations. Topics include creating slideshows, visual elements, formats, printing, importing and delivering effective presentations. File management, editing and Web-based presentations are also covered. Successful completion of this course enables the student to sit for the Microsoft Office Specialist (MOS) certification exam.

OFT 190—WORD FOR WINDOWS 3-0-3

Focuses on the Word software, ranging from the most basic word processing tasks to more complicated procedures. Topics include document entry, editing, formatting, cutting and pasting, fonts, glossaries, tables, file merging, graphics, document templates, macros and overall document design. Successful completion of this course enables the student to sit for the Microsoft Office Specialist (MOS) certification exam.

OFT 210—OFFICE TECHNOLOGIES 3-0-3

Students will learn how to maintain basic finances by automating financial reporting functions including payroll. The course will address electronic planning, charting and managing small to midsize projects. Instructors will include the use of the latest software to maximize productivity.

OFT 220—TRANSCRIPTION 3-0-3

This course will introduce students to office transcription techniques for the translation of recorded correspondence, reports and records to properly formatted documents. Prerequisite(s): OFT 110 with a "C" grade or better

OFT 225—PROOFREADING 3-0-3

This course provides a comprehensive study of proofreading and editing skills in the workplace. Students will learn to read for meaning while they correct errors in grammar, punctuation and sentence structure in various types of documents from the business, medical, legal and education fields. Upon completion of the course, students will have the knowledge to edit documents so that they are clear, concise and complete.

OFT 235—CUSTOMER SERVICE 3-0-3

This course is designed to teach quality customer service by examining the attitudes, knowledge and skills that are needed to work effectively in any job that has contact with clients, customers or patients. Topics include improving customer loyalty, customer service, handling complaints and customer relations.

OFT 280—OFFICE MANAGEMENT 3-0-3

This capstone course is designed to prepare the student for the workplace by integrating the various office and technical skills acquired in previous office technology courses. The course will provide the student with the opportunity to perfect their skills in a simulated office environment using teamwork, oral presentation, and critical thinking skills. Prerequisite(s): OFT 110, OFT 140 and 20 hours of office technology courses

OFT 299—OFFICE INTERNSHIP 1-12-3

A coordinated period of 180 hours of supervised experience in agencies that will offer students an opportunity to perform a variety of procedures and develop technical competence in their area of specialization.

PDV–PERSONAL DEVELOPMENT

PDV 100—SUCCESSFUL COLLEGE TRANSITIONS 1-0-1

This course allows high school students with disabilities to gain an understanding of the transition from high school to college and to learn about college culture and expectations. Disability laws as they apply to post- secondary education and the workplace will be examined, with emphasis on self-advocacy and knowing the process for requesting accommodations. Students will learn about the available assistive technology as well as the college's other resources, services and policies to enhance learning. They will gain knowledge that will facilitate their decision making regarding their educational goals beyond high school.

PDV 101—FIRST YEAR SEMINAR 1-0-1

This course provides strategies for adjusting to college culture and understanding college expectations. Students will learn about the college's resources, services, policies and educational technology. Students will develop skills in educational planning, goal setting and time management, and will refine their learning strategies for academic success. Social responsibility, cultural competence and integrity will be discussed and practiced as necessary components for success in college and beyond.

PDV 101A—FIRST YEAR SEMINAR WITH FOUNDATIONS 2-0-2

This course provides strategies for adjusting to college culture and understanding college expectations. Students will assess their current level of academic understanding and functioning and will refine their learning strategies for academic success. Students will learn about the college's resources, services, policies and educational/assistive technology. Students will develop skills in educational planning, goal setting and time management. This two-credit course will provide students with a semester-long supportive environment in which they can develop their skills for success in the college classroom.

PDV 171—CAREER PATHWAY EXPLORATION 3-0-3

This course provides students with the opportunity for exploration and interactions with a variety of career clusters. Students will learn about career opportunities within different fields, and the academic pathways that build towards careers. Students will engage in

interactive and hands-on experiences to build understanding of the skills and knowledge involved, and will be able to assess their individual interests and aptitudes. Students will also develop skills in educational planning, goal setting and time management; they will refine their learning strategies for college success.

PHB–PHLEBOTOMY

PHB 101—CLINICAL PHLEBOTOMY 3-3-4

This course introduces the students to a variety of blood collections methods, proper techniques and standard precautions. Infection prevention, patient identification, labeling of specimens, quality assurance and proper specimen handling are stressed. Professionalism, ethics, confidentiality, protected health information and safety are also stressed. Course is scheduled during the first 8 weeks of the semester. Co-requisite(s): ALH 122, PHB 105 (if applicable)

PHB 105—SPECIMEN PROCESSING 3-3-4

This course covers the principles of specimen handling and processing. National standards in clinical laboratory science are presented including quality control, laboratory math, safety, basic laboratory equipment operations, accreditation/certification requirements, professionalism and ethics. Students perform such tasks as data entry and specimen accessioning. Students centrifuge and aliquot samples as well as learn different methods of sample collection. Course is scheduled during the first 8 weeks of the semester. Co-requisite(s): ALH 122, PHB 101 (if applicable)

PHB 110—SPECIMEN PROCESSING PRACTICUM 0-15-4

This practicum requires 224 hours of close and directed supervision for the phlebotomist and specimen processor to apply skills. Practicum is divided into phlebotomy and specimen processing hours. Duties include collection of blood specimens using standard precautions, receiving specimens, distributing samples to appropriate lab areas, data entry and lab instrument operations along with other assigned duties. Infection prevention, patient identification, labeling of specimens, quality assurance, confidentiality and proper specimen handling are stressed. Practicum is scheduled during the second 8 weeks of the semester. Schedules are arranged by clinical site availability, usually four 8-hour days per week, Prerequisite(s): Successful completion of PHB 101 and PHB 105 (If applicable) during first 8 weeks of semester.

PHL–PHILOSOPHY

PHL 155—INTRODUCTION TO LOGIC 3-0-3

Principles of correct thinking, deductive and inductive inference; use and misuse of language in reasoning. It is recommended that students complete ENG 161 before enrolling in this course.

PHL 160—INTRODUCTION TO PHILOSOPHY 3-0-3

Introduction to Philosophy examines the major philosophical problems of philosophy as discussed by classical, medieval and modern philosophers.

PHL 161—INTRODUCTION TO ETHICS 3-0-3

This course provides an overview of the main questions in ethics: What is a good life? Does morality depend upon religion? What makes an action right or wrong? Are morals relative or absolute? Students will examine these and other questions using a variety of ethical theories. These theories will also be applied to concrete issues like animal rights and euthanasia. Satisfies the humanities area of the general education requirement.

PHY–PHYSICS

PHY 107—APPLIED PHYSICS 3-2-4

An introduction to physics emphasizing application and problem solving. Topics include data analysis, mechanics, thermodynamics, properties of matter, electricity and optics. Laboratory exercises provide reinforcement of concepts as well as experience in experimental techniques. Prerequisite(s): MTH 108 or MTH 100 or 100A

PHY 110—FUNDAMENTALS OF PHYSICS 2.5-1-3

This course is designed to prepare students with no physics background for College Physics or Physics for Radiography. Topics covered include concepts in algebra and trigonometry essential for physics, principles and units of measurement, graphing, and an overview of the physical quantities and concepts studied in introductory physics. Prerequisite(s): MTH 052, MTH 052A or placement

PHY 125—PHYSICS FOR RADIOLOGY 3-0-3

A study of the fundamental physical laws of nature as they pertain to the production and diagnostic uses of X-Rays. Topics covered include energy, atomic structure, electricity and magnetism, electric generators and motors, X-Rays and radiography. Prerequisite(s): High school physics (C or better), PHY 107 or PHY 110 Corequisite(s): RAD 131, RAD 141, RAD 146

PHY 153—INTRODUCTION TO PHYSICS 3-0-3

A one-semester course that introduces the basic principles of physics with an emphasis on concepts and minimal use of mathematics. Topics include classical mechanics, heat, thermodynamics, wave motion and sound. Especially suited for students in elementary education. Prerequisite(s): MTH 052, MTH 052A or placement.

PHY 155—COLLEGE PHYSICS I 3-2-4

An introduction to the fundamental physical laws of classical mechanics and thermodynamics. Laboratory exercises are provided to reinforce the material presented in lecture and to provide experience in preparing technical reports. Prerequisite(s): MTH 108 or MTH 100 and PHY 110 or high school physics

PHY 156—COLLEGE PHYSICS II 3-2-4

A continuation of College Physics I including a study of wave motion, optics, electricity and magnetism, atomic and nuclear physics. Laboratory exercises are provided to reinforce the material presented in lecture and to provide experience in preparing technical reports. Prerequisite(s): PHY 155

PHY 255—ENGINEERING PHYSICS I 4-2-5

The first in a two-semester sequence of calculus-based introductory physics courses presenting the principles of classical mechanics and thermal physics. Topics include kinematics, vectors, Newton's laws, energy and momentum, rotational motion, thermodynamics and kinetic theory. Laboratory exercises emphasize proper measurement techniques, error analysis and preparation of laboratory reports. Prerequisite(s): PHY 110 or High school physics (C or better). Corequisite(s): MTH 172

PHY 256—ENGINEERING PHYSICS II 4-2-5

The second in a two-semester sequence of calculus-based introductory physics courses covering the principles of classical electricity and magnetism and quantum physics. Topics include electrostatics, Gauss's law, capacitance, electric and magnetic fields, inductance, simple AC and DC circuits, electromagnetic waves, Maxwell's equations, optics, introduction to quantum physics, the Bohr atom, and nuclear physics. Laboratory exercises emphasize proper measurement techniques, error analysis and preparation of laboratory reports. Prerequisite(s): PHY 255

PHY 258—MODERN PHYSICS 3-0-3

A first course in modern physics. Topics include relativity, quantum effects, nuclear structure and solid state physics. Prerequisite(s): PHY 256

PHY 259—THERMODYNAMICS AND FLUID MECHANICS 2-2-3

A third in a three-semester sequence of calculus-based introductory physics. Topics include fluid mechanics and thermodynamics. Laboratory exercises emphasize data analysis and preparation of laboratory reports. Prerequisite(s): PHY 255

Course Descriptions

PMB–PLUMBING

PMB 101—PLUMBING I 2-4-4

The Plumbing program provides students the basic skills to work in an entry-level position in the plumbing field. This course will help the student develop skills to perform introductory tasks in the plumbing field.

PMB 121—ESTIMATING FOR THE PLUMBER 1-2-2

This course will help the student develop skills to perform some of the estimating tasks and potential contractual obligations that the plumber encounters in the plumbing field. Estimating is fundamental for any plumbing business to be successful in a service-based business as potential clients will almost certainly request a quote from you prior to awarding a project. The course will provide the student the knowledge for estimating each aspect of plumber projects, listing specific expectations, requirements and plumber contract agreement information.

PMB 200—PLUMBING CODE 3-0-3

This course will help the student develop a working knowledge of Residential and Commercial Plumbing Code. The curriculum is designed to prepare students to understand the use of the plumbing code standard book (ICC), references standards, the reading and use of charts and tables, and preparation for the journeyman's certification and the cross-connection control certification test.

PMB 250—ADVANCED PLUMBING TECHNIQUES 2-4-4

This course will help the student develop skills to perform introductory tasks in the plumbing field.

PMT–PLASTIC MANUFACTURING TECHNOLOGY

PMT 105—INTRODUCTION TO PLASTIC MATERIALS 3-0-3

Principles of Plastics introduces the properties, processes, skills, and concepts of working with plastics. These concepts include the importance of plastics, the two types of plastics and their specific characteristics, basic plastics-making processes, mechanical properties, physical properties, thermal properties, optical properties, electrical properties, environmental properties, manufacturing processes, injection molding, blow molding, extrusion, post-manufacturing processes, plastics nomenclature and standards, and environmental considerations of the impact of plastics. This course encompasses knowledge needed in today's world of manufacturing processes and materials.

PMT 120—INTRODUCTION TO PLASTIC MANUFACTURING PROCESSING 1-4-3

The purpose of this course is to provide an introduction to injection molding operations that covers the injection molding process, material and machine safety, molding operations and molding problems and solutions. This course then continues with teaching inserts, threads and multiple part molds, integral hinge, and system purging. It continues into more advanced topics such as chemistry and properties of plastics, blow molding operations, and extrusion process, safety, and operations. This course incorporates introduction to plastics technology through molding and continues into blow molding and extrusion operations. Prerequisite(s): PMT 105

PMT 130—PLASTIC PROCESSING AND MACHINERY 1-4-3

Plastic processing and machinery introduces basic injection mold design including injected mold sprues and runner systems and injection mold gates and mold vents. Advanced concepts taught include mold material and construction, multi-cavity molds, unbalanced multi-cavity molds, inserts in injection molds, and undercuts in injection molds. Learners will cover additional concepts in part design and material selection, thermoplastic molding materials, and blow molding design including materials and advanced design. These concepts provide an overview and cover a broad range of plastic mold design functions and operations. Prerequisite(s): PMT 105

PMT 135—PLASTICS QUALITY AND TESTING 3-0-3

Plastics Quality and Testing introduces the importance, properties, processes, and skills of working with composites. These concepts include the types of materials that make up a composite, the history of composites, mechanical properties, thermal properties, electrical properties, environmental properties, the many types of composite manufacturing processes, and environmental considerations for composites including how the composite industry is reducing its impact on the environment today. This course encompasses knowledge needed in today's world of manufacturing processes and materials. Prerequisite(s): PMT 105

POL–POLITICAL SCIENCE

POL 155—AMERICAN NATIONAL GOVERNMENT 3-0-3

The evolution and current practice of the principles, form and operation of our national political system. Emphasis is placed on contemporary issues to illustrate the interaction of the components of the political system.

POL 156—MODERN POLITICAL SYSTEMS 3-0-3

An introduction to how different governments throughout the world operate. Democratic and authoritarian systems are examined to observe how they respond to the demands of their citizens and how decisions are made. Emphasis on Great Britain, the former USSR, China and Japan with additional examples from the "developing world."

POL 200—CONSTITUTIONAL POWERS AND CIVIL LIBERTIES 3-0-3

A study of the development of the American system of government, from the theories and factors involved in creating our Constitution, to the powers of government granted under it. The development of individual rights and liberties as guaranteed by the Constitution will be examined with reference to the interpretation of the Constitution and Bill of Rights by the U.S. Supreme Court.

POL 220—RESEARCH METHODS IN THE SOCIAL SCIENCES 3-0-3

An introduction to basic criminal justice methods of research and analysis will be presented. Examination will be conducted of various research techniques, data collection strategies and analytical tools. Research procedures and statistical techniques are identified. Problem solving by research and identification of contemporary social sciences methods of research sources will be investigated. Prerequisite(s): CPT 150

POL 255—AMERICAN STATE AND LOCAL GOVERNMENT 3-0-3

Examines the principles and practice of government and politics in our state and communities in the light of federalism. Particular emphasis is placed on state practice and local government in Pennsylvania.

POL 256—INTERNATIONAL RELATIONS 3-0-3

Examines contemporary international controversies and problems in relation to the major forces that shape the policies of nations. Attention is given to the state system, instruments of policy, regionalism, the factors of power and international organizations.

Course Descriptions

PSY–PSYCHOLOGY

PSY 160—GENERAL PSYCHOLOGY 3-0-3

General Psychology is an introduction to the study of human behavior. Psychology is presented as both a biological and a social science. Facts, principles, processes, theories and research are explored in the course of study. The course will include the application of the scientific method, analysis of human behavior and synthesis of the components and causation of human behavior.

PSY 161—HUMAN GROWTH AND DEVELOPMENT 3-0-3

Using a developmental lifespan approach to human development, this course focuses on biological, cognitive and social domains of development and their interplay. Emphasis is on the importance of maintaining an ecological perspective. Major theories of human development at all stages of the lifespan are discussed. Prerequisite(s): PSY 160

PSY 163—PHYSIOLOGIC PSYCHOLOGY 3-0-3

This course explores the relationship between neuroscience and psychology, offering a comprehensive look at the brain and its corollary behavior. Also included in the course are brain anatomy, normal functions and examples of representative pathology in the various spheres of brain functioning. Prerequisite(s) PSY 160

PSY 165—EDUCATIONAL PSYCHOLOGY 3-0-3

This course presents cognitive, behavioral and affective theories of development and their relevance in academic settings. Emphasis is on the importance of understanding multicultural and humanistic issues to maximize academic development. Exceptional populations and non- traditional testing techniques and alternate methods of student and teacher evaluation will be discussed, including their strengths and weaknesses in academic settings. Prerequisite(s): PSY 160

PSY 167—DEATH AND DYING 3-0-3

This reading/writing course on death and dying covers four major perspectives: changing meanings of death and dying, the experience of death, survivors of death and dilemmas of death. Death and dying cannot be separated from life and living. We should learn the facts of death to better understand and improve our lives. We must study death as scientifically trained, self-aware, compassionate human beings.

PSY 250—RESEARCH METHODS IN PSYCHOLOGY 3-0-3

This course examines the methods used to explore research issues in psychology. Emphasis is placed on observational, correlational and experimental techniques used by social scientists. Students will learn how descriptive and inferential statistical procedures are used to answer research questions. Team-oriented activities are utilized to help students understand all the phases of scientific research: hypothesis formation, design, data collection, analysis and interpretation. Prerequisite(s): PSY 160, MTH 160

PSY 260—SOCIAL PSYCHOLOGY 3-0-3

Social Psychology is the study of the individual in his society. Theories of social psychology, methods of human research and philosophical assumptions of the nature of man are stressed. Modern problems of aggression and other social factors in the development of personality, social attitudes and attitude change, interpersonal and group processes are studied and researched in the classroom. Prerequisite(s): PSY 160

PSY 265—CHILD PSYCHOLOGY 3-0-3

This course explores child development from the prenatal stage though adolescence. Topics include physical, cognitive, social and emotional development along with current research methodology. Emphasis is placed on understanding the relationship of heredity to environment, cross-cultural comparison of children, and the ecological system in which development occurs. Prerequisite(s): PSY 160

PSY 267—PSYCHOLOGY OF GENDER 3-0-3

This course examines the diverse experiences, contributions and perspectives of women and how the concept of gender shapes human lives. Students explore how gender roles develop and how gender plays an important role—including sexuality, education, occupations, physical and mental health, politics and the media. Multicultural and cross-cultural perspectives such as social, cultural and economic variables are integrated throughout the course.

PSY 268—ADOLESCENT PSYCHOLOGY 3-0-3

This course investigates the process of human development during adolescence by examining identity formation within the context of biological, cognitive and psychosocial changes during this period. Family, peer, educational and social influences are emphasized in exploring normal as well as atypical development. Prerequisite(s): PSY 160

PSY 269—HUMAN MEMORY AND COGNITION 3-0-3

This course provides an overview of research on human memory. Topics covered include the major theories of memory and the critical data that have been gathered to develop, test and challenge these theories. The research reviewed will cover both the classic work and the current work done by memory researchers on a number of core issues. The information covered in this course will focus on both experimental research and application to everyday use of memory.

PSY 270—ABNORMAL PSYCHOLOGY 3-0-3

Abnormal Psychology is the study of mental disorders that are listed in the current diagnostic system. A historical perspective, assessment and treatment are presented. The individual mental disorders are explained from a descriptive, causative and treatment perspective. Diagnostic statistical criteria are presented with each of the mental disorders. Prerequisite(s): PSY 160

PSY 275—HUMAN SEXUALITY 3-0-3

Human Sexuality will provide a brief biological review of the human sexual anatomy and the human reproductive system. The focus of this course is on the psychological aspects of human sexual behaviors, differences in male and female sexuality and human diversity. The course will include a broad-spectrum understanding of sexual behavior and loving relationships. Prerequisite: PSY 160

RAD–RADIOLOGY TECHNOLOGY

RAD 111—RADIOGRAPHIC PROCEDURES AND PATIENT CARE I 3-2-4

This course will provide the student with an introduction to radiologic imaging. Topics will include the role of the radiographer in the health-care setting, the history of radiography and basic radiation safety. Appropriate radiographer conduct and communication skills in the clinic setting will be discussed along with radiographic anatomy and procedural considerations, patient care, safety and emergency procedures. In the lab, students will learn positioning terminology, equipment manipulation and proper positioning of the appendicular skeleton, lungs and abdomen. In addition, students will learn to evaluate images for proper exposure factors and demonstration of anatomy. Prerequisite(s): BIO 171 Corequisite(s): ALH 122, BIO 172, RAD 121

RAD 121—PRINCIPLES OF RADIOGRAPHIC IMAGE CAPTURE AND DISPLAY 3-0-3

This course will provide students with an introduction to the production and characteristics of radiation, image capture, image processing, manipulation of exposure variables, and the effect of manipulating exposure variables on image quality. Student experimentation and demonstrations are included in the application of theory. Prerequisite(s): BIO 171 Corequisite(s): ALH 122, BIO 172, RAD 111

RAD 131—DIGITAL IMAGE ACQUISITION AND DISPLAY 3-0-3

Content imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display archiving and retrieval are discussed. Students will be introduced to the concepts of ongoing

Quality Assurance and Quality control testing in radiology, along with general performance improvement processes in healthcare. Principles of digital system quality assurance and maintenance are presented as well. Prerequisite(s): RAD 111, RAD 121 Corequisite(s): MTH 157, PHY 125, RAD 141, RAD 146

RAD 141—RADIOGRAPHIC PROCEDURES AND PATIENT CARE II **3-2-4**

This course is a continuation of RAD 111 including anatomy and procedural considerations for the axial skeleton and trauma, mobile and pediatric imaging. Patient care topics include pharmacology, ethics and law, and information management. In the lab, students will learn positioning terminology, equipment manipulation and the proper positioning of the axial skeleton. Prerequisite(s): RAD 111, RAD 121 Corequisite(s): MTH 157, PHY 125, RAD 131, RAD 146

RAD 146—CLINICAL EDUCATION I **0-16-4**

This clinical course provides students with the opportunity to observe, practice, and perform radiologic procedures learned in Introduction to Radiologic Procedures. Students will complete competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 111, RAD 121 Corequisite(s): PHY 125, RAD 131, RAD 141

RAD 211—RADIATION BIOLOGY AND PROTECTION AND RADIOGRAPHIC PROCEDURES III **3-2-4**

This three-part course provides students with comprehensive information on the biological effects of radiation and radiation protection practices for the radiographer and patients. The final set of imaging procedures that include the use of contrast media are reviewed. Equipment quality control processes, introduced in the prior semester, are expanded upon and testing experiments are performed in the lab. Also in the lab, students will learn the positioning and set-up of non- skeletal examinations including fluoroscopy, myelography, arthrography and c-arm studies. Students will prepare a professional resume packet and learn job search and interview strategies. During the latter weeks of the semester, students will also learn and practice basic phlebotomy skills including blood collection methods and techniques, and specimen processing and handling. Prerequisite(s): RAD 215 Corequisite(s): RAD 216

RAD 215—CLINICAL EDUCATION II **0-12-3**

This clinical course is a continuation of Clinical Education I, and will provide students the opportunity to observe, practice and perform radiologic procedures. Students will target exams from Radiographic Procedures II while maintaining proficiency in previously learned examinations. Students will complete competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 146

RAD 216—CLINICAL EDUCATION IV **0-16-4**

This clinical course is a continuation of the Clinical Education series, and will provide students the opportunity to observe, practice and perform radiologic procedures. Students will target exams from Radiographic Positioning III while maintaining proficiency in previously learned examinations. Students will complete competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 255; Corequisite(s): RAD 211

RAD 221—RADIOGRAPHIC PATHOLOGY AND CAREER PREPARATION **3-0-3**

This course will provide students with a comprehensive examination of the etiology of disease and the pathophysiologic disorders of disease that compromise healthy systems. Emphasis will be placed upon the radiographic appearance processes. In addition, students will prepare a professional resume packet and learn job search and interview strategies. Prerequisite(s): RAD 211, RAD 216; Corequisite(s): RAD 226, RAD 231

RAD 226—CLINICAL EDUCATION V **0-20-5**

This clinical course is a continuation of the Clinical Education series, and will provide students the opportunity to observe, practice and perform radiologic procedures. Students will continue to practice and maintain proficiency in previously learned examinations. Students will complete competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 211, RAD 216; Corequisite(s): RAD 221, RAD 231

RAD 231—RADIOLOGY TECHNOLOGY CAPSTONE **1-0-1**

This course is a review of all material from Radiology Technology with emphasis on the ARRT examination preparation. Prerequisite(s): RAD 211, RAD 216; Corequisite(s): RAD 221, RAD 226

RAD 255—CLINICAL EDUCATION III **0-12-3**

This course is a continuation of the Clinical Education series, and will provide students the opportunity to observe, practice, and perform radiologic procedures. Students will continue to practice and maintain proficiency in previously learned examinations. Students will be permitted to rotate into specialty imaging areas and students will complete their competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 215

RBT–ROBOTICS

RBT 100— INTRODUCTION TO ADVANCED MANUFACTURING AND ROBOTICS **3-2-4**

This course is designed to provide the student with a basic understanding of advanced manufacturing and robotics as a career. The course includes topics that will enable the student to succeed in the required courses in advanced manufacturing and robotics. General topics in the course focus on automated system operations, industrial measurements and drawings, industrial safety, personnel interactions and systematic analysis

RBT 111—ELECTRICAL COMPONENTS **3-2-4**

This course is a study of the basic electrical components in a manufacturing system. Topics covered will include basic functions and physical properties of electrical components; the systematic flow of energy and measurement of components; troubleshooting techniques and strategies to identify, localize and correct malfunctions; and systematic preventive maintenance and electrical component safety. Technical documentation such as data sheets, schematics, timing diagrams and system specifications will also be covered.

RBT 121—MECHANICAL COMPONENTS AND ELECTRIC MOTORS **3-2-4**

This course is a study of the basic mechanical components and electrical drives in a manufacturing system. Topics covered will include basic functions and physical properties of mechanical components and electrical AC and DC drives; materials lubrication requirements and surface properties; troubleshooting techniques and strategies to identify, localize and correct malfunctions; and systematic preventative maintenance and electrical component safety. Technical documentation such as data sheets and specifications of mechanical elements and electrical drives will also be covered.

RBT 130—ELECTRO-PNEUMATIC AND HYDRAULIC CONTROL CIRCUITS **3-2-4**

This course covers the basics of pneumatic, electro pneumatic and hydraulic control circuits in a complex manufacturing system. Students will learn the functions and properties of control elements based upon physical principles and the roles they play within the system. Technical documentation such as data sheets, circuit diagrams, displacement step diagrams and function charts will also be covered. By understanding and performing measurements on the pneumatic and hydraulic control circuits, students will learn and apply troubleshooting strategies to identify, localize and correct malfunctions. Preventive maintenance of (electro) pneumatic and hydraulic components as well as safety issues within the system will be discussed.

RBT 135—INDUSTRIAL ROBOTICS **3-2-4**

This course is an introduction to industrial robotic systems. Topics covered will include safety considerations, operation and basic programming of industrial robotics. System maintenance and troubleshooting topics are emphasized.

RBT 140—DIGITAL FUNDAMENTALS AND PROGRAMMABLE LOGIC CONTROLLERS **3-2-4**

This course is a study of basic digital logic and programmable logic controllers (PLCs) in a manufacturing system using the automation system. Topics covered will be basic PLC functions and testing; identification of malfunctioning PLCs; and troubleshooting techniques and strategies to identify and localize PLC hardware generated problems. Emphasis is on writing small programs and problem-solving using computer simulations. Corequisite(s): RBT 111

RBT 221—PROCESS CONTROL TECHNOLOGY **3-2-4**

This course is a study of the Process Control technologies associated with a complex manufacturing system. Topics covered will include the Closed Loop Control; interaction between controllers, sensors and actuators; controller operating parameters; PID controllers; ON/OFF and PID controller; and the differences between controllers typically used in manufacturing systems. The analysis of plant documentation and manuals, the creation and interpretation of charts with diagrams for time-based changes of measured values will also be covered. Prerequisite(s): RBT 111

RBT 225—INDUSTRIAL ELECTRONICS IN ADVANCED MANUFACTURING **3-2-4**

Industrial Electronics in Advanced Manufacturing is concerned with devices, applications, instruments and control techniques used in modern industrial automated systems. Industrial instruments and sensors are identified and their characteristics described. Industrial automated control systems are classified, investigated and manipulated. AC and DC motors are studied and applied to automated drive systems. Process control variables and control techniques are described and investigated. Analysis and troubleshooting techniques are studied and applied to components and systems relevant to industrial electronics and automated control systems. Prerequisite(s): RBT 111

RBT 230—AUTOMATED SYSTEMS **3-2-4**

This course is a study of the automation systems utilized with a manufacturing system. Topics covered will include Metal Cutting, Modal Analysis, CNC, CAD, CAM, programming and microcontrollers that are used in modern manufacturing technologies. Prerequisite(s): RBT 140

RBT 235—INDUSTRIAL ROBOTICS II **3-2-4**

This course is a continuation of the RBT-135 Industrial Robotics. Topics covered will include sensor and actuator interfacing, vision systems, integration and networking, fault and error management, automation interfacing, robot maintenance, and a robotic system project. System maintenance, safety and troubleshooting considerations are emphasized. Prerequisite: RBT 135

RBT 240—MOTOR CONTROL **3-2-4**

This course covers the principles of AC and DC motors, motor control and general machine operations in a complex manufacturing system. Students will learn the functions and properties of machine control elements and the roles they play within the system. Topics covered will include general machine operations and motor control techniques; mechanical components and electric drives; motor sensors, braking and loads; motor efficiency and power; preventive measures; and troubleshooting techniques, Technical documentation such as data sheets, circuit diagrams, schematics, displacement step diagrams and function charts will also be covered. By understanding and performing measurements on motors and motor control circuits, students will learn and apply troubleshooting strategies to identify, localize and correct malfunctions. Safety issues within the system will also be discussed; Prerequisite(s): RBT 111 and RBT 121

RBT 245—ROBOTICS CONTROL SYSTEMS **3-2-4**

This course is designed to provide the student with an intermediate level understanding of automated controls used in robotics systems. The course includes topics that will enable the student to understand, analyze, and develop these systems with a focus on automated robotic system control techniques. Prerequisites: RBT 111 & RBT 140.

RBT 250—MECHANICAL COMPONENTS AND SYSTEMS **3-2-4**

This course is a study of the mechanical components that are included in a complex manufacturing system. Topics covered will include an overview of statics and kinetics with a focus on force system analysis, study of equilibrium, frames and machines, friction and the effects of forces on the motion of objects. Fundamentals and classification of machine elements to include calculations involving force, stress and wear analysis will also be covered. Prerequisite(s): RBT 121

RBT 265—ROBOTICS AND AUTOMATION **3-2-4**

This course is designed to provide the student with an advanced level understanding of industrial robotics functions and their application to automated control systems. The course includes topics that will enable the student to understand, analyze, and develop these systems with a focus on automated robotic system control techniques. A major part of the course involves a robotics system project. Prerequisites: RBT 135 and RBT 245.

REL–RELIGION

REL 171—WORLD RELIGIONS SURVEY **3-0-3**

This course introduces students to the concept of the structure of religion and discusses primal and ancient religions. It surveys the major religions of India, the Far East and the Middle East. It emphasizes religions as living, changing systems of thought and practice, which affect each other and influence events worldwide.

REL 181—RELIGION IN AMERICA **3-0-3**

Emphasizing the United States' unique history and diverse population, this course focuses on native and world religions as practiced in North America. The course discusses what religion is, how it works, and why it is important to people. The ways in which religion shapes American life and affects the politics, culture, and social mores of this country will be investigated.

RLS–REAL ESTATE

RLS 101—FUNDAMENTALS OF REAL ESTATE **2-0-2**

A basic course designed to comply with the standardized courses required to satisfy the Pennsylvania State Real Estate Commission's salesperson educational requirement. Topics include basic concepts in the field of real estate, property descriptions, property development, license law, contracts, deeds, titles, conveyancing and recording. Extensive review and practice listing is included.

RLS 104—REAL ESTATE PRACTICES **3-0-3**

A continuation of the real estate fundamentals course designed to complete the specific requirements of the standardized educational curriculum for licensing real estate salespersons. Topics covered are brokerage, listing, selling, single family financing, settlement and real estate math.

RLS 205—PROPERTY MANAGEMENT **3-0-3**

Considers property management and maintenance. Property management topics include agency versus owner management, tenant and labor relations, recordkeeping and government regulations and how they affect management practices. Property maintenance topics include selection and supervision of personnel, general servicing and maintenance of buildings, maintenance and replacement of equipment, handling contracts, contractors and suppliers.

RLS 209—REAL ESTATE FINANCE **3-0-3**

Involves the principles of real estate valuation including tools/techniques and methods of determining value. The course also covers mortgage financing, including mortgage sources, primary and secondary mortgages brokerage, mortgage applications and lenders' requirements.

RLS 210—LAW OF REAL ESTATE **3-0-3**

This course is an introduction to the law of real property. The course examines the historical concept of property ownership along with

transference and rights of ownership. The course will review an in depth examination of the residential real estate transaction and necessary documentation from start to finish. Items discussed include an examination of surveys and descriptions, financing, zoning and other restrictions on land use, the title examination and closings.

SGT–SURGICAL TECHNOLOGY

SGT 100—FUNDAMENTALS OF SURGICAL TECHNOLOGY **12-0-12**

Provides an overview of the history of surgery and the role of the surgical technologists, including professional responsibilities, developing a professional resume, legal and ethical considerations, interpersonal relationships and communication skills. Incorporates safety, hazards preparation, aseptic technique and duties of the scrubbed and the circulating surgical technologist during a surgical procedure. Provides information for the performance and completion of surgical procedures including general surgery, ob/gyn with attendant specialty equipment, abdominal incisions, wound closures, and standard precaution skills. Prerequisite(s): Minimum of a "C" grade in ALH122, BIO171, BIO172, BIO265 Corequisite(s): SGT101, SGT110, SGT115

SGT 101—FUNDAMENTALS OF SURGICAL TECHNOLOGY LAB **0-9-3**

Provides opportunity for demonstration of skills required to prepare the patient, operating room, basic equipment, and supplies; and to function as a member of an operating room team. Incorporates OSHA safety standards, aseptic technique, and duties of both the scrubbed and circulating technologist during a surgical procedure. Prerequisite(s): Minimum of a "C" grade in ALH122, BIO171, BIO172, BIO265 Corequisite(s): SGT100, SGT110

SGT 110—SURGICAL PHARMACOLOGY PRINCIPLES **2-0-2**

Introduces the fundamental principles of the clinical use of drugs. Emphasizes the role and responsibility of the surgical technologist related to drugs, a review of basic mathematical skills, a thorough knowledge of the systems of measurement, and conversion and application of skills to perform dosage calculations. Presents information related to medicines in common use in the surgical setting. Prerequisite(s): Minimum of a "C" grade in ALH122, BIO171, BIO172, BIO265 Corequisite(s): SGT100, SGT101, SGT115

SGT 115—SURGICAL TECHNOLOGY SKILLS PRACTICUM **0-9-3**

Provides experience in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. Prerequisite(s): SGT101 Corequisite(s): SGT100, SGT110

SGT 200—ADVANCED SURGICAL TECHNOLOGY THEORY **9-0-9**

Focuses on the relevant anatomy, indications for surgery, patient preparation, special equipment and supplies, purpose, expected outcomes, and possible complications of specialty areas following OSHA standards. Prerequisite(s): Minimum of a "C" grade in SGT100, SGT110, SGT115 Corequisite(s): SGT205

SGT 205—ADVANCED SURGICAL TECHNOLOGY PRACTICUM **0-21-7**

Provides opportunity for application of techniques learned in SUR 200 in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. Prerequisite(s): Minimum of a "C" grade in SGT100, SGT110, SGT115 Corequisite(s): SGT200

SOC–SOCIOLOGY

SOC 155—PRINCIPLES OF SOCIOLOGY **3-0-3**

This course is designed to be a student's first college-level sociology class. The topics to be covered include the history of sociology, the methods, fields and vocabulary of sociology; the social interaction of persons and groups; the process of socialization and social structures; social institutions such as family, religion and education. Through this course students should learn "what is sociology?" as well as how sociology fits with other academic disciplines and how sociology can be used outside of the classroom.

SOC 161—THE SOCIOLOGY OF THE FAMILY **3-0-3**

A functional course in the psychological and sociological factors involved in courtship, marriage and the family cycle; this course will provide a comparative study of the family structure across time and across cultures. Emphasis will be placed on the changing nature and role of family functions as well as changing life-styles.

SOC 170—RACIAL AND ETHNIC MINORITIES **3-0-3**

This is an introductory course for the study of racial and ethnic minorities in the USA. This course will provide an overview of the history, immigration patterns and characteristics of the major ethnic minority groups in the USA. The course will also explore the origins and history of prejudice and discrimination experienced by members of these groups. Through readings and discussion, the course will focus on both current and past issues that are important to the understanding of the multi-cultural society in which we all must live and work. Prerequisite(s): SOC 155

SOC 255—CULTURAL ANTHROPOLOGY **3-0-3**

Examines the concept of culture and its significance in the study of the behavior of man. Places special emphasis on social organization.

SPA–SPANISH

SPA 155—BEGINNING SPANISH I **4-0-4**

A beginning language course with emphasis on elementary speaking, reading, writing and comprehension.

SPA 156—BEGINNING SPANISH II **4-0-4**

Continuation of Spanish 155. Emphasis on the development of increased oral ability, reading and writing. Prerequisite(s): SPA 155

SPA 255—INTERMEDIATE SPANISH I **3-0-3**

Continuation of Beginning Spanish II. Although the approach will be a communicative one, writing and reading skills will be developed along with the speaking and listening skills. The course will be organized according to the guidelines for proficiency oriented language learning. Prerequisite(s): SPA 156

SPA 256—INTERMEDIATE SPANISH II **3-0-3**

Continuation of Intermediate Spanish I. Students will continue to improve communication skills with the four areas of speaking, listening, reading and writing being stressed. A proficiency oriented approach and materials will be used. Prerequisite(s): SPA 255

SPC–SPEECH COMMUNICATION

SPC 155—EFFECTIVE SPEECH **3-0-3**

Helps students to acquire skills in presenting clear, concise, well-organized, interesting ideas to an audience and to acquire skill in listening actively to the ideas of others.

SPC 156—INTERPERSONAL COMMUNICATION **3-0-3**

Focuses on the theoretical aspects of communication and on the development of skills necessary for effective interpersonal interactions.

SPC 255—PERSUASION AND PROPAGANDA **3-0-3**

Provides students with the opportunity to understand what persuasion is and how it works, both in theory and in practice. Areas of focus include the acquisition of belief pattern and the use of persuasive appeals and logical fallacies in the rhetoric of advertising and politics. Various definitions of propaganda and its ethical bases will also be considered.

Course Descriptions

STM–SCIENCE, TECHNOLOGY, ENGINEERING AND TECHNOLOGY

STM 296—STEM SEMINAR 1-0-1

This course will provide students in STEM programs the opportunity to use the knowledge and skills they have acquired to explore, critically assess, synthesize, discuss and present current research. This course will also allow students to explore with STEM faculty educational next steps, including BS and graduate programs, and career planning in an interdisciplinary community of STEM learners. Prerequisite(s): 9 credits of Natural Science and/or Math with at least one of these courses at the 200-level.

SWK–SOCIAL WORK

SWK 155—INTRODUCTION TO SOCIAL WORK 3-0-3

Introduction to Human Services and Social Work is intended as an introductory course for the student who plans to work with people in need. The course will provide the student with an overview of the information and skills needed to effectively work with a variety of populations in their community. The course will include information about the necessary personal qualities, service delivery systems and basic skills. It will also provide an overview of the history of the helping profession and how social policy influences the profession. Students will become familiar with the service providers in the local area. Additionally, students will examine their personal feelings and motivations related to becoming a helper.

SWK 157—INTERVIEWING AND RECORDKEEPING SKILLS 3-0-3

As the follow-up course to SKW 155 with an emphasis on individual interviewing skills in the helping services, this is a key course in the human services program as it teaches essential information gathering and recording skills for the human services worker. It is a very interactive course with much time devoted to practicing interviewing skills with classmates. Recordkeeping skills include learning to distinguish between objective and subjective information, how client files are organized and the methods used to compile a client history and assessment. Prerequisite(s): SWK 155

SWK 160—GROUP PROCESS 3-0-3

This course provides the basic knowledge needed to be an effective group leader and member. Emphasis is on practical application of group process skills. Prerequisite(s): SWK 155, SWK 157

SWK 161—SOLUTIONS-FOCUSED COUNSELING 3-0-3

This course is an introduction to counseling techniques used in the field of social work. It focuses on solution-based therapy to problem solve. Students will take the basic interviewing skills they obtained in SWK 157 and build additional skills to help students go from gathering information to helping clients set goals and interventions. This class will include lecture and role-playing to practice techniques. Prerequisite(s): SWK 155, SWK 157

SWK 163—INTRODUCTION TO SOCIAL WELFARE 3-0-3

An examination of the historical and contemporary social problems, values and the policies of the institution of social welfare. Considers the social, political and economic origins and consequences of societal policies for economic advancement of clients and social services. Investigating current issues and how it impacts the social work field.

SWK 170—RACE & DIVERSITY IN THE U.S. 3-0-3

This is an introductory course for the study of minorities in the USA. The course will expose students to the sociological perspectives on race, class and gender. This course will also provide an overview of the history of various minority groups with emphasis on the importance of culture and developing awareness and understanding of self and others. Through readings and discussions, the course will focus on prejudice and discrimination and the importance of understanding their role in a multicultural society.

SWK 171—INTRODUCTION TO GERONTOLOGY 3-0-3

This course provides an introduction to the biological, psychological and social issues experienced by those who are aging. Students will learn the various stages and cycles of aging and how society views and provides services to older adults. This course is interactive in nature and requires interviews with older adults and community service providers.

SWK 172—DRUG AND ALCOHOL DEPENDENCY 3-0-3

Drug and Alcohol Dependency is an introductory course for the student intending to work with people in a variety of settings, including the social services, health services, education and criminal justice. This course will provide the student with an overview of substance abuse and treatment issues. Focus will be on learning about the major categories of abused substances, the nature of addiction, treatment and recovery and the impact of substance abuse and addiction on specific populations.

SWK 258—SOCIAL WORK PRACTICUM I 2-8-4

Under the supervision of a qualified human services provider, students will gain field experience in an area of interest. In this semester-long class, students will discuss ethical and current practice issues related to work in the human services field. The importance of professional behavior and the value of networking within the human services field are emphasized. Prerequisite(s): SWK 155, SWK 157 and permission of instructor

SWK 259—SOCIAL WORK PRACTICUM II 2-8-4

Building on the experience acquired in SWK 258 (Practicum I), this course further develops the student's knowledge of the role of a human service provider. Included in the seminar activities related to fundraising and community activism. Prerequisite(s): SWK 258 with a grade of C or better, 2.0 QPA, permission of instructor.

VPP - VIDEO PRODUCTION AND PHOTOGRAPHY

VPP 100-BASIC VIDEO 2-2-3

Basic Video introduces students to digital, single-camera video production methods. Students will learn basic camera operation and use of non-linear editing. Basic lighting procedures and fundamental scripting/ storyboarding will be presented. This course also covers basic video field production techniques. Emerging technology will also be explored. Students must have a video recording device and a way to store files.

VPP 110-INTRO TO MULTIMEDIA 3-0-3

An introductory course in the exploration of current and past media. Topics include television, radio, recordings, newspapers, magazines, books, movie industry and other current trends in multimedia technology.

VPP 120-HISTORY OF CINEMA 3-0-3

Surveys the development of cinema from its technological origins in the 19th century through its growth as an international medium. The class explores the artists, intellectuals and technicians who shaped movie history. Students will explore genres and styles of international cinema and learn to better analyze films within their historical contexts.

VPP 150-VIDEO EDITING 3-0-3

This is an introductory level course in the theory and practice of non-linear video editing. Students utilize industry standard software to produce digital video. Basic editing procedures encompassing video, audio and still imagery will be employed. Key figures from the field of motion picture editing will be discussed and analyzed. Students will need access to a video recording device. Emerging technology will also be explored.

VPP 160-BASIC PHOTOGRAPHY 3-0-3

A basic course in digital camera use and operation. This course also covers the history of photography, basic digital dark room, lighting

and composition. Digitally oriented with selected projects and exercises to develop digital camera and darkroom skills. Students must have access to a digital camera.

VPP 161-PORTRAIT PHOTOGRAPHY 3-0-3

This course introduces students to basic portrait types. Fundamental lighting set-ups will be examined. Basic instruction in posing techniques will be used to create images in the studio and on location. Prerequisite(s): VPP 160

VPP 170-DIGITAL COMPOSITING AND PHOTOGRAPHY 3-0-3

Digital Compositing and Photography is a course that covers the creation of visual images using digital photography and digital photo editing. The course covers camera operation, photo editing software, the use of color, light, and composition to create complex digital composite images. The course will also explore the varied ways in which digital images can be arranged and utilized/ Students learn to plan and carry out the steps required for creating digital assets that are combined to create visual art. Students will be exposed to art forms such as collage and art movements that utilize photography such as surrealism and constructivism.

VPP 199-INTERNSHIP 3-0-3

Obtain on-the-job experience in the media industry through working in an operating establishment under the supervision of management personnel. Seminars are conducted for the students to discuss their experiences. Students are responsible for transportation to their off-campus sites. Prerequisite(s): Permission of instructor and completion of 30 credits in major course requirements

VPP 200-PORTFOLIO DEVELOPMENT 3-0-3

Review of existing student work and development of additional pieces into a viable self-sales tool for seeking employment or promoting the student's business. Elements will include digital prints, an online portfolio and photobook. Assignments will update print and/or multimedia portfolios toward a specific career endeavor. Basic methods of job marketing and self-promotion will be examined. Students will utilize prior lab experience to work independently in the production of requirements. Prerequisite(s): VPP 160, VPP 170

VPP 240-SOUND DESIGN 3-0-3

This course introduces students to audio mixing and recording. It incorporates the fundamental use of using sound recordings for podcasting, music, video production, games, and other media. Students will use a variety of microphones, recorders, and software to record and edit sound files.

VPP 250-NONFICTION MEDIA PRODUCTION 3-0-3

Non-Fiction Media Production is a course on the creation of documentary, educational and creative non-fiction motion pictures. The course will cover documentary research methods. Students will learn best practices to conduct interviews for time-based media. During the course we will discuss current trends in non-fiction content and the ethics of documentary film. Students will be introduced to various methods of non-fiction media production as well as the artists and researchers who have shaped the field. Prerequisites: VPP 100

VPP 255-MULTI CAMERA PRODUCTION & STREAMING 3-0-3

Students explore the televisual style of video production. The course is focused on multi camera production for internet distribution and live streaming. This course prepares students for work as part of a multi-camera production team by giving them hands-on experience developing content for a multi-camera production, prepping broadcast-ready assets, coordinating and executing live shoots, and live-streaming content on a variety of online platforms. This course also aims to provide students with a broad overview of current market developments. Prerequisites: VPP 100

VPP 260-INTERACTIVE MULTIMEDIA 3-0-3

Introductory course using interactive design software to create multimedia design for artistic expression, training, educational and commercial use. The course combines audio, animation, design and video into interactive media experiences for use on display screens and mobile devices. Prerequisite(s): VPP 150 recommended but not required.

VPP 263-DOCUMENTARY PHOTOGRAPHY 3-0-3

Documentary Photography is an intermediate study in technique and production of images for newspapers, magazines and the Internet. Documentary encompasses a wide variety of methods for a variety of purposes. These may include documentary storytelling, event documentation, product documentation or travelogs. Prerequisite(s): VPP 160 and VPP 170.

VPP 266-PHOTOGRAPHY II 3-0-3

Instructs students in studio and location situations as they apply to commercial digital photography. Studies encompass elements of lighting techniques to create images while working from a layout. Portfolio assignments develop skills in illustrative, industrial, architectural and fashion areas of photography. Prerequisite(s): VPP 160, VPP 170

VPP 270-VIDEO II 3-0-3

A continuation of VPP 100 and 150. Students continue to study and create motion pictures. The class involves the use of video cameras, editing, lighting, sound and effects to create short videos. Digital cinematography, advanced editing techniques and organizing production are the focus of class projects. Prerequisites: VPP 100, VPP 150

VPP 271-DIGITAL COMPOSITING AND PHOTOGRAPHY II 3-0-3

Digital image manipulation and retouching will be covered using industry standard photo editing software to produce creative, state-of-the-art portfolio intended images. Studio set-up camera operation and lighting instruction will allow students to develop personal digital pieces. Student's will create digital composite photography for use in a variety of settings. Emerging technology will also be explored. Prerequisite(s): VPP 170

VPP 280-CAPSTONE 3-0-3

This course is for students who wish to pursue independent video making. Instead of an internship experience students will produce and direct a substantial narrative or documentary video under faculty supervision. The student will propose a video and go through the stages of pre-production, production, and post-production. The student must hold a public screening of the video before the end of the semester. Prerequisites: VPP 100 and VPP 170, VPP 150 and Instructor's Permission and 30 VPP credits completed.

VPP 290-ANIMATION AND MOTION GRAPHICS 3-0-3

Animation and Motion Graphics covers the creation of animated videos and motion design. The course will explore various types of stop motion animation and the use of key frame animation to produce short motion pictures. In addition to production techniques, students will explore the history of animation as a field of artistic expression. Students will experiment with a variety of ways to create the illusion of life on screen. The animation methods we will include but may not be limited to motion graphics and stop motion. Prerequisites: VPP 100 or VPP 150 and VPP 170 or Instructor's Permission

VPP 299-INTERNSHIP 1-12-3

Obtain experience in the media industry through working in an operating establishment under the supervision of management personnel. Seminars are conducted for students to discuss their experiences. Students are responsible for transportation to their off-campus sites. Prerequisite: Permission of Instructor and completion of 30 credits in major course requirements.

Course Descriptions

WEL–WELDING

WEL 125—INTRODUCTION TO WELDING 2-6-4

Theory in oxyfuel principles, basic arc welding and power source operation. Demonstrations by instructor and practice by students in basic oxyacetylene cutting and arc welding. Theory, safe and correct methods of assembly and operation of welding equipment. Use of power tools, Practice in SMAW, GMAW and GTAW in a flat position. Emphasis on lab techniques and safety.

WEL 199—WELDING ENGINEERING TECHNOLOGY INTERNSHIP 1-12-3

Students will obtain experience in the welding industry through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised practical work experience. Prerequisite(s): Permission of instructor

WEL 209—INDUSTRIAL MAINTENANCE TROUBLESHOOTING 2-2-3

Troubleshooting, maintenance and operation of welding and plant equipment. Use of troubleshooting and repair equipment, theory of equipment and maintenance principles.

WEL 212—WELDING HEALTH & SAFETY 3-0-3

This course educates students on the hazards associated with fabricating, welding and cutting operations, and how to mitigate these hazards. An emphasis is placed on ANSI Z49 recommendations, and OSHA requirements. Students will learn safe operating procedures for equipment and lab activities, and safe handling of fumes produced from various metals including but not limited to hexavalent chromium.

WEL 220—WELDING CODES 3-0-3

Instruction, practice and application of reading, writing and interpreting ASME, AWS and API specifications and codes for structural steel, pressure vessel and pipe welding.

WEL 221—METAL FABRICATION 2-4-4

Provides students with an understanding of metal fabrication. Emphasis is placed working from blueprints, proper joint selection, design, stresses in welds, material selection and estimating welding costs. Students construct projects using common metal fabrication equipment. Laboratory work includes use of welding power supplies, brake press, ironworker and metal rollers. Prerequisite(s): DFT 110, WEL 125

WEL 222—FUNDAMENTALS OF ALUMINUM 2-4-4

Aluminum is gaining popularity in modern manufacturing processes due to its lightweight strength and advancements in grades and alloys for a variety of applications. This course is designed to introduce the student to the fundamentals of aluminum welding, grades of aluminum and their properties. Classroom and laboratory activities include proper aluminum preparation, demonstrations and practice of aluminum welding using gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) and the inspection of aluminum welds. Prerequisite(s): WEL 125

WEL 224—NDT AND DT 2-2-3

This course includes visual, dye penetrant, x-ray, ultrasonic, magnetic particle and destructive testing techniques. Lab practice is included. Prerequisite(s): MET 105

WEL 225—ADVANCED FABRICATION 1-4-3

The course provides students with an understanding of advanced metal fabrication. Emphasis is placed on the proper joint selection and design, stresses in welds, material selection and estimating welding costs. Students construct projects using common metal fabrication equipment. Laboratory work includes use of welding power supplies, shears, ironworker and metal rollers. This course builds on what was learned in WEL 221 with more complex projects and in-depth theory. Prerequisite(s): WEL 221

WEL 226—GMAW 2-4-4

Includes the theory, application and skill development of advanced GMAW, FCAW, PAC and CAC-A processes. Practice in flat and out-of-position welding. Practice for FCAW 3G AWS Certification Test. Prerequisite(s): WEL 125

WEL 227—GTAW 2-4-4

Theory and practical use of advanced GTAW and open-root welding. Root- face and side-bend tests will be passed by the student in the vertical and overhead positions. ASME, AWS and API code procedures are followed. Practice AWS Certification Test. Prerequisite(s): WEL 125

WEL 228—SMAW 2-4-4

Theory and advanced SMAW, production of metals and application of metallurgical principles. Demonstrations and practice of vertical, overhead and advanced SMAW techniques. Practice for Open-Root SMAW AWS Certification Test. Prerequisite(s): WEL 125

WEL 229—SPECIAL ALLOY WELDING 2-4-4

Theory and advanced SMAW, production of metals and application of metallurgical principles. Demonstrations and practice of vertical, overhead and advanced SMAW techniques. Practice for Open-Root SMAW AWS Certification Test. Prerequisite(s): WEL 125

WEL 230—PIPE WELDING 1-4-3

Open-root pipe welding. Root-face and side-bend tests will be prepared by the student in their choice of positions. ASME, AWS and/or API code procedures are followed. Practice for AWS Certification Test. Prerequisite: WEL 227

WEL 231—SPECIAL ALLOY PIPE WELDING 2-4-4

This course introduces students to GTAW welding of special alloy pipe found in industries including but not limited to; energy, petro-chemical, automotive, pressure vessels, etc. Students will study theory and metallurgy of joining special alloys, and learn how to overcome difficulties with weld discontinuities, hot & cold cracking, stress corrosion cracking, etc. Hands on demonstrations and practice welding special alloy plate in all positions using GTAW. Prerequisite: WEL 229

WEL 232—ROBOTIC WELDING 2-4-4

This course provides occupational training in Automated Robotic Welding. This course includes robot/welding safety, theory of operation of both the robot, and automatic GMAW welding, hands-on training in programming, setup, proper joint selection, proper electrode and shielding gas selection, and performing automated welds, and proper robot cell maintenance. Prerequisite: WEL 125

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BS, Zhejiang Agricultural University;
MS, PhD, The Pennsylvania State University

**Denotes full-time temporary faculty*

Emeritus Faculty

MARY ELLEN BERES (d)
Counselor/Special Populations/Professor

DENNIS J. BERZANSKY
Professor (Chemistry)

RICHARD R. BROWN
Professor (Accounting)

DAVE BRUCE (d)
Professor (Electronics)

MARIO CECCHETTI (d)
Professor (Computer Technology)

LOUIS T. CONGELIO
Professor (Mathematics)

FRANCES T. DePAUL
Professor (Business Management)

PAULINE D. FREEDBURG
Professor (Nursing)

MARILYN GIORGIO-POOLE
Associate Professor (English)

BETH HODEN
Associate Professor (Early Childhood Education)

CAROL A. HUGHES
Associate Professor (Mathematics)

HORATIO H. JEN (d)
Professor (Mathematics)

GORDON JOHNSON
Professor (Physics)

CHARLES J. KRAFT
Associate Professor (Drafting)

DENNIS H. PEARSON
Associate Professor (Computer Technology)

Personnel Directory

JUDITH A. SCHEEREN
Associate Professor (Computer Technology)

JOHN SHELAPINSKY
Associate Professor (Paralegal & Business/Real Estate)

SHARON L. SPARKS
Librarian/Assistant Professor

THOMAS J. STEINER
Counselor/Professor

BARBARA STEPHENS
Professor (Biology)

CARLENE B. WILLIAMS
Counselor/Act 101/Professor

MARY B. ZAPPONE
Professor (Culinary Arts & Hospitality Programs)

RUTH ANN ZUPAN
Professor (English)

(d) *deceased*

Professional Staff

FRANK J. GAUL — 724-925-4285
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BS, California University of Pennsylvania

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Financial Aid Assistant
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Financial Aid Assistant
AST, Bradford School - Pittsburgh

ANDREA M. WILLIAMS — 724-925-4056
Financial Aid Assistant
BA, California University of Pennsylvania;
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MA, Indiana University of Pennsylvania

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BA, BS, Duquesne University

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Pathways Advisor/Youngwood
BS, MEd, California University of Pennsylvania

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Pathways Advisor/Non-Traditional Student
BS, Robert Morris College;
MS, West Virginia University

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Pathways Advisor/Youngwood
BA, Denison University;
MA, Ohio University

LOUIS T. SURACE — 724-696-4583
Pathways Advisor/Latrobe
BS, California University of Pennsylvania;
MEd, Indiana University of Pennsylvania

Functional Analysts

FRANCINE R. POLINSKY — 724-925-3310
Functional Analyst/Enrollment Management
BBA, Kent State University

HEATHER D. VERBISH — 724-925-4198
Functional Analyst/Administrative Services
AAS, Westmoreland County Community College; BS, Alderson-Broaddus College

JENNIFER L. WEISMANTLE — 724-925-4122
Functional Analyst/Academics
AS, Community College of Allegheny County;
BS, Slippery Rock University;
MS, New York University

Majors

Associate of Arts Degree — AA

If you plan to transfer to a four-year institution in a major other than one listed on this page, or if you are undecided as to your major, use code LIB.

TRANSFER

BUS	Business Administration
CRJ	Criminal Justice
ECE	Elementary Education PreK-4
ENG	English
HIS	History
LIB	Liberal Arts
PSY	Psychology

Associate of Science — AS

BIO	Biology
CHM	Chemistry
CPS	Computer Science
HLS	Health Science
MTH	Mathematics
PHY	Physics

Associate of Fine Arts Degree — AFA

ART	Visual Art
ATH	Art Therapy
GRA	Graphic Design

Associate of Applied Science Degree (AAS), Diploma, Certificate

If you are undecided about a major, choose the code that is closest to your possible major.

ACCOUNTING

ACT	Degree
ACCTS	Computer Accounting and Tax Specialist - Certificate
ACCTG	General Accounting — Certificate

ADDITIVE MANUFACTURING

ADM	Degree
ADMF	Diploma
ADMFG	Certificate

APPLIED INDUSTRIAL TECHNOLOGY

AIT	Degree

ARCHITECTURAL DRAFTING AND DESIGN

ADD	Degree

ART

ARTBS	Art Business - Certificate

BAKING & PASTRY

BAA	Apprenticeship - Degree
BAP	Degree
BPAA	Apprenticeship - Diploma
BAKI	Diploma
BAKPT	Certificate

BUSINESS

FIN	Finance - Degree
BUS	Management - Degree
HRM	Human Resource Management - Degree
MKM	Marketing - Degree
SBM	Entrepreneurship — Degree
BUSG	Business - Diploma
FINMG	Finance - Certificate
BUSMG	Management - Certificate
HRMGT	Human Resource Management - Certificate
MKTMG	Marketing - Certificate
RESMG	Real Estate - Certificate
SMBMG	Entrepreneurship - Certificate

COMMUNICATION DESIGN

CMD	Degree
GRAPB	Graphic & Publishing — Certificate
WEBMD	WEB & Mobile Design — Certificate

COMPUTER TECHNOLOGY

CON	Networking - Degree
CPE	Programming - Degree
CTS	Technical Support — Degree
WEP	Web Publishing - Degree
COTE	Diploma
COTEC	Microcomputer Support - Certificate
CONET	Networking - Certificate
COREP	PC Repair/A+ - Certificate
COPRG	Programming - Certificate
COWED	Web Development - Certificate
WEPUB	Web Applications - Certificate

CRIMINAL JUSTICE

CJU	Degree
CJS	Information Security - Degree
CJUCO	Corrections Officer - Certificate
CJUSP	Security Professional - Certificate

CULINARY ARTS

CUA	Apprenticeship - Degree
CUL	Degree
CUAA	Apprenticeship - Diploma
CULI	Diploma
CULIN	Certificate

CYBER SECURITY

CYB	Degree
CYBER	Cyber Security - Certificate

*DENTAL ASSISTING

DEAS	Diploma

*DENTAL HYGIENE

DEH	Degree

DRAFTING & DESIGN TECHNOLOGY

DDC	CADD/CAM - Degree
DDM	Mechanical Drafting - Degree

EARLY CHILDHOOD EDUCATION

ERC	Degree
ERCCT	Certificate
ECEDC	Certificate – CDA

ELECTRONICS ENGINEERING TECHNOLOGY

EET	Electronics - Degree

ENGINEERING TECHNOLOGY

ENT	Degree

EXPANDED FUNCTIONS DENTAL ASSISTING

EFD	Degree
EXFDA	Certificate

FORENSIC SCIENCE

STF	Forensic Science - Degree
FORSC	Forensic Science - Certificate

HEALTHCARE MANAGEMENT

HCM	Degree
HCMG	Diploma
HCMGT	Certificate
HCMCO	Certificate – Medical Coding

Majors

HEATING, VENTILATION, AIR-CONDITIONING & REFRIGERATION

HVA	Degree
HVAC	Heating, Ventilation Air Conditioning-Diploma
HVAC1	HVAC Mechanic I - Certificate
HVAC2	HVAC Mechanic II - Certificate

HOSPITALITY MANAGEMENT

HOD	Degree - Dietary Management
HOL	Degree – Lodging Management
HOM	Degree – Restaurant Management
HOSP	Diploma
HOSTM	Certificate

JOURNEYMAN MACHINING TECHNOLOGY

JRM	Degree
JOUR	Diploma
JOURN	Certificate
JRNT2	Certificate
JRNT3	Certificate
JRNT4	Certificate

*MEDICAL ASSISTING

MEAS	Diploma

NANOTECHNOLOGY

NNT	Degree

*NURSING

NUR	Degree

OFFICE TECHNOLOGY

OTA	Office Administration - Degree
OADM	Office Administration - Diploma
OADMN	Office Administration - Certificate
OTCSV	Customer Service – Certificate

LEGAL STUDIES/PARALEGAL

LEA	Degree
LEAS	Diploma

*PHLEBOTOMY

PHBSP	Phlebotomy/Specimen Processing - Certificate
PHLEB	Phlebotomy - Certificate

PLUMBING

PMB	Degree
PLMB	Diploma
PLUMB	Certificate

PLASTIC MANUFACTURING TECHNOLOGY

PMT	Certificate

*RADIOLOGY TECHNOLOGY

RAD	Degree

ROBOTICS

ROB	Degree
ROBOT	Basic Systems - Certificate
ROBT1	Technician I - Certificate
ROBT2	Technician II - Certificate

SOCIAL WORK

SWK	Degree
SOCWK	Certificate

SURGICAL TECHNOLOGY

SGT	Degree

VIDEO PRODUCTION & PHOTOGRAPHY

VPP	Video Production – Degree
PHT	Photography – Degree

WELDING ENGINEERING TECHNOLOGY

WET	Degree
WELD	Diploma
WELD1	Certificate I
WELD2	Certificate II
WELD3	Certificate III
WELSP	Certificate - Special Alloy Welding

Programs with an asterisk (*) also require students to complete the Allied Health Programs Application.

LOCATIONS

Westmoreland County Community College
Youngwood Campus
145 Pavilion Lane
Youngwood, PA 15697
724.925.4000

Westmoreland-Advanced Technology Center
1001 Technology Drive, Suite 1009
Mt. Pleasant, PA 15666
724.925.4269

Westmoreland-Fayette County
140 North Beeson Boulevard, Suite 304
Uniontown, PA 15401
724.437.3512

Westmoreland-Indiana County
439 Hamill Road
Indiana, PA 15701
724.357.1404

Westmoreland-Latrobe
130 Depot Street
Latrobe, PA 15650
724.925.8473

Westmoreland-Murrysville
6707 Mellon Road
Export, PA 15632
724.327.8090

Westmoreland-New Kensington
1150 Fifth Avenue
New Kensington, PA 15068
724.335.8110

Westmoreland-Public Safety Training Center
65 Public Safety Drive
Smithton, PA 15479
724.872.2447

For more information
infocenter@westmoreland.edu

WESTMORELAND COUNTY COMMUNITY COLLEGE