

**WESTMORELAND**  
COUNTY  
COMMUNITY **COLLEGE**



*Ambitious.*

**Catalog 2017-18**  
westmoreland.edu

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*Ambitious journeys start here.*

CATALOG 2017-18



# Westmoreland County Community College

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## TELEPHONE DIRECTORY

Admissions Office . . . . .	724-925-4077
Advanced Technology Center . . . . .	724-925-4269
Bookstore . . . . .	724-925-4174
Campus Children’s Center . . . . .	724-925-4156
College Learning Center . . . . .	724-925-4135
Continuing Education . . . . .	724-925-4107
Counseling . . . . .	724-925-4121
Disabled Student Services . . . . .	724-925-4121
Division Offices	
Business, Math, Science & Engineering . . . . .	724-925-4004
Distance Education & Education Centers . . . . .	724-925-4177
Humanities, Social Sciences, & Public Service . . . . .	724-925-4046
Health Professions & Culinary Arts/Hospitality . . . . .	724-925-4029
Technology . . . . .	724-925-8650
Education Centers	
Advanced Technology Center . . . . .	724-925-4269
Bushy Run . . . . .	724-327-8090
Fayette County . . . . .	724-437-3512
Indiana County . . . . .	724-357-1404
Latrobe . . . . .	724-925-8473
New Kensington . . . . .	724-335-8110
Public Safety Training Center . . . . .	724-872-2447
Financial Aid . . . . .	724-925-4063
Health/Fitness Center . . . . .	724-925-4244
Library . . . . .	724-925-4100
Placement Assessment . . . . .	724-925-6893
Registration . . . . .	724-925-4204
Student Activities . . . . .	724-925-4055
Student Placement . . . . .	724-925-4121
Student Records . . . . .	724-925-4069
TDD . . . . .	724-925-4297
Transfer Services . . . . .	724-925-4121
Tutoring . . . . .	724-925-4135
Veteran’s Services . . . . .	724-925-4056
For other Westmoreland offices, call 724-925-4000.	

### 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 (presently Sylvia Detar) at 724-925-4190 or in Room 4100D, Westmoreland Business & Industry Center, Youngwood, PA 15697.

# Westmoreland County Community College

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## 2017-2018 ACADEMIC CALENDAR

### Fall 2017

Classes begin	Aug. 21
Labor Day (college closed)	Sept. 4
No classes	Oct. 3
Last day for student-initiated withdrawal	Nov. 18
Thanksgiving recess	Nov. 22-25
Last day of classes/final exams	Dec. 14

### Spring 2018

Classes begin	Jan. 8
Dr. Martin Luther King Observance (college closed)	Jan. 15
No classes	Feb. 13
Spring Break	March 28-31
Last day for student-initiated withdrawal	April 7
Last day of classes/final exams	May 3
Commencement	May 4

### Summer 2018

10-week & First 5-week session classes begin	May 21
Memorial Day (college closed)	May 28
No classes	May 29
8-week session classes begin	June 6
First 5-week classes end	June 26
Second 5-week session classes begin	June 27
Independence Day (college closed)	July 4
Last day of classes for 10-week, 8-week & Second 5-week	Aug. 1

## Mission/Vision/Values

### MISSION

Westmoreland County Community College improves the quality of life of everyone we touch through education, training and cultural enrichment.

### VISION

Westmoreland County Community College is a learning-centered college focused on student success, a catalyst for economic growth, a leader in workforce development, and a hub for cultural and artistic experiences.

### VALUES

Westmoreland County Community College has a framework of cultures and values that embraces:

1. Commitment to Teaching and Learning (personal attention, individual choices, academic excellence, adaptive, promotes curiosity)
2. Accountability (responsibility, stewardship of resources, empowerment, results-oriented)
3. Diversity (respect for self and others, inclusion, value uniqueness)
4. Collaboration and Cooperation (teamwork, community partnerships)
5. Social Responsibility (promote active interest, awareness of world, being a good steward)
6. Integrity (honesty, ethical standards, dedication)
7. Innovation (creativity, commitment to growth, forward thinking)

# Accreditation

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Westmoreland County Community College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3642 Market Street, Philadelphia, PA 19104, 267-284-5000. 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/accreditation organizations:

- The associate in applied science degree Baking and Pastry program, Culinary Arts programs and Restaurant/Culinary Management program are accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC), a specialized accrediting agency recognized by the Council on Higher Education Accreditation (CHEA).
- 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 diploma in Medical Assisting, Youngwood campus, is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://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 Associate Degree Nursing Program is on full approval status by the Pennsylvania State Board of Nursing. The Associate Degree Nursing program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; 404-975-5000; [www.acenursing.org](http://www.acenursing.org) for achievement of quality and excellence in nursing education.
- The associate of applied science degree Diagnostic Medical Sonography program is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756; 727-210-2350; [www.caahep.org](http://www.caahep.org) with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), 6021 University Boulevard, Suite 500, Ellicott City, MD 21043; 443-973-3251; [www.jrcdms.org](http://www.jrcdms.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

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**Founded:** 1970

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

**Phone:** 724-925-4000

**Internet:** [www.westmoreland.edu](http://www.westmoreland.edu)

**Enrollment:** approximately 5,554 full- and part-time students

**Programs:** 64 associate degree, 15 diploma, and 58 certificate programs with options that prepare students for careers or transfer to baccalaureate degree programs at four-year institutions.

**Degrees Granted:** associate of arts degree, associate of fine arts 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. Founders Hall, Commissioners Hall and Science Hall 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, greenhouse, theater, art gallery, library, Student Services, College Learning Center, Campus Children's Center, bookstore, 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 easily accessible to the physically disabled. There are also designated parking spaces for the physically disabled. The Westmoreland smoking policy designates all buildings at the Youngwood campus and the education centers as smoke-free.

**Off-Campus Centers:** To provide access to quality educational opportunities to all area residents, the college operates six off-campus education centers - Bushy Run, Export; Fayette, Uniontown; Indiana, Indiana; Latrobe, Latrobe; and New Kensington, New Kensington - that serve all of Westmoreland, Fayette and Indiana counties.

The Westmoreland Advanced Technology Center, located at RIDC-Westmoreland in the former Sony facility, houses the college's workforce development programs and provides the regions' employers with state-of-the-art facilities for advanced training in mechatronics, additive manufacturing, energy, machining and fabrication, and nanotechnology for students and local employers.

The Westmoreland Public Safety Training Center, located near Smithton, provides public safety training for fire, police and emergency services responders.

**Faculty:** 80 full-time teaching faculty and approximately 287 part-time faculty

**Academic Calendar:** two 15-week semesters (fall, spring); two 12-week Late-Start sessions (fall, spring); and one 9-week summer session. Classes are conducted weekdays, evenings, Saturdays and online.

**Directions - Youngwood Campus:** From Greensburg and Route 30: Take Route 119 South into Youngwood. At the second traffic light, Depot Street, turn left and proceed one mile to the college, located on the right.

From the New Stanton interchange of the Pennsylvania Turnpike (Exit 8/75): Take Route 119 North into Youngwood. At the fourth traffic light, Depot Street, turn right and proceed one mile to the college, located on the right.



# Education Centers

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Westmoreland maintains education centers that serve all of Westmoreland, Fayette and Indiana counties. Day and evening classes are conducted at Bushy Run, Export; Fayette, Uniontown; Indiana, Indiana; Latrobe, Latrobe; and New Kensington, New Kensington. In addition, online courses are offered 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.

## Bushy Run

Bushy Run is located at 6707 Mellon Road near Murrysville. The center houses traditional classrooms, a distance learning classroom, a computer laboratory, a science laboratory, accommodations for workforce development training, a student lounge with Wi-Fi and offices. 724-327-8090

**DIRECTIONS:** From Greensburg: Take Route 66 North to Route 22 heading west toward Pittsburgh. At the third traffic light, turn left onto Mellon Road and proceed approximately 1.5 miles to the Bushy Run Center on the left.

From Murrysville: Take Route 22 East toward Delmont. Turn right at the intersection onto Mellon Road and proceed 1.5 miles to the Bushy Run Center.

From Harrison City: At the intersection of Route 130 and Harrison City Export Road, travel north on Harrison City Export Road 3 miles. Bear right onto Mellon Road past the entrance to Westmoreland Country Club and proceed approximately 1 mile to the center on the right.

## Latrobe

Latrobe is located at 130 Depot Street, Latrobe. The new center houses traditional, computer and multipurpose classrooms; a Collaborate classroom; allied health and science labs; student study areas; a conference room; and administrative offices.

**DIRECTIONS:** From Route 30: Take Route 981 North toward Latrobe. (Route 981 becomes Lloyd Avenue.) Cross the bridge and bear right onto Main Street then take the first left onto Jefferson Street. Turn left onto Depot Street. The center is on your right.

From Route 22-New Alexandria: Take Route 981 South and turn right onto PA 981/Industrial Boulevard at the traffic light. The center is on your right at the intersection of Depot and Jefferson streets.

## New Kensington

Opened in January 2009, New Kensington is located at 1150 Fifth Avenue in downtown New Kensington. The center contains traditional classrooms, computer classrooms/labs, a science lab, administrative offices and a student lounge. The center is also home to PA CareerLink - Alle-Kiski, which provides services to the unemployed. 724-335-8110

**DIRECTIONS:** From C. L. Schmitt Bridge: At the second traffic signal, turn left onto 4th Avenue. Follow 4th Avenue up to 11th Street and turn right. Turn left onto 5th Avenue. Westmoreland is located on the right.

From Greensburg Road: At the Parnassus Intersection, (CVS), proceed straight through the traffic signal onto Industrial Boulevard. Stay on Industrial Boulevard through town and pass the C. L. Schmitt Bridge. At the stop sign, go straight and make a right onto 11th street (in front of the UniFirst). Proceed through first stop sign and turn left at the following stop sign onto 5th Avenue. Westmoreland is located on the right.

From Vandergrift/Leechburg; Follow Rte. 56 toward New Kensington. Turn right onto 7th Street (next to Valley High School track) and proceed straight to first traffic signal. Turn right onto Freeport Road and proceed to next traffic signal. Turn left onto Locust Street, cross the viaduct to next stop sign. Turn right onto 5th Avenue. WCCC is located on the right.

## Advanced Technology Center

The Advanced Technology Center, located in RIDC-Westmoreland at 1001 Technology Drive in Mt. Pleasant, provides state-of-the-art classrooms, labs featuring specialized equipment for hands-on training and open, flexible instructional space for collaborative learning. In addition to housing the workforce development programs, the center provides advanced training for the region's employers. 724-925-4269

**DIRECTIONS:** From New Stanton - Take I-70 East toward US-119/Greensburg. Take Exit 1 to merge onto US-119 South toward Connellsville and then exit on Technology Drive. Proceed to traffic light and turn left (intersection of Old 119/State Route 3093) and then make the first right into facility.

From Greensburg: Follow US-119 South/ South Main St. Take the exit to stay on US-119 South toward Connellsville and exit on Technology Drive. Proceed to traffic light and turn left (intersection of Old 119/State Route 3093) and then make the first right into facility.

From Pittsburgh: Take I-376 East toward Monroeville then get on I-76 East. Take Exit 75 for US-119/PA-66 toward Greensburg. Take Exit 1 to merge onto US-119 South toward Connellsville Exit on Technology Drive. Proceed to traffic light and turn left (intersection of Old 119/State Route 3093) and then make the first right into facility.

## Public Safety Training Center

Designed for firefighter, police and emergency services personnel, the center is located in South Huntingdon Township. The facility features a six-story tower with an attached 2 1/2 story residential building that simulates industrial, commercial and residential structures. Also on site are a classroom/administration building, class A live burn building, outdoor firing range, rubble pile, outdoor training props and pond. 724-872-2447

**DIRECTIONS:** From I-70 W (New Stanton and PA Turnpike, exit 75) - Take I-70 West 8 miles from New Stanton to the Smithton exit (no. 49). Exit, and turn left at the stop sign onto Fitz Henry Road. Proceed 1 mile and turn right onto Reduction Road. Proceed 1 mile to the PSTC entrance on the left.

From I-70 E (Belle Vernon and I-79) - Proceed on I-70 East to the Smithton exit (no. 49). Exit and turn left at the stop sign onto Fitz Henry Road. Proceed 1 mile and turn right onto Reduction Road. Proceed 1 mile to the PSTC entrance on the left.

# Education Centers

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## **Fayette**

Located at the Fayette County Community Action Agency Inc. Campus in Uniontown, Fayette houses two traditional classrooms, a computer classroom, a videoconferencing classroom and administrative offices. 724-437-3512

**DIRECTIONS:** From U.S. 119 South: Take the PA Route 51 ramp to Pittsburgh Street. Turn left on Route 51 South/Pittsburgh Road and continue to follow Route 51 South. Turn left onto W. Penn Street and then turn left onto North Beeson Boulevard.

From PA 21 Roy E. Furman Highway: Turn right onto US 40 East. Turn left onto Beeson Boulevard.

## **Indiana**

The Indiana Center is located at 45 Airport Road, Indiana, near the Jimmy Stewart Airport. Easily accessible from routes 286 and 119, the center contains a computer lab, a nursing lab, six classrooms, an office and a student lounge. 724-357-1404

**DIRECTIONS:** From Punxsutawney: Take Route 119 South to the Clymer/Indiana Exit and exit at Clymer Route 286. At the end of the exit ramp, turn right onto Airport Road. Continue approximately 100 yards and turn left into the parking lot.

From Blairsville: Take Route 119 North to the Clymer/Indiana Exit and exit at Clymer Route 286. At the end of the exit ramp, turn right onto Airport Road. Continue approximately 100 yards and turn left into the parking lot.

# Admissions

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High school graduates or those who hold a GED high school equivalency are granted admission to the college. Individuals 18 years of age and older who have not earned a high school diploma or a GED may be admitted to the college if they can demonstrate their ability to benefit from the college experience. After successfully completing 30 credits at 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](http://westmoreland.edu). If you have previously attended Westmoreland for college credit, then please contact the Student Records office 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. Take the placement assessment and register for classes.
4. Submit transcripts.
  - A. First-time college students: request your high school transcript be sent to Westmoreland (includes home school).
  - B. GED students: request GED scores to be sent to Westmoreland.
  - C. Transfer students desiring credit for prior coursework completed must submit an official transcript from regionally accredited colleges and complete the Request to Transfer Credit to Westmoreland Form.
  - D. Dual Enrollment students: request transcripts from college where courses were taken.

## 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 another institution since leaving Westmoreland must request that an official transcript from each school be sent directly to the Office of the Registrar.

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 at [www.westmoreland.edu](http://www.westmoreland.edu). Additionally, the following documents must be received and reviewed in order to issue an I-20. These documents include:

1. Copy of Passport
2. Official academic record, translated into English if necessary. This includes high school or secondary school completion/graduation certificate or diploma.
3. Transcripts from postsecondary institutions, if applicable.
4. TOEFL Score of 61, or higher.
5. Statement of Financial Support for the entirety of the course of study.
6. Evidence of financial support, i.e. bank statements showing a minimum amount of \$36,000.

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 724-925-4064.

## Admission to Specific Programs

In addition to the general requirements, some programs have specific admission requirements. The requirements for the dental assisting, dental hygiene, diagnostic medical sonography, expanded functions dental assisting, nursing, medical assisting, phlebotomy and radiology technology programs are listed on the pages describing these programs. (See program index pages 35, 36.)

Students who do not meet the requirements for a specific program may become eligible after completing appropriate course work.

## 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 724-925-4077 or 1-800-262-2103 for more information, an interview, or a campus tour.

## COLLEGE NOW

### Early College

This program is designed for motivated 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.

### Dual Enrollment

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 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.



# Admissions

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## 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 at a CTC with a minimum 2.5 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 Programs of Study (POS), should submit the required documentation to the Admissions coordinator of special programs at 724-925-4064 in order to receive the advanced placement credits.

### **Requirements for receiving advanced placement credits include:**

- Earn a high school diploma, achieve a 2.5 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 Coversheet completed by your secondary school

For more information, go to [www.westmoreland.edu](http://www.westmoreland.edu), click on the Future Students tab, click Academic Information and then SOAR. Details on the Westmoreland degrees that are currently aligned with SOAR Programs of Study can be found by following the Soar Programs at Westmoreland hyperlink; information on SOAR and the required document templates can be found by clicking on the SOAR logo.

At the time of catalog publication, 35 Westmoreland degrees have been aligned to the related secondary Programs of Study and approved by PDE under the statewide articulation agreement. The chart on the following pages lists the Westmoreland degrees aligned with secondary Programs of Study.

# Admissions

CIP Code and Secondary Program Names	Westmoreland Program	Credits	Courses	HS Grad Year
52.0302 Accounting	Accounting, AAS	9	ACC 155	2010
			ACC 230	-
			ACC 234	2015
52.0401 Administrative Assistant & Secretarial Science	Office Technology, AAS, Office Administration Option	12	OFT 140	2010
			OFT 190	-
			CPT 195	2015
			CPT 150	
12.0501 Baking Pastry Arts/Baker/ Pastry Chef	Baking and Pastry, AAS Apprenticeship	10	BKP 141 BKP 245 FSM 103 *FSM 118- 2 cr if Serv-Safe Certification is provided	2013 - 2015
	Baking and Pastry, AAS Non-Apprenticeship	10		
	Restaurant Culinary Management, AAS	7		
43.0107 Criminal Justice/Police Science	Criminal Justice, AAS	9	CRJ 155 CRJ 163 CRJ 160	2013 - 2015
11.0901 Computer Systems Networking & Telecommunications	Computer Technology, AAS, Networking Option	9	CPT 155 CPT 163 CPT 160	2011 - 2013
	Computer Information Security, AAS	9		
	Computer Technology, AAS, Technical Support Option	9		
11.0901 Computer Systems Networking & Telecommunications	Computer Technology, AAS, Networking Option	9	CPT 145 CPT 181 CPT 183	2013 - 2015
	Computer Technology, AAS, Technical Support Option	9		
15.1202 Computer Technology/ Computer Systems Technology	Computer Technology, AAS, Networking	9	CPT 150 CPT 182 CPT 248	2011 - 2013
	Computer Technology, AAS, Technical Support	9		
	Computer Technology, AAS Telecommunications	9		
10.9999 Communications Technology/ Technicians & Support Services	Computer Technology, AAS, Technical Support	9	CPT 145 CPT 150 CPT 181	2012 - 2014
	Computer Technology, AAS, Networking	9		
10.9999 Communications Technology/ Technicians & Support Services	Computer Technology, AAS, Technical Support	9	CPT 145 CPT 150 CPT 181	2012 - 2014
	Computer Technology, AAS, Networking	9		
51.0601 Dental Assisting/Assistant	Dental Assisting, Diploma	8	DAS 100 DAS 103	2013 - 2015
15.1301 Drafting & Design Technology	Engineering Technology, AAS	12	DFT 105 DFT 106 DFT 258	2011 - 2015
	Drafting and Design Technology, AAS, CADD/CAM Option	12		
	Drafting and Design Technology, AAS Mechanical	12		
15.0303 Electrical, Electronic & Communications Technology	Electronics Engineering, AAS	8	ELC 102 ELC 106	2011 - 2013
	Manufacturing Technology, AAS, Nanofabrication	8		
	Computer Systems Electronics, AAS, Electro-Optics	8		
	Computer Systems Electronics Technology, AAS, Networking	8		
15.0303 Electrical, Electronic & Communications Technology	Electronics Engineering Technology, AAS General Option	12	ELC 102 ELC 106 ELC 191	2013 - 2015

# Admissions

CIP Code and Secondary Program Names	Westmoreland Program	Credits	Courses	HS Grad Year
<b>10.0399</b> Graphic Communications, Other	Graphic Communications, AAS Graphics & Publishing	9	GCT 115 GCT 131 GCT 151	2013 - 2015
<b>47.0201</b> Heating, Air Conditioning, Ventilation & Refrigeration Control Systems	Heating, Ventilation, Air-Conditioning and Refrigeration, AAS	11	HAC 101 HAC 170 HAC 250	2011 - 2015
<b>43.9999</b> Homeland Security, Law Enforcement, Firefighting and Related Protective Services	Homeland Security, AAS	9	CRJ 155 CRJ 225 HSM 109	2011 - 2013
<b>43.9999</b> Homeland Security, Law Enforcement, Firefighting and Related Protective Services	Homeland Security, AAS	9	CRJ 155 HSM 102 HSM 109	2014 - 2016
<b>01.0601</b> Horticultural Operations, Applied Horticulture	Horticulture, AAS Floriculture	9	HOR 105 HOR 170 HOR 241	2014 - 2015
<b>12.0508</b> Institutional Food Workers	Baking and Pastry, AAS (APP, NA)	11	BKP 141 FSM 103 FSM 105	2011 - 2013
	Culinary Arts, AAS, (APP, NA)			
<b>12.0508</b> Institutional Food Workers	Culinary Arts, AAS, (APP, NA)	11	BKP 141 FSM 103 FSM 105 *FSM 118- 2 cr if Serv-Safe Certificate is provided	2014 - 2016
	Baking and Pastry, AAS (APP, NA)	11		
	Restaurant/Culinary Management, AAS	11		
	Dietetic Technology/Nutritional Services Mgmt.	10		
<b>48.0501</b> Machine Tool Technology	Machine Technology, AAS	12	MTT 215 MTT 100 MTT 105 MTT 110	2011 - 2013
	Computer Numerical Control Technology, AAS *MTT 215 not required course	9		
<b>48.0501</b> Machine Tool Technology	Machine Technology, AAS	12	MTT 111 CNC 111 MTT 101	2013 - 2015
	Computer Numerical Control Technology, AAS	12		
<b>51.0801</b> Medical/Clinical Assistant	Medical Assisting, Diploma	3	BIO 107	2013 - 2015
<b>52.1801</b> Sales Distribution & Marketing Operations	Business, AAS, Marketing	9	BUS 240 MKT 242 MKT 254	2010 - 2015
<b>11.0801</b> Web Page, Digital/Multimedia & Information Resources Design	Web Technology, AAS Web Applications Option	9	WEB 110 WEB 140 GCT 124	2013 - 2015
	Graphic Communications, AAS Graphics & Publishing Option/ Publishing Concentration			
	Graphic Communications, AAS Web & Mobile Design Option			
<b>48.0508</b> Welding Technology/Welder	Welding Engineering Technology, AAS	10	WEL 125 WEL 135 DFT 110	2010 - 2012
<b>48.0508</b> Welding Technology/Welder	Welding Engineering Technology, AAS	2	DFT 110	2013 - 2015

# Admissions

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## Prior Learning Assessment

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. Credit for prior learning may be granted by any of the following methods: transfer credit, courses taken at area career and technology centers, College Level Examination Program, credit by examination, and credit for experiential learning.

Credit can be granted only for those courses which are listed in the Westmoreland catalog. The courses must meet the requirements of the program in which the student is enrolled. Credits obtained for prior learning are recorded with a grade of CR and are not used in the computation of grade point average. These credits are not applied to VA benefits, Selective Service deferment, Social Security benefits or scholastic honors. A maximum of 30 credits may be awarded to students for prior learning.

The award of credit for prior learning is subject to the approval of the appropriate faculty member and dean. Students who are interested in obtaining credit for prior learning can find out more under Future Students and Admissions at [westmoreland.edu](http://westmoreland.edu). Instructions are listed under Credit for Prior Learning.

## Transfer of Credit

Credits earned at other regionally accredited colleges may apply to programs at Westmoreland as long as the grade is "C" or higher. Students must complete an Application for Admission and a Request for Transfer of Credits to Westmoreland form, and must have official transcripts sent directly to the Westmoreland Admissions Office with descriptions of courses to be considered for transfer.

Evaluation and acceptance of credits completed 10 years prior to the transfer request date shall be made at the discretion of the college.

## CLEP — College Level Examination Program

The College-Level Examination Program (CLEP) gives you the opportunity to earn college credit for what you already know with qualifying scores on one or more CLEP examinations. These exams test your knowledge of introductory college-level subjects.

A list of acceptable CLEP exams and scores is available at the Admissions Office. CLEP exam scores must be sent directly to the Admissions Office from the College Entrance Examination Board.

## Credit by Examination

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

To apply, students must complete the Petition for Credit by Examination form which is available in the division offices and at the Student Information Center.

A \$30 fee is charged for each exam. Passing the exam is recorded on the transcript with CR. Failure to pass the exam is not recorded. Credit by exam may be attempted only once per course.

## Credit for Career & Technology Center Courses

Students may receive credit for approved occupational courses completed at area career and technology centers. Contact the Admissions Office for a list of approved courses.

## Advanced Placement Examinations

Credit may be awarded to students who attain a score of three or higher on the College Board Advanced Placement Examination. Students must complete a Request for Transfer of Credits to Westmoreland Form and must have official Advanced Placement Examination scores sent directly to the Westmoreland Admissions Office to be considered for credit.

## Credit for Military Training

Credit may be awarded to students who take the Defense Activity for Nontraditional Education Support (DANTES) exam for skills acquired during military service. Also, military courses may be submitted for review on an individual basis by submitting a Joint Services Transcript. Credit is normally awarded based upon the recommendations of the American Council on Education.

## Portfolio Development

Those who believe that they have acquired college level competencies through life and work experience may seek credit through portfolio development. Students are required to develop written documents which describe their competencies and relate them to Westmoreland courses.

The award of credit is based upon assessment of the student portfolio. A maximum of 21 semester hours of credit for experiential learning may be applied to associate degree graduation requirements. A \$129 fee is charged for assessment of each course. See your advisor for further information. Portfolios are managed electronically through a statewide system called College Credit Fast Track. The system can be accessed through the Westmoreland website or directly at [www.ccfasttrack.org](http://www.ccfasttrack.org).

## Placement Assessment

All students are required to attend a Placement Assessment and Educational Planning Session to evaluate placement assessment scores, high school or GED transcript(s), and SAT/ACT scores (if submitted). These are used to determine appropriate freshman courses, pursue developmental course work prior to taking other credit courses, or consider noncredit academic preparation before enrolling in credit course offerings. The Placement Assessment and Educational Planning Session is required of full-time and part-time degree-seeking students, visiting high school students, some visiting college students, and non-degree seeking students upon completion of 12 credit hours.

Students who have an associate or bachelor's degree from an accredited community college or university may be exempt upon receipt of college transcripts. Visiting college students or transfer students may also be exempted upon receipt of college transcripts that validate satisfactory completion of prerequisites in reading, composition and mathematics. Also, SAT or ACT scores may exempt students from the Accuplacer assessment upon receipt of high school transcripts. Applicants for nursing and other allied health programs may be required to complete the Accuplacer regardless of degrees completed.

# Admissions

New part-time students who do not plan to pursue a degree or diploma are not required to take the Accuplacer. However, the assessment is required prior to enrolling in mathematics or English courses and any course with a prerequisite of ENG 095. Furthermore, students not seeking a degree are required to take the Accuplacer assessment after the completion of 12 credits in order to continue their enrollment.

Call the Placement Assessment Office at the Youngwood campus at 724-925-6893 or your nearest Westmoreland center to schedule the Accuplacer. There is no fee for the assessment.

## Registration

Registration begins approximately April 1 for the fall sessions, November 1 for the spring sessions and December 1 for the summer sessions. Class schedules can be viewed online at [westmoreland.edu](http://westmoreland.edu).

New students who have completed the Application for Admission will receive a letter from the college explaining the placement testing, advising and registration procedures. Advisors are available to assist students in planning course work for the first semester.

Students should become familiar with the required courses for their programs of study found in this catalog on pages 41-227.

Students intending to transfer should consult the catalog of the college they wish to attend or, if possible, consult with a counselor at that college. Transfer students may also receive assistance from a Westmoreland counselor and/or use materials in the transfer library in the Student Services Success Center.

All students, new and returning, have several opportunities to register for classes and receive academic advising. Students may register by phone or in person at the Student Services Success Center. Returning students may also register online at [westmoreland.edu](http://westmoreland.edu). Telephone registrations are accepted from 8 a.m. to 5 p.m., Monday through Friday. Students may register in-person from 8 a.m. to 7 p.m. Monday through Thursday and 8 a.m. to 5 p.m.

## 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](http://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 Westmoreland Registrar. 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 MyWCCC 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 session; 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 contact Janice T. Grabowski, Westmoreland director of Admissions/Registrar, at 724-925-4123 or [grabowskij@westmoreland.edu](mailto:grabowskij@westmoreland.edu); or Jennifer Trexel, coordinator/scholarships, Financial Aid at 724-925-4061 or [trexelj@westmoreland.edu](mailto:trexelj@westmoreland.edu).

## Family Education Rights and Privacy Act Information (FERPA)

Federal law requires that Westmoreland County Community College provide every student with access to his/her academic file. Information contained in the academic file relates only to the student's academic history and performance.

At the present time, the following information is maintained in a student file:

1. Application form
2. Permanent transcript
3. Placement assessment scores
4. Course registration information
5. Course approval forms (i.e. course substitution forms, course waiver forms, advanced standing forms, etc.)
6. Graduation information (when applicable)

Any student wishing to inspect the contents of his or her file may do so by completing a "Request for Academic File Review" form and submitting it to the Student Records Office. Students may inspect their academic file during normal working hours (Monday through Friday, 8 a.m.-5 p.m.), provided they have made a written request at least two working days in advance.

You have the right, by law, to keep all the information in your file confidential. However, the College has established a category of information known as Directory Information.



# Admissions

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Directory Information may include: student name, address, phone number, date of birth, major field of study, participation in activities and sports, dates of attendance, degrees and awards received and previous schools attended.

Because of its very general nature, the student normally releases Directory Information without a signed consent.

Since Directory Information does not include grades, financial data or any other strictly personal data, we expect very few students will wish this information withheld. If, however, you do not wish directory information released without your signed consent, please complete a Request to Prevent Disclosure to Directory Information form at the Records Office immediately. Your written notice to keep Directory Information confidential will be placed in our file and no information will be released unless a signed release form is presented with your signature. Any further questions you may have concerning this may be directed to the Student Records Office.

Westmoreland County Community College will disclose personally identifiable information (PII) from a student's education records to appropriate parties in order to address a health or safety emergency. FERPA's health or safety emergency provision permits such disclosures when the disclosure is necessary to protect the health or safety of the student or other individuals.

## Developmental Education

Upon completing the placement assessment, some students may be required to take one or more preparatory (developmental) courses in mathematics and/or English. The developmental mathematics courses are MTH 050–Basic Mathematics and MTH 052–Foundations of Algebra. The developmental English courses are ENG 085–College Literacy I and ENG 095–College Literacy II. They do not count toward graduation but strengthen the academic skills students need for success in college. Students who place into ENG 095 are automatically co-enrolled in ENG 161–College Writing, which is a required general education courses.

## 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.

## 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."

## Cross Registration

The college has cross-registration arrangements with the University of Pittsburgh at Greensburg (UPG) and Seton Hill University (SHU). This allows Westmoreland full-time students to register for courses at these institutions and for students at UPG and SHU to register for courses at Westmoreland. The student must be en-rolled full-time for a minimum of 12 credits and in good academic standing. A student may cross-register only for courses which meet degree requirements and which are approved by the institution from which the student will graduate. Students must complete a Cross Registration form available in the Westmoreland Admissions Office and obtain appropriate signatures for approval.

## Change of Schedule

Students are fully responsible for completing adds and drops 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 in the Student Success Center. Course substitutions approved under the former major must be resubmitted for approval in the new program of study.

## Withdrawal From Courses

A student who wishes to initiate the course withdrawal process should talk with their instructor and/or their advisor or counselor.

### Drop

Students who withdraw from their course/s during the first three weeks of the semester will be dropped from the course, and no record of the course will appear on the transcript.

### Withdrawal Policy

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%-60%, 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 60% of the course and before 90%, the student must secure instructor's permission for withdrawal from the course. After 90% of the course, students may not withdraw with the exception of excused withdrawals.



# Admissions

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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 and encouraged 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 or 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 Student Account Adjustment Request

form that may be obtained by contacting the Records Office. All approved requests for medical withdrawals will result in the assignment of "W" grades for each course. Requests must be submitted to the Director of Admissions & Registrar no later than the dates published on the request form.

## 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.

## 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
- Argosy University
- American Public University
- Art Institute of Pittsburgh
- Bellevue University
- Bethany College
- Burlington College
- California University of Pennsylvania
- Carlow University
- Chatham University
- Clarion University of Pennsylvania
- Concordia University
- Duquesne University
- Edinboro University
- Franklin University
- Geneva College
- Immaculata University
- Indiana University of Pennsylvania
- Kaplan University
- LaRoche College
- 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 Joseph University
- Saint Vincent College
- Seton Hill University
- Slippery Rock University of Pennsylvania
- Stark State College
- Strayer University
- University of Phoenix
- Waynesburg University
- West Liberty University

# Admissions

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## 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/Bradford
- University of Pittsburgh/Greensburg
- University of Pittsburgh/Johnstown
- Duquesne University
- Gannon University
- Geneva College
- Grove City College
- LaRoche College
- Point Park College
- Saint Vincent College
- Seton Hill University
- Washington and Jefferson College
- West Virginia University

## Degree Completion Programs

Some colleges and universities have programs that require an associate of arts 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.

## 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 (A.A.) degrees and the associate of applied science (A.A.S.) degree in PreK-Grade-4 Education, 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 Psychology
  - AA Criminal Justice
  - AAS PreK-Grade 4

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

- Argosy University
- Art Institute of Pittsburgh
- Bellevue University
- California University of Pennsylvania
- Carlow University
- Concordia University
- Duquesne University
- Franklin University
- Geneva College
- Immaculata University
- Kaplan University
- LaRoche College
- Pennsylvania College of Technology
- Pennsylvania State University/Regional Campuses
- Point Park University
- Potomac College
- Robert Morris University
- Saint Francis University
- Saint Joseph University
- Saint Vincent College
- Seton Hill University
- Stark State College
- Strayer University
- University of Phoenix
- Waynesburg University
- West Liberty 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 Phoenix

# Expenses, Financial Aid & Scholarships

## Residency Policy

Residency requirements are established for the purposes of assessing tuitions 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 twelve (12) consecutive months prior to registration at Westmoreland County Community College. Documentation must be received prior to the start of the semester.

### Westmoreland County Residency

To establish residency in Westmoreland County, a student must demonstrate continuous residence for at least four (4) months. Documentation of proof of residency must be received prior to the start of the semester.

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, parent's employment or for purposes other 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.

### 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.

### 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 listed in this catalog are subject to change by the Board of Trustees. When changes are made, notice will be given as far in advance as possible.

### 1. Tuition

#### a. Tuition per credit: 1-11 credits, 19 or more credits

Westmoreland County Residents . . . . .	\$124 per credit
Out-of-County Residents . . . . .	\$248 per credit
Out-of-State Residents . . . . .	\$372 per credit

#### b. Flat Rate: 12-18 credits

Westmoreland County Residents . . . . .	\$1,860
Out-of-County Residents . . . . .	\$3,720
Out-of-State Residents . . . . .	\$5,580

### 2. General Fee . . . . . \$ 49 per credit

### 3. Capital Fee

Out-of-County Residents . . . . .	\$ 6 per credit
Out-of-State Residents . . . . .	\$ 6 per credit

### 4. Lab Fees (Most laboratory courses have a fee. The fees range from \$10 to \$25) . . . . . \$ varies

### 5. 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.

## Other Fees

1. Books & Supplies - These costs vary according to individual courses.
2. Credit by exam, per course . . . . . \$ 30
3. Assessment of Experiential Learning, per course . . . \$ 129
4. Returned check fee . . . . . \$ 25  
*This fee is assessed if you pay by check and your bank returns the check to the college for any reason.*

## Payment Policy

The college accepts payment in the form of check and MasterCard or Visa. Payment by check or credit card may be made at the Student Services Success Center, Room 130, Founders Hall, Youngwood campus. Checks are also accepted at the education centers. Check and credit card payments may also be made by mail. In addition, credit card payments may be made by telephone or online. 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.

# Expenses, Financial Aid & Scholarships

## 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 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.

## Tuition Payment Plan

Offered by Westmoreland in conjunction with Higher One, the Tuition Payment Plan lets students pay tuition and fees in monthly installments. The payment plan is not offered for Continuing Education classes or any past due balances. **Enrollment in the Tuition Payment Plan must be finalized by the payment due date on your billing statement.** For more information, visit [tuitionpaymentplan.com/westmoreland](http://tuitionpaymentplan.com/westmoreland) or call 1-800-635-0120. **Higher One assesses an enrollment fee for this service.**

## Financial Aid

A financial aid package could include grants, scholarships, loans and/or employment opportunities to assist students with their educational expenses. Most financial aid is awarded on the basis of financial need.

Westmoreland participates in several state and federal financial aid programs.

## Basic Eligibility Criteria

To qualify for federal, state and institutional need-based financial aid and most assistance other than scholarships, you must meet the general eligibility requirements:

- Demonstrate financial need.
- Have a high school diploma, or general education diploma (GED), or be able to benefit from the education or training offered.
- Be enrolled, or accepted for enrollment in a degree or certificate program, or in another program leading to a recognized educational credential.
- Be a U.S. citizen, U.S. national or eligible non-citizen.
- Maintain satisfactory academic progress in your degree or certificate program of study.
- Meet the defined criteria to each financial aid program.

## State Grant Eligibility

- 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.
- Are enrolled at least half-time (defined as at least six semester credits but less than 12 semester credits per semester, or the equivalent).
- Be unconditionally admitted and enrolled in an approved program of study of at least 2 academic years in length.
- Are enrolled in a program of study where at least 50% of the total credit or clock hours needed for completion of the program are earned through classroom instruction:
- The program itself must be structured to allow you to complete at least 50% of your credits or clock hours in the classroom.
- Your enrollment pattern by term must also consist of at least 50% classroom instruction (unless you have a medical disability).
- Have made satisfactory academic progress (as defined by PHEAA).
- Not have already earned a bachelor's degree or its equivalent.
- Are a Pennsylvania resident, as stipulated in the Pennsylvania State Grant law.
- Are of satisfactory character (for example, not be incarcerated).
- Not have received the maximum number of Pennsylvania State Grants permitted.
- Not be in default or pending default on an educational loan. This also applies to any program where the award has been converted to a loan and the loan is in a default status.

## Rights and Responsibilities of Aid Recipients

Before receiving funds, students must follow these steps:

- All aid recipients are required to be degree-seeking.
- All recipients must be in a financial aid eligible program.
- All aid recipients must have a high school diploma or GED in order to receive funding.
- Any financial aid applicant, who has been selected for verification by the federal programs, state programs, or by the institution, must complete the verification process prior to disbursement of any financial aid funds.
- Every financial aid recipient is required to notify the Financial Aid Office of any change in enrollment including; drops, adds, withdrawals or if they stop attending any courses.

# Expenses, Financial Aid & Scholarships

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## How to Apply

1. Students, parents, and borrowers 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 <https://fsaid.ed.gov/>.
2. Complete the Free Application for Federal Student Aid (FAFSA) online at <https://fafsa.ed.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 Federal Application for Student Aid (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 <https://fafsa.ed.gov>.

## Prior-Prior Year Income Data for the FAFSA

Beginning in October 2016 (for aid applications for the 2017-18 award year), the White House will allow students to file the Free Application for Federal Student Aid (FAFSA) using prior-prior year (PPY) tax data.

## Financial Aid Census Date

In accordance with federal regulations, the Financial Aid Office will revise financial aid awards based on the student's enrollment status as of the published Census Date. Generally, this policy typically coincides with the end of the drop/add period for the traditional 15 week courses. If you are enrolled and attending less than full time, your aid will be revised as less than what was reported on your initial award notice. This is because students are initially awarded based on the expectation of full-time enrollment.

For financial aid purposes, there are generally 4 enrollment levels:

- Full-time (12 or more credits)
- 3/4-time (9 -11 credits)
- 1/2-time (6 - 8 credits)
- Less than 1/2-time (1-5 credits)

## 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 thirty credit limitation will require adjustments to their Title IV enrollment status and award(s). Any developmental credits above thirty 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 thirty will be the student's responsibility.

## Standards for Financial Aid

To continue to receive financial aid from the federally-funded programs listed below, students must maintain financial eligibility and satisfactory academic progress in their courses of study according to the standards and practices of the granting agency and the college.

The standards include a quantitative measure (minimum standards of completion) as well as qualitative measure (grade point average).

## Minimum GPA

At the end of each term, you must have achieved at least a minimum cumulative 2.0 GPA in order to remain eligible for financial aid.

## Minimum Completion Rate (Pace of Completion)

In order for you to receive financial aid, you must complete 67% of your attempted coursework for your program (i.e., certificate, diploma and associate degree). Attempted coursework includes transfer hours and courses for which you received no financial aid. To calculate your completion rate, just take the total of your completed program hours and divide that figure by your attempted program hours. Attempted hours include all registered hours whether or not you earned a grade or received credit.

Hours that count as attempted but not completed are:

- **F** grades
- **W** (withdrawal)
- **I** (incomplete)



# Expenses, Financial Aid & Scholarships

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## Maximum Hours Limit

The number of credit hours you attempt may not exceed 150% of the number of credit hours required for graduation in your program of study. Attempted hours include any hours you attempted at any institution, regardless of whether you received financial aid for those hours. Under federal regulations, any courses that you attempted and which are covered under academic forgiveness, or a change in academic program are also considered toward your maximum attempted hours limit.

For additional information, please refer to the Satisfactory Academic Progress policy available at: [www.Westmoreland.edu](http://www.Westmoreland.edu), Current Students, Financial Aid, Satisfactory-Academic-Progress-Policy.

## Repeated Coursework Policy (Effective July 1, 2011)

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, the Federal Supplemental Educational Opportunity Grant (FSEOG), Direct Loans, and Federal Work-Study. Beginning in the Fall 2011 semester, regulations prevent the Financial Aid Office from paying for a course that has been passed and repeated more than one time. In order for a repeated course to be counted towards 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 towards 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 Federal SEOG.

- A 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 a 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 students account, if the balance occurred after the first day of class of a payment period.

Students 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 mailing address, if not current,
- No exceptions policy all checks are mailed. Checks cannot be picked up at the College.

**NOTE:** FSA regulations refer to the amount of aid that exceeds the allowable charges as a credit balance. College administrators sometimes refer to this as a refund; however, it is not the same thing as a refund under the Colleges refund policy.

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 timeframes.

## 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, or
- The date determined by financial aid for an unofficial withdrawal

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, Federal SEOG, other Federal sources of aid.

## The college's responsibilities in regard to 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.



# Expenses, Financial Aid & Scholarships

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## 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.

## Types of Financial Aid

The types of financial aid available at Westmoreland County Community College include: Grants Student Employment, Loans, Scholarships and other.

Grants are typically awarded on the basis of 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 maximum Federal Pell Grant award for the 2016-2017 award year is \$5,185; however, the actual award depends on the student's financial need, the college's 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 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, but not to exceed \$1,000 each academic year.

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 receives minimum wage for starting positions. Work Study jobs requiring based on unique skills or seniority may receive wages as set by the department or institution. Work Study jobs may be Federal, State or institutionally funded.

Loans consist of money that the student borrows to help pay for college, and must be repaid (plus interest). There are two federal student loan programs:

- The William D. Ford Federal Direct Loan Program enables students and parents to borrow money at low interest rates directly from the federal government. 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.

## Other forms of financial aid that might be available to students include:

- State government aid. For more information on this available funding, contact PHEAA.org.
- Scholarship Aid from the college. Students should access [www.westmoreland.edu/scholarships](http://www.westmoreland.edu/scholarships) for additional information.
- Scholarships. Some states, local governments, colleges, community organizations, private employers, and other organizations award scholarships based on academic ability or other factors. For more information, visit [StudentAid.gov](http://StudentAid.gov).

## Scholarships

Westmoreland County Community College recognizes the importance of your education and we are dedicated to helping you to achieve your educational and career goals!

To support your efforts, more than 100 scholarships are awarded each year by the Westmoreland Educational Foundation, funded by the generosity of local donors, businesses and community groups.

To streamline the process of applying for Foundation Scholarships, interested students need to only submit one online application form to be auto-applied for every scholarship opportunity for which they qualify, as well as being directed to any secondary scholarships that require further information.

Westmoreland's online scholarship application can be accessed at <https://westmoreland.academicworks.com/>

# Academic Information

## Unit of Credit

A credit hour is the unit of credit students earn at Westmoreland. One credit hour usually corresponds to one 50 minute class meeting each week for 15 weeks. A course worth three hours of credit, therefore, usually requires three 50 minute class meetings plus additional work outside the class each week.

## Grades and Grade Points

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	superior	=	4.0
B	considerable	=	3.0
C	satisfactory	=	2.0
D	marginal	=	1.0
F	unsatisfactory	=	0.0
W	withdrawn	=	0.0
M	Military withdrawal	=	0.0
I	incomplete	=	grade to be computed upon completion of course
AU	audit	=	no credit

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		Semester Hours of Credit		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	<u>3</u>	=	<u>9</u>
				16		45

45 grade points ÷ 16 semester hours = 2.81 grade point average or GPA

## Academic Forgiveness

Students who return to Westmoreland County Community College after a four-year absence 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 new credits 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 a counselor or their faculty advisor to initiate the process.

## Repeating Courses

Students may repeat courses; however only the grade and credits earned the last time 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 work is not completed by the date specified by the instructor, not to exceed one semester.

## Grade Appeal

All final grades posted on a student's transcript at the end of a semester are considered correct unless a question is raised within one year of its recording.

## Attendance

Students are encouraged to attend all class sessions and complete all coursework as they are integral components to the learning process and student success. Should a student require an extended absence, the instructor should be notified. If a student needs to withdraw from a course, then please consult page 12 of the catalog for reference. In programs regulated by external agencies, attendance policies may differ from what is noted above. Students enrolled in such programs should consult with their faculty advisors or deans.

## 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 Student Account Adjustment Request for that may be obtained by contacting the Records Office. All approved requests for medical withdrawals will result in the assignment of "W" grades for each course. Requests must be submitted to the Director of Admissions & Registrar no later than the dates published on the request form.

## Standards of Academic Progress

All students are expected to maintain academic progress. Academic progress requires maintaining a cumulative grade point average of 2.0 or higher. Failure to maintain academic progress may result in probation status or suspension.

## Statement of Purpose

Standards of academic progress are established to assist students in reaching their highest educational goals. Academic standards procedures provide ongoing assistance to facilitate student academic success.

# Academic Information

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## Early Intervention

Students with less than 12 credits and a grade point average below 2.0 will be identified and encouraged to meet with a counselor to discuss their academic progress. These students are not on probation.

## Academic Probation

Students whose cumulative grade point average is below 2.0 after completing 12 but less than 36 credits will be placed on academic probation and will be subject to the following restrictions:

1. Enrollment is limited to 12 credits
2. Students must meet with a counselor to discuss their academic progress and develop an education plan before registering for classes

Students will remain on academic probation until a cumulative grade point average of 2.0 is achieved. Students on probation may be limited in their participation in student athletics and activities.

Students who believe that they should not be on academic probation may appeal their status by submitting a written request to the office of the Vice President of Academic Affairs.

## Academic Suspension

Students who have completed 36 or more credits and have been on academic probation for three consecutive semesters will be suspended. Suspended students may not enroll in credit courses for one semester. Should students wish to enroll in a subsequent semester, they are subject to the following restrictions:

1. Students must meet with a counselor to review their educational goals, develop strategies for improvement, and complete an educational contract approved.
2. Failure to maintain a 2.0 grade point average after completing 12 additional credits will result in suspension for a full academic year.
3. Students suspended for a full academic year will be required to apply for readmission to the college.

## Appeal Process

A student who has been notified of academic suspension may appeal the suspension by completing the appropriate form available from the office of the Vice President of Academic Affairs.

## Readmission after Suspension

Those students suspended for one year must submit a written request at least six weeks prior to the semester in which they wish to enroll. An appointment with a counselor must be made to establish an educational plan.

## Learning Resources Center

The Learning Resources Center supports the instructional process by providing print, audiovisual and digital library services. The LRC also coordinates distance education functions. Students who have questions or comments about LRC services should contact the director of Distance Education, 724-925-4138.

## Library

The library's print, audiovisual and digital collections are selected to support the college curricula and to provide materials for leisure reading and viewing. Collectively, these include over 40,000 books, 28 databases, hundreds of instructional videos and a popular films. A qualified professional staff is available during library hours to assist students in the use of library materials.

## Student Access to Library Resources

All Westmoreland students have access to the library's print and audiovisual materials at the Youngwood campus. Students who take classes exclusively at education centers may make requests through the library's catalog located on the Westmoreland portal, by telephone or email and materials are delivered via courier to the appropriate education center. All currently registered students also have access to the digital systems to which the library subscribes by logging in to MyWCCC.

The college participates in the Westmoreland County Academic Libraries Reciprocal Borrowing Program which provides the opportunity for Westmoreland students to borrow library materials directly from the following libraries: Saint Vincent College, Seton Hill University and the University of Pittsburgh at Greensburg. Students must present a valid Westmoreland student ID card when requesting borrowing privileges or reference assistance. Students may also borrow from Penn State libraries if they are Pennsylvania state residents and are issued a Resident Borrowers card by any Penn State library. The library also participates in regional and national consortia which facilitate interlibrary book lending and interlibrary photocopy services for materials not held locally.

## College Learning Center

The College Learning Center (CLC) 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 Learning Center 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 the CLC to find out what subjects can be supported.

Free ONLINE TUTORING is also available to Westmoreland students through Brainfuse. Students can access this service by logging on to Blackboard:<https://wccc.blackboard.com/>. On your homepage, look for Tools. Select Brainfuse HelpNow from the list of options.

Tutors can also 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.

# Academic Information

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## Testing Services

The CLC offers testing services for make-up exams. A valid Westmoreland student ID card with the current semester's sticker affixed is required to take an exam in the CLC. All other items must be placed within a locker that requires a quarter deposit. Personal property cannot be left in the CLC. 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 CLC staff. Students who have been found responsible for violating the policy will not be permitted to test in the CLC for the remainder of the academic school year.

## GED Testing

Westmoreland no longer offers testing services for GED or GED preparation classes. Any adult who wishes to earn a GED may learn more about registration, scheduling, preparation and payment by calling the Pearson Vue Call Center at 1-877-392-6433 or going to <https://ged.com>.

## 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 Career Development and Placement Center coordinator at 724-925-4058 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 Blackboard, 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 webconferencing 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, world wide web, 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.

## Academic Honors

### President's List/Dean's List

At the end of each semester, full-time students who have achieved a semester grade point average (GPA) of 4.0 are named to the President's List; full-time students who obtain a GPA between 3.50 to 3.99, with no D or F grades are named to the Dean's List. Developmental courses are not included in the calculation of the GPA.

Part-time students who have achieved a GPA of 4.0 are named to the President's List. The GPA is calculated each time a student completes 12 or more college-level credits.

Part-time students who have achieved a GPA of 3.5 to 3.99 with no D or F grades are named to the Dean's List. The GPA is calculated each time a student completes 12 or more college-level credits.

### 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. Students who have distinguished themselves through academic excellence are honored annually at the Academic Awards Dinner. The Student Awards Ceremony recognizes those who have excelled in cocurricular activities.

### 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.
- Earn at least 50 percent of credential requirements at Westmoreland County Community College under faculty instruction and evaluation. This does not include transfer credits, credits awarded for CLEP and other standardized exams, credit by exam or portfolio.
- Maintain a grade point average of 2.0 or better in all course work required and maintain a 2.0 average or better in the major.
- Fulfill all financial obligations to the college.
- File an application for graduation at the Student Success Center. Those who fail to meet graduation requirements must notify the Records Office to reactivate their graduation files.

Note that developmental courses (those courses which have 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

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## Additional Degrees

Students may earn more than one associate of applied science degree from Westmoreland subject to the following conditions:

1. Two or more degrees may be earned, provided the specific requirements listed in the curriculum for each program of study are met.
2. Multiple degrees may be pursued concurrently or sequentially.
3. Only one associate of arts degree may be earned.

## 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 *Learning Outcomes for the 21st Century* and have been approved as the framework for general education at Westmoreland. Students are expected to achieve competency 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 *(reading, writing, speaking, listening)*

1. Students will be able to read, understand and apply information from written materials.
2. Students will be able to illustrate through their writing, the ability to interpret and explain their own ideas as well as those of others.
3. Students will be able to write and speak, using correct grammar.
4. Students will be able to interpret ideas expressed verbally and apply these ideas to classroom discussion and assignments.

### Computation *(understanding and applying mathematical concepts and reasoning, analyzing and using numerical data)*

1. Students will be able to interpret and apply information from graphs, charts and tables.
2. Students will interpret and apply statistical data.
3. Students will be able to integrate and apply mathematical skills to solve quantitative problems.

### Community *(citizenship, diversity/pluralism, local community, global environmental awareness)*

1. Students will demonstrate citizenship through active participation in service learning projects.

2. Students will demonstrate an understanding and appreciation of cultural diversity.
3. Students will demonstrate an understanding and appreciation of a global society.
4. Students will demonstrate an awareness of environmental issues.
5. Students will be able to identify responsibilities of citizenship at the local, state and national levels.
6. Students will be able to compare and contrast different forms of governments and economic systems.

### Critical Thinking *(analysis, synthesis, evaluation, decision making, creative thinking)*<sup>2</sup>

1. Students will be able to collect, analyze and evaluate information to support decision making.
2. Students will be able to analyze and solve problems.
3. Students will formulate accurate conclusions based on data.
4. Students will be able to demonstrate the ability to support arguments with relevant evidence.
5. Students will use divergent thinking for problem-solving applications.

### Information Literacy Skills *(collecting, analyzing, and organizing information for a variety of sources)*

1. Students will demonstrate an awareness of the variety of information resources for use in a learning environment.
2. Students will be able to differentiate the relative merit of information sources.
3. Students will be able to locate, retrieve and evaluate electronic and printed materials for research and information purposes.
4. Students will be able to demonstrate the ability to present information in an appropriate, organized manner.
5. Students will be able to develop the skills to collect and analyze relevant information.

### Interpersonal *(teamwork, relationship management, conflict resolution, workplace skills)*

1. Students will be able to work effectively in groups.
2. Students will be able to resolve interpersonal conflicts in a respectful and positive manner.
3. Students will demonstrate appropriate workplace protocol.
4. Students will develop and will be able to utilize effective listening skills.
5. Students will appreciate the value of others' viewpoints and contributions.

### Personal *(ability to understand and manage self, management of change, learning to learn, personal responsibility, aesthetic, responsiveness, wellness)*

1. Students will demonstrate time-management skills.
2. Students will be able to identify and demonstrate socially acceptable behavior in academic and professional settings.
3. Students will demonstrate an awareness of healthy lifestyles.
4. Students will demonstrate an understanding of, and commitment to, academic integrity.

# Academic Information

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**Technology** (*computer literacy, Internet skills, retrieving and managing information via technology*)

1. Students will be able to recognize the need to adapt to changing technology.
2. Students will be able to develop an awareness and appreciation of the impact of computer technology in the contemporary world.
3. Students will be able to demonstrate computer literacy through the effective use of technology.
4. Students will be able to integrate technology into their program of study.
5. Students will be able to compose and transmit a document.

## 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.

## Transcripts

Students who want transcripts of their academic records should complete the Transcript Request Form at the Student Success Center at least one week before the transcript is needed. Transcripts are issued only at the request of the student; official transcripts are sent directly to the institution or agency specified. All financial obligations to the college must be paid before a transcript is issued.

## 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.

**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 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 Guarantee

The Westmoreland board of trustees adopted the Academic Guarantee in July 2001 as an affirmation of the college's confidence in the quality of its programs and graduates. The Academic Guarantee provides up to 15 additional credit hours of course work tuition free for graduates of Westmoreland associate of applied science degree programs whose competencies do not meet the expectations of their employers. The guarantee, which is effective for students graduating in 2002 and beyond, stipulates that the alumnus must be employed full time in a position related to his or her field of study within one year of graduation. Following an employer's written notification of a graduate's lack of entry-level skills, the college will develop an educational plan to address the specific skill deficiency.

## Delivery of Academic Programs

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

## Distance Education

Westmoreland County Community College's online/distance learning courses offer a complementary alternative to the traditional learning environment. These modes of learning allow students from any location to use state-of-the-art interactive web conferencing technologies and a course management system at convenient times and locations for the student. This environment provides a flexible and engaging learning environment for students with a rigorous schedule.

Westmoreland currently uses Blackboard Learn as a learning management system and Blackboard Collaborate for web conferencing.

Students may complete required online assignments and access course materials using a personal computer at home, campus lab, library or at a preferred location. Testing options and technical requirements may be obtained in the course syllabus or from the online/distance learning student support site. Before registering for any of the distance education courses below, students are encouraged to speak with an academic advisor.

## Types of Distance Education

The courses below require computer skills and Internet access, a Westmoreland generated email account, and supplemental hardware and software.



# Academic Information

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**Blended (Hybrid)** courses meet real-time in a face-to-face setting, at a predetermined location, date and time. Instruction is split between learning activities online and in a specified location, based on subject matter. Students and instructor will meet in a face-to-face classroom/lab setting at least once a week and complete work asynchronously (outside of the classroom) for the remaining class time. A portion (no more than 50%) of the planned instruction and testing will occur outside of the classroom, when the students and instructor(s) are not in the same place. Courses will utilize a course management system and other technologically enhanced components. **(Course code examples: EDU 200 BA, EDU 200 B1)**

**Online** courses are conducted online via a course management system. Students have the options of using a personal computer at home, campus lab, library or at a preferred location. Some online courses may require real-time collaboration at specific dates and times using web conferencing technology and/or proctored testing. **(Course code examples: EDU 200 WA- regular start, EDU 200 W1- late start)**

**Web Supplemented** courses are offered face-to-face in a physical classroom setting using an online course component. The use of a course management system is required to access course documents, materials, assignments and grades. **(Course code examples: EDU 200 00, 28 – as in a regular face-to-face classroom)**

**Web Conferencing** courses are conducted real-time in a face-to-face setting at specific dates and times, involving two or more locations. Courses may be offered at the Youngwood campus or any of the college's centers (Advanced Technology Center, Bushy Run, Fayette, Greene, Indiana, Latrobe and New Kensington). Instructors may alternate instructing from each location, communicating through a TV monitor, microphone or telephone conferencing system. Students may attend at any of these locations or from their personal computer at home and will see and speak with the instructor and students at all sites in real time. A learning management system and web conferencing technology will be utilized. **(Course code examples: ALH 120 30-New Kensington, ALH 120 90 – Bushy Run, etc.)**

## Independent Study

Independent study courses allow students to pursue a special interest which is not offered as a regular course in the curriculum. The distinguishing differences between an independent study experience 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.

## Honors Seminar

Honors Seminar is designed for students who have demonstrated academic excellence and have shown a high degree of motivation and interest in pursuing knowledge independently.

A student enrolled in the Honors Seminar is required to develop an intellectually challenging project which demonstrates outstanding academic achievement.

Each student also must select a faculty mentor to supervise and evaluate the project. In addition, Honors Seminar students meet throughout the semester to discuss the progress of their projects, receive peer evaluations and showcase their results at the conclusion of the semester.

# Programs of Study

## School of Business

### ACCOUNTING

Accounting, AAS	44
Computer Accounting and Tax Specialist, Certificate	45
General Accounting, Certificate	46

### ASSOCIATE OF ARTS

Business Administration, AA	33
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### BUSINESS

Business Administration, AA (transfer)	33
Business	62
Diploma	68
Entrepreneurship Option, AAS, Certificate	63, 69
Finance Option, AAS, Certificate	64, 70
Human Resource Management Option, AAS, Certificate	65, 71
Management Option, AAS, Certificate	66, 72
Marketing Option, AAS, Certificate	67, 73
Real Estate, Certificate	74

## School of Culinary Arts/Hospitality

Baking and Pastry, AAS, Diploma, Certificate	55-60
Culinary Arts, AAS, Diploma	106-114
Dietetic Technology/Nutritional Services Management, AAS	124
Dining Room Management, Certificate	126
Hospitality Management, Certificate	158
Hotel/Resort Management, AAS, Diploma, Certificate	159-162
Restaurant/Culinary Management, AAS, Diploma, Certificate	219-221

## School of Math, Science and Engineering

Bionanotechnology, AAS	61
Forensic Science Investigator Option, Certificate	143

### HORTICULTURE

Floriculture Option, AAS, Certificate	150, 153
Landscape Design, Installation and Maintenance Option, AAS	151
Turfgrass Management Option AAS, Certificate	152, 157
Horticulture, Certificate	154
Landscape Design, Certificate	155
Landscape Installation and Maintenance, Certificate	156

Science Technology Forensics Lab Technician Option, AAS	222
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## School of Health Professions

### ALLIED HEALTH

Dental Assisting, Diploma	115
Dental Hygiene, AAS	117
Diagnostic Medical Sonography, AAS	121
Expanded Functions Dental Assisting, Certificate	138
Medical Assisting, Diploma	180
Medical/Healthcare Management, AAS, Diploma, Certificate	182-184
Medical Computer Support, Certificate	185
Nursing, AAS	192
Phlebotomy/Specimen Processing, Certificate	212
Radiology Technology, AAS	215

## School of Humanities, Social Sciences & Public Service

### ART

Art Business, Certificate	53
Art Technology, Certificate	54

### ASSOCIATE OF ARTS

Associate of Arts, AA	32
Criminal Justice, AA	35
Psychology, AA	36

### ASSOCIATE OF FINE ARTS

Art Therapy Option, AFA	38
Graphic Design Option, AFA	39
Music Option, AFA	40
Visual Arts Option, AFA	42

### PUBLIC SERVICES

Criminal Justice, AA (transfer)	35
Criminal Justice, AAS	101
Information Security Option, AAS	103
Corrections Officer, Certificate	104
Security Professional, Certificate	105
Education/Pre-K-Grade 4, AAS, Diploma, Certificate	129-131
Education/Early Childhood Director, Certificate	132
Homeland Security, AAS, Certificate	148, 149
Human Services/Social Work, AAS	163
Paralegal, AAS, Diploma	206-208

# Programs of Study

## School of Technology

### COMMUNICATION DESIGN

Communication Design, AAS . . . . .	76
Graphics and Publishing Option, Certificate . . . . .	78
Web and Mobile Option, Certificate . . . . .	79
Graphic Design, AFA (transfer) . . . . .	39

### COMPUTER INFORMATION SYSTEMS

Computer Information Security, AAS, Certificate . . . . .	80, 81
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### COMPUTER TECHNOLOGY

Networking Option, AAS, Certificate . . . . .	88, 96
Programming Option, AAS, Certificate . . . . .	89, 98
Technical Support Option, AAS . . . . .	90
Computer Technology, Diploma . . . . .	92
Database Application Development, Certificate . . . . .	93
Fiber Optic Technologies, Certificate . . . . .	94
Microcomputer Support, Certificate . . . . .	95
PC Repair/A+, Certificate . . . . .	97
Web Applications, Certificate . . . . .	99
Web Development, Certificate . . . . .	100
Web Publishing Option, AAS . . . . .	91

### MULTIMEDIA AND PHOTOGRAPHY

Multimedia Technology Option, AAS . . . . .	186
Adobe Video Studio, Certificate . . . . .	188
Photography, AAS, Certificate . . . . .	187, 189
Video/Television, Certificate . . . . .	190

### OFFICE TECHNOLOGY

Office Administration Option, AAS, Diploma, Certificate . . . . .	202, 203, 205
Customer Service, Certificate . . . . .	204

## TECHNOLOGY, ADVANCED MANUFACTURING AND ENGINEERING SCIENCE

Advanced Manufacturing and Robotics, AAS, Certificates . . . . .	47-50
Applied Industrial Technology, AAS . . . . .	51
Architectural Drafting and Design, AAS . . . . .	52
Computer Numerical Control Technology, AAS, Certificates . . . . .	82-86
Drafting and Design Technology, AAS Computer Aided Drafting and Design/Computer Aided Manufacturing Option . . . . .	127
Mechanical Drafting and Design Option . . . . .	128
Electrical Utility Technology, AAS . . . . .	134
Electronics Engineering Technology, AAS . . . . .	136
Engineering Technology, AAS . . . . .	137
Fire Science Technology, AAS, Diploma, Certificate . . . . .	140-142
Heating, Ventilation, Air-Conditioning, and Refrigeration, AAS, Certificate . . . . .	144-147
Industrial Electricity Technology, Certificate . . . . .	165
Industrial Technology, Diploma . . . . .	166
Journeyman Technology, AAS, Diploma, Certificates . . . . .	167-172
Machine Technology, AAS, Certificates . . . . .	173-177
Manufacturing Technology, AAS Manufacturing Process Technology Option . . . . .	178
Nanofabrication Manufacturing Option . . . . .	179
Natural Gas and Oil Technology, Certificate . . . . .	191
Petroleum Technology, AAS . . . . .	209
Petroleum and Industrial Process Operation Technology, Certificate . . . . .	211
Pipeline Mechanic, Certificate . . . . .	214
Welding Engineering Technology, AAS, Diploma, Certificates . . . . .	223-227

# Academic Programs

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

## Associate of Arts Degree (A.A.)

The associate of arts degree requires a minimum of 62-64 credits. All associate degree students are required to complete a core of 38-40 credit hours of 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 computer science as outlined on page 30. The transfer electives may also be selected from the courses listed on page 31 or 24 credit hours may be selected from courses listed on page 40. When selecting transfer electives, it is recommended that the student seek the guidance of a counselor or his/her academic advisor.

## Associate of Applied Science Degree (A.A.S.)

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 A.A.S. degree depends on the senior institution's requirements.

## Associate of Fine Arts Degree (A.F.A.)

The associate of fine arts degree requires 61 credits. Students complete 19 general education credits distributed over the areas of communication, mathematics, and social and natural sciences. Students also complete 24 credits in the major. The remaining 18 credits are taken as required courses and restricted electives related to the major but which allow the student to explore individual areas of interest within the field. It is recommended that students seek the guidance of an academic advisor when selecting elective courses.

## 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.

## General Education

All associate degree programs include general education course requirements. For the associate of arts degree, courses that satisfy general education are listed on page 40 by areas. Courses that satisfy general education requirements for the associate of applied science degree are listed by area on page 59.

The 21st Century Core Competencies, adopted from *Learning Outcomes for the 21st Century*, have been approved as the framework for General Education at Westmoreland.

## 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 the 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 associate of arts (A.A.) and associate of fine arts (A.F.A.) degrees which are designed for students planning to transfer.

Career degree (A.A.S.) programs prepare students for employment and therefore concentrate on job-related courses. A.A.S. 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.

# Associate of Arts Degree (AA)

## Degree Requirements

The requirements of the associate of arts degree are:

- **38-40 semester hours of general education from the courses listed below.**

To meet the general education requirement, 38 credit hours should be taken in the six areas designed below. Specific courses are listed for each area.

I English 6 semester hours	II Humanities 9 semester hours (in 2 areas)	III Social Science 9 semester hours (in 2 areas)	IV Mathematics 3 semester hours	V Natural Science** 8-10 semester hours	VI Computer Science 3 semester hours
ENG 161	ART 155	HUM 156	ECN 158	MTH 157	BIO 107
ENG 164	ART 156	ECN 255	MTH 158	BIO 120	CPT 145
	ART 158	ECN 256	MTH 160	BIO 145	CPT 150
	ART 160		MTH 161	BIO 155	
	ART 162	GEO 155	MTH 172	BIO 156	
	ART 165		MTH 180	BIO 171	
	MUS 155	HIS 155	MTH 185	BIO 172	
	MUS 160	HIS 156		BIO 265	
	ASL 101	HIS 249		CHM 107	
	ASL 102	HIS 255		CHM 108	
	PHL 155	HIS 256		CHM 155	
	PHL 160	HIS 257		CHM 156	
	PHL 161	HIS 262			
ENG 165	REL 171			EPS 150	
ENG 245	REL 181	POL 155		EPS 160	
ENG 255		POL 200		EPS 163	
ENG 258					
ENG 264		PSY 160			
ENG 275	SPA 155	PSY 161		GEO 160	
ENG 279	SPA 156	PSY 163			
ENG 290		PSY 165		PHY 153	
	SPC 155	PSY 167		PHY 155	
FRN 155	SPC 156	PSY 250		PHY 156	
FRN 156	SPC 157	PSY 260		PHY 255	
	SPC 158	PSY 265		PHY 256	
	SPC 255	PSY 267			
		PSY 268			
		PSY 269			
		PSY 270			
		SOC 155			
		SOC 161			
		SOC 162			
		SOC 255			

\*While these courses are designed for transfer, students are reminded that the requirements for a bachelor's degree vary among four-year colleges and universities. For this reason students are cautioned to select courses which fulfill the requirements of the school to which they intend to transfer. They should contact the Westmoreland transfer counselor before their first semester and be guided by the catalog of the college or university they wish to attend after earning their associate degree.

\*\*Natural Science distribution may be satisfied by: completion of two courses with lab science (8 credits), completion of one course with lab science and two courses without (10 credits), or completion of three courses without lab science (9 credits).



# Associate of Arts Degree (AA)

## Elective Courses for Students Planning to Transfer to a Four-Year College or University

Students in the associate of arts degree program are required to complete transfer elective courses, all of which can be chosen from the courses listed on page 39. Students may choose up to 24 credit hours from the list below. 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.

ACC 155	CPT 163	ENG 162	MTH 108
ACC 156	CPT 180	ENG 163	MTH 109
ACC 219	CPT 181	ENG 166	MTH 173
ACC 222	CPT 182	ENG 240	MTH 271
ACC 230	CPT 183	ENG 250	MTH 272
ACC 234	CPT 213		
ACC 250	CPT 286	FIN 155	MUS 111
ACC 251		FIN 220	MUS 131
ACC 255	CRJ 155	FIN 246	MUS 141
ACC 256	CRJ 160	FIN 266	MUS 142
ACC 260	CRJ 162		MUS 165
	CRJ 163	FSM 159	MUS 175
ART 155	CRJ 172		MUS 176
ART 156	CRJ 180	FRN 255	MUS 177
ART 158	CRJ 195	FRN 256	MUS 178
ART 160	CRJ 220		MUS 241
ART 162	CRJ 225	GCT 115	MUS 242
ART 165	CRJ 255	GCT 161	MUS 255
	CRJ 261		MUS 275
BUS 140	CRJ 262	HMS 155	MUS 276
BUS 158	CRJ 263	HMS 157	MUS 277
BUS 205	CRJ 265	HMS 170	MUS 278
BUS 240	CRJ 276	HMS 171	MUS 285
BUS 241	CRJ 277	HMS 172	
BUS 244	CRJ 283		POL 156
BUS 245	CRJ 287	HON 295	POL 220
BUS 249	CRJ 290	HON 296	POL 255
BUS 250	CRJ 296	HON 297	POL 256
BUS 258		HON 298	
BUS 260	ECE 180		PSY 275
BUS 275	ECE 188	HOR 105	
BUS 285			SPA 255
BUS 288	ECN 255	HPE 156	SPA 256
BUS 296	ECN 256	HPE 157	
	ECN 260	HPE 176	WEB 110
CHM 250			WEB 140
CHM 251	EDU 156	LAS 101	WEB 235
CHM 264	EDU 200	LAS 111	WEB 277
	EDU 250		
CPT 160		MED 105	
CPT 162		MED 110	
		MED 155	
		MED 158	
		MED 160	
		MED 170	
		MED 255	
		MED 256	

The list of courses is not all inclusive and other courses may be approved on an individual basis.

# Associate of Arts, AA

## School of Humanities, Social Sciences and Public Service

This degree is designed for students who plan to transfer to a four-year college or university. In consultation with a transfer counselor, the student has the flexibility to design a program that will readily transfer to most institutions without loss of credits and satisfy core general education requirements at most institutions.

### Career Opportunities

Graduates of Westmoreland’s program who successfully complete courses from the approved categories will have met all of the competencies approved by the Transfer and Articulation Oversight Committee (TAOC) and have their credits transferred and counted toward graduation at any of the participating Pennsylvania State System of Higher Education Universities. A complete list of four-year colleges and universities covered by the TAOC agreement can be found at [www.patrac.org](http://www.patrac.org).

### Program Learning Outcomes

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 Learning Outcomes for the 21st Century and have been approved as the framework for general education at Westmoreland. Students are expected to achieve competency 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 Computation, Community, Critical Thinking, Information Literacy Skills, Interpersonal, Personal and Technology. Refer to page 33 of this catalog for complete learning outcomes.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	Math	Mathematics Course	3	Gen Ed	F, Sp, Su	Test	Page 30, Column IV
3	Humanities	Humanities Course	3	Gen Ed	F, Sp, Su		Page 30, Column II
4	Social Science	Social Science Course	3	Gen Ed	F, Sp, Su		Page 30, Column III
5	Natural Sci	Any Natural Science with lab	4	Gen Ed	F, Sp, Su		Page 30, Column V
6	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		CPT 145
7	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
8	Humanities	Humanities Course	3	Gen Ed	F, Sp, Su		Page 30, Column II
9	Social Science	Social Science Course	3	Gen Ed	F, Sp, Su		Page 30, Column III
10	Humanities	Humanities Course	3	Gen Ed	F, Sp, Su		Page 30, Column II
11	Social Science	Any Social Science Course	3	Gen Ed	F, Sp, Su		Page 30, Column III
12	Natural Sci	Any Natural Science with lab	4	Gen Ed	F, Sp, Su		Page 30, Column V
13	Gen Elective	Choose any General Elective	24	Other	F, Sp, Su		Page 30 & 31

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Associate of Arts, AA

BUSINESS ADMINISTRATION

## School of Business

The associate of arts, business administration degree is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year college or university, 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.

### Career Opportunities

Graduates of Westmoreland's program will have met all of the competencies articulated in the Pennsylvania Statewide Program to Program Articulation Agreement in Business approved by the Transfer and Articulation Oversight Committee (TAOC) on June 16, 2011. A complete list of four-year colleges and universities covered by the TAOC agreement can be found at [www.patrac.org](http://www.patrac.org). Students interested in transferring to a four-year college or university not participating in TAOC should meet with a transfer counselor.

### Program Learning Outcomes

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

- transfer to a bachelor's degree program in a business discipline
- 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 on-going operations

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	MTH 100 or Test	
4	ACC 155	Accounting I	3	Major	F, Sp, Su	MTH 052, MTH 052A or Test	
5	Elective	Social Science	3	Gen Ed	F, Sp, Su		Page 30 Column III
6	HUM 156	Critical Thinking	3	Gen Ed	F, Sp, Su		
7	ACC 156	Accounting II	3	Major	F, Sp, Su	ACC 155	
8	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
9	BUS 158	Principles of Management	3	Major	F, Sp, Su		
10	BUS 244	Business Statistics	3	Major	F, Sp	MTH 052, MTH 052A or Test	
11	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
12	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
13	BUS 205	Business Law I	3	Major	F, Sp		
14	BUS 250	Calculus for Business	3	Major	F, Sp	MTH 157	
15	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, MTH 052A or Test	
16	Elective	Natural Science with Lab	4	Gen Ed	F, Sp, Su		Page 30 Column V
17	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
					continued on next page		



# Associate of Arts, AA

## CRIMINAL JUSTICE

### School of Humanities, Social Sciences and Public Service

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

### Career Opportunities

Graduates of Westmoreland's program will have met all of the competencies articulated in the Pennsylvania Statewide Program to Program Articulation Agreement in Criminal Justice approved by the Transfer and Articulation Oversight Committee (TAOC) on June 16, 2011. A complete list of four-year colleges and universities covered by the TAOC agreement can be found at [www.patrac.org](http://www.patrac.org). Students interested in transferring to a four-year college or university not participating in TAOC should meet with a transfer counselor.

### Programing Learning Outcomes

**This curriculum is designed to prepare students 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 CJ 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 course system

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	CRJ 155	Intro to Criminal Justice	3	Major	F, Sp, Su		
3	CRJ 163	Criminal Procedure	3	Major	F, Sp, Sp,		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
6	CRJ 162	Police Administration I	3	Major	Sp, Su	CRJ 155	
7	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
8	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		
9	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		
10	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	MTH 160
11	CRJ 277	Ethics & CRJ	3	Major	F		
12	CRJ 290	Principles of Criminology	3	Major	F, Sp, Su		
13	ENG 255	Introduction to Literature	3	Gen Ed	F, Sp, Su		
14	MUS 155	Music Listening	3	Gen Ed	F, Sp, Su		PHL 160 or ART 155
15	BIO 155	General Biology	4	Gen Ed	F, Sp, Su		
16	CRJ 180	Corrections	3	Major	F, Su		
17	CRJ 255	Juvenile Delinquency	3	Major	F, Sp, Su		
18	MTH 157	College Algebra	3	Major	F, Su	Test	
19	BIO 156	General Biology II	4	Gen Ed	F, Sp, Su	BIO 155	
20	POL 155	Amer National Government	3	Gen Ed	F, Sp, Su		

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Associate of Arts, AA

## PSYCHOLOGY

### School of Humanities, Social Sciences and Public Service

The associate of arts, psychology degree is designed primarily for those students who plan to transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year college or university, and are interested in majoring in psychology.

### Career Opportunities

Graduates of Westmoreland's program will have met all of the competencies articulated in the Pennsylvania Statewide Program to Program Articulation Agreement in Business approved by the Transfer and Articulation Oversight Committee (TAOC) on June 16, 2011. A complete list of four-year colleges and universities covered by the TAOC agreement can be found at [www.patrac.org](http://www.patrac.org). Students interested in transferring to a four-year college or university not participating in TAOC should meet with a transfer counselor.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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 nonexperimental 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	
4	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
5	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		
6	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
7	MTH 160	Intro to Statistics	3	Major	F, Sp, Su	Test	
8	PSY 161	Human Growth & Development	3	Other	F, Sp, Su	PSY 160	
9	PHL 161	Intro to Ethics	3	Gen Ed	F, Sp, Su		
10	PSY Elective	PSY: 163, 260 or 270	3	Other	F, Sp, Su	PSY 160	
11	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		Page 30 Column III
12	BIO 155	General Biology	4	Gen Ed	F, Sp, Su		
13	PSY 250	Research Methods in Psych	3	Major	Sp, Su	PSY 160 & MTH 160	
continued on next page							



# Associate of Fine Arts, AFA

## ART THERAPY OPTION

### School of Humanities, Social Sciences and Public Service

The associate of fine arts degree program in art therapy offers a foundation curriculum parallel to the first two years of a baccalaureate 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 option 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 and are introduced to how these fields work in tandem for effective therapeutic outcomes.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify the relationship between art and psychology
- 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ART 155	Intro to Art History	3	Major	F, Sp, Su		
2	ART 162	Drawing I	3	Major	F, Sp, Su		
3	ATH 175	Expressive Therapies	3	Major	F		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	Page 30 Column IV
6	ART 160	2-D Design	3	Major	F, Sp		
7	ART 161	3-D Design	3	Major	Sp	ART 160	
8	ART 165	Painting I	3	Major	F, Sp, Su	ART 162	
9	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
10	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
11	ART 163	Drawing II	3	Major	F, Sp, Su	ART 162	
12	ASL 101	American Sign Language I	3	Other	F, Sp, Su		
13	ATH 176	Intro/Visual Art Therapy	3	Major	Sp	ART 162	
14	PSY 161	Human Growth and Development	3	Other	F, Sp, Su	PSY 160	
15	EPS 150	Astronomy	4	Gen Ed	F, Sp, Su		Page 30 Column V
16	ART 285	Art Portfolio I	3	Major	F, Sp, Su		
17	ART 185	Clay I - Touchstone	3	Major	Sp, Su		
18	ART 156	World Art Survey	3	Major	Sp, Su		ART 158
19	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
20	PSY 270	Abnormal Psychology	3	Other	F, Sp, Su	PSY 160	

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Associate of Fine Arts, AFA

GRAPHIC DESIGN OPTION

School of Humanities, Social Sciences and Public Service

The associate of fine arts in graphic design 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 foundational learning experience before moving to a senior institution. Students completing the AFA program 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 a graphic communications associate of applied science degree that prepares students for entry-level positions in production, sales and support in printing and publishing.

## Program 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 that demonstrates acceptable competencies for the AFA

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ART 160	2-D Design	3	Other	F		
2	ART 162	Drawing I	3	Other	F		
3	GCT 100	Design Technology	1	Major	F1		
4	GCT 115	Design & Layout I	3	Major	F1		
5	GCT 151	Art & Illustration I	3	Major	F1		
6	GCT 161	Digital Imaging I	3	Gen Ed	F1		
7	ART 142	Typography	3	Other	Sp		ART 143
8	ART 158	American Art	3	Other	Sp		ART 159
9	GCT 131	Type & Publishing I	3	Major	Sp1		
10	GCT 155	Graphics & Lettering I	3	Major	Sp1	co-req GCT 151	
11	MED 160	Basic Photography	3	Other	Sp		
12	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
13	GCT 215	Design & Layout II	3	Major	F2	GCT 115 & GCT 151	
14	GCT 231	Type & Publishing II	3	Major	F2	GCT 131	
15	GCT 255	Graphics & Lettering II	3	Major	F2	GCT 155	
16	Elective	Natural Science	4	Gen Ed	F, Sp, Su		Page 30 Column V
17	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
18	GCT 251	Art & Illustration II	3	Major	Sp2	GCT 151	
19	GCT 261	Digital Imaging & Editing II	3	Major	Sp2	GCT 161	
20	MTH 161	Modern Math	3	Gen Ed	F, Sp, Su	Test	MTH 157
21	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 30 Column III

**Total Program Credits**  
**Total Pathway Credits**

**62**  
**62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Associate of Fine Arts Degree, AFA

## MUSIC OPTION

### School of Humanities, Social Sciences and Public Services

The associate of fine arts music degree program offers a foundation curriculum parallel to the first two years of a baccalaureate in music (BS). As a transfer program, students will begin their music program and by the end of their fourth semester, they are ready to move to a senior institution. Students completing the AFA degree in music are prepared for a range of higher education options in music. The program is designed to develop technical, conceptual, aural and critical thinking skills that lay the groundwork for specialized academic study. The components of this program develop a strong foundation in music literacy that will equip students with a broad range of options for their future in music.

Applied music courses - MUS 121, MUS 122, MUS 221, MUS 222 - offer four levels of private lessons to music majors for either one or two credits per semester. All applied music courses may be repeated four times for the major and four to eight hours of practices time is required. Weekly half-hour lessons (1 credit) are given to students enrolled in the music program. Weekly one-hour lessons (2 credits) are suggested for students enrolled as music performance majors.

Fundamentals of applied music courses - MUS 117, MUS 118, MUS 119, MUS 120 - are designed for all students, regardless of their musical background, who want to learn the basics of applied music. These courses provide the opportunity to learn to play music on one of the following: woodwinds, brass, strings, piano, organ or voice. These courses are designed for students or adults who (1) want to become music majors for admission into the music

program or (2) for those who want to increase their knowledge in music performance but not in a degree program. Fundamentals of Applied Music Lessons are an introduction to the skills of performance emphasizing the reading and playing of music. Students will learn scales, entry level literature, embouchure development, basic theory and sight-reading skills. Except for large percussion instruments, students must own the instruments for which they are taking lessons. This course satisfies no requirement of the music program. Private lessons take place 30 minutes per week per semester. Private lesson fee applies. Prerequisite Department approval

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- transfer to a four-year college or university and enter a music degree program
- demonstrate their knowledge of music theory, including music fundamentals, analysis techniques and composition techniques
- demonstrate sight-singing and music transcription skills
- show proficiency in an instrument or voice, including musical skills, audition and performance techniques, and literature and pedagogical knowledge specific to their specialty area
- demonstrate mastery of fundamental keyboard and vocal skills
- through ensemble experiences, develop rehearsal, performance skills and knowledge of instrumental or choral literature
- demonstrate and show understanding of Western European music history and American music history

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MUS 165	Music Theory I	3	Major	F, Su		
2	MUS 115	Aural Theory	1	Major	F, Su		
3	MUS 180	Classical Piano	2	Major	F, Su		Test Out
4	MUS 121	Applied Lessons	1	Major	F, Sp, Su		Test Out
5	MUS 141, 175, or 177	Band I/Choir I/Orchestra I	2	Major	F, Sp, Su (MUS 177 only)		
6	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
7	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	
8	MUS 166	Music Theory II	3	Major	Sp, Su	MUS 165	Test Out
9	MUS 116	Aural Skills II	1	Major	Sp, Su	MUS 115	Test Out
10	MUS 280	Classical Piano II	2	Major	Sp, Su	MUS 180	
11	MUS 122	Applied Lessons	1	Major	F, Sp, Su	MUS 121	
12	MUS 142, 176 or 178	Band II/Choir II/Orchestra II	2	Major	F, Sp, Su (MUS 178 only)	MUS 141, 175 or 177	
13	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 30 Column III
14	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
15	MUS 265	MUSIC THEORY III	3	Major	F, Su	MUS 166	Test Out
16	MUS 215	AURAL SKILLS III	1	Major	F, Su	MUS 115	Test Out
Continued on next page							





# Associate of Fine Arts Degree, AFA

VISUAL ARTS OPTION

School of Humanities, Social Sciences and Public Service

The associate of fine arts degree program 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 program are prepared for a range of higher education options such as art education, art therapy, art management or museum related careers. The program is designed to develop technical, conceptual, creative problem-solving, visual and critical thinking skills that lay the groundwork for specialized academic study, self employment or careers in creative industries. Before degree completion, students undertake the art capstone portfolio class in their final semester. This class requires the student to stage a professional art exhibition or art internship project. The components of this program develop a strong foundation in visual literacy that will equip students with a broad range of options for their future in the visual arts.

## Program Learning Outcomes

This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ART 155	Intro to Art History	3	Major	F, Sp, Su		
2	ART 160	2-D Design	3	Major	F, Sp		
3	ART 162	Drawing I	3	Major	F, Sp, Su		
4	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	Page 30 Column IV
5	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
6	ART 161	3-D Design	3	Major	Sp	ART 160	ART 163
7	ART 165	Painting I	3	Major	F, Sp	ART 162	ART 164
8	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
9	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
10	GCT 161	Digital Imaging I	3	Other	F, Sp, Su		
11	ART 285	Art Portfolio I	3	Major	F, Sp, Su		
12	ART 156	World Art Survey	3	Major	Sp, Su		ART 158
13	Elective	Restricted Elective	3	Major	F, Sp, Su		See list
14	Elective	Restricted Elective	3	Major	F, Sp, Su		See list
15	Elective	Restricted Elective	3	Major	F, Sp, Su		See list
16	Elective	Restricted Elective	3	Major	F, Sp, Su		See list
17	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 30 Column III
18	EPS 150	Astronomy	4	Gen Ed	F, Sp, Su		Page 30 Column V
19	ART 286	Art Portfolio II	3	Major	F, Sp, Su	ART 285	
20	BUS 188	Social Media in Business	3	Other	Sp		BUS 260

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

**Restricted Electives**

ART 140 Illustration	ART 166 Painting II
ART 142 Typography	ART 185 Clay I
ART 143 Printmaking	ART 188 Textiles I
ART 150 Airbrush Techniques	MED 170 Digital Photography
ART 159 Graphic Design History	Any partnership course with Touchstone Center for Crafts
ART 183 Book Arts I	

# Associate of Applied Science Degree (AAS)

## Degree Requirements

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 which have been determined to best meet the needs of that particular career field. The distribution of general education requirements and the courses which 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 courses listed.

I English 6 semester hours	II Humanities 0-3 semester hours	III Social Science 3 semester hours	IV Mathematics 3 semester hours	V Science 0-4 semester hours	VI Computer Skills 3 semester hours	
ENG 161	ART 155	MUS 155	ECN 255	BUS 120	BIO 107	ARC 210
ENG 162	ART 156	MUS 160	ECN 256	BUS 244	BIO 110	
ENG 163	ART 158		ECN 260		BIO 120	CPT 145
ENG 164	ART 159	PHL 155		MTH 100	BIO 130	CPT 150
ENG 166	ART 160	PHL 160	GEO 155	MTH 100A	BIO 145	
	ART 162	PHL 161		MTH 108	BIO 155	DFT 258
	ART 165		HIS 155	MTH 109	BIO 160	DFT 266
		REL 171	HIS 156	MTH 157	BIO 171	
	ASL 101	REL 181	HIS 249	MTH 158	BIO 210	GCT 161
			HIS 255	MTH 160		
	ENG 165	SPA 155	HIS 256	MTH 161	CHM 105	MED 105
	ENG 245	SPA 156	HIS 257	MTH 172	CHM 107	
	ENG 255		HIS 262	MTH 173	CHM 108	WEB 110
	ENG 258	SPC 155		MTH 180	CHM 155	
	ENG 264	SPC 156	POL 155	MTH 185	CHM 264	
	ENG 275	SPC 157	POL 200	MTH 271		
	ENG 290	SPC 158		MTH 272	EPS 150	
		SPC 255	PSY 160		EPS 160	
	FRN 155		PSY 161		EPS 163	
	FRN 156		PSY 163			
			PSY 165		GEO 160	
	HUM 156		PSY 167			
			PSY 260		PHY 107	
			PSY 265		PHY 153	
			PSY 267		PHY 155	
			PSY 268		PHY 255	
			PSY 269			
			PSY 270			
			SOC 155			
			SOC 161			
			SOC 162			
			SOC 255			

# Accounting, AAS

## School of Business



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.

At Westmoreland, the academic 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.

Successful completion of this program of study leads to the associate of applied science degree.

### Career Opportunities

Recent graduates of the accounting 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su	Test	
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, MTH 052A or Test	
4	ACC 155	Accounting I	3	Major	F, Sp, Su	MTH 052, MTH 052A or Test	
5	BUS 140	Intro to Business	3	Other	F, Sp, Su		
6	ACC 156	Accounting II	3	Major	F, Sp, Su	ACC 155	
7	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
8	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, MTH 052A or Test	
9	ACC 234	Payroll & Spreadsheet Software	3	Major	F, Sp, Su		
10	ACC 250	Principles of Taxation	3	Major	F, Sp	ACC 155	
11	ACC 219	Managerial Accounting	3	Major	F, Sp, Su	ACC 156	
12	ACC 251	Corporate Taxation	3	Other	F, Sp		ECN 260
13	FIN 220	Business Finance	3	Other	F, Sp, Su	ACC 155 or ACC 165	
14	ACC 255	Intermediate Accounting I	3	Major	F, Sp	ACC 156	
15	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
16	ACC 230	Integ Accounting Software	3	Major	F, Sp	ACC 155	
17	ACC 256	Intermediate Accounting II	3	Major	F, Sp	ACC 156	
18	ACC 222	Principles of Auditing	3	Major	F, Sp, Su	ACC 156	
19	BUS 288	Business Analytics	3	Other	F, Sp	FIN 220	
20	FIN 266	Financial Statement Analysis	3	Other	F, Sp	FIN 220	

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Accounting, Certificate

COMPUTER ACCOUNTING & TAX SPECIALIST

## School of Business

The computer accounting and tax specialist certificate program 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ACC 155	Accounting I	3	Major	F, Sp, Su	Test	
2	ACC 156	Accounting II	3	Major	F, Sp, Su	ACC 155	
3	ACC 230	Integrated Accounting Software	3	Major	F, Sp	ACC 155	
4	ACC 234	Payroll and Spreadsheet Software	3	Major	F, Sp		
5	ACC 250	Principles of Taxation	3	Major	F, Sp	ACC 155	
6	ACC 251	Corporate Taxation	3	Major	F, Sp		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Accounting, Certificate

GENERAL ACCOUNTING

School of Business

The general accounting certificate program 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 120	Math for Business	3	Major	F, Sp	MTH 052 or Test	
2	CPT 195	Excel for Windows	3	Major	F, Sp		
3	ACC 155	Accounting I	3	Major	F, Sp, Su	Test	
4	ACC 156	Accounting II	3	Major	F, Sp, Su	ACC 155	
5	ACC 230	Integrated Accounting Software	3	Major	F, Sp	ACC 155	
6	ACC 234	Payroll and Spreadsheet Software	3	Major	F, Sp		
<b>Total Program Credits</b>			<b>18</b>				
<b>Total Pathway Credits</b>			<b>18</b>				

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Advanced Manufacturing and Robotics, AAS

## School of Technology

An advanced manufacturing and 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. Advanced manufacturing and 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 Advanced Manufacturing and Robotics AAS degree program may accept positions such as industrial technician, process specialist, and automation technician.

### Program Learning Outcomes

**This program is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
2	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
3	MTH 108	Math for the Technologies I	4	Major	F, Sp, Su	MTH 052, 052A or Test	Advisor
4	DFT 258	AutoCAD	4	Gen Ed	F		
5	PSY 160	Psychology	3	Gen Ed	F, Sp, Su		
6	EMA 110	Electrical Components	4	Major	Sp		
7	EMA 120	Mechanical Components & Electric Motors	4	Major	Sp		
8	EMA 130	Electro-Pneumatic & Hydraulic Control Circuits	4	Major	Sp		
9	EMA 140	Digital Fund & Prog Logic Controllers	4	Major	Sp	EMA 110	
10	EMA 210	Process Control Technology	4	Major	F	EMA 110, 120, 130 & 140	
11	EMA 220	Integrated Automation with Robotics	4	Major	F	EMA 110, 120, 130 & 140	
12	EMA 230	Automation Systems	4	Other	F	EMA 110, 120, 130 & 140	
13	ELC 192	Industrial Electrical Equipment	4	Other	Sp	ELC 191 or EMA 110	
14	EMA 240	Motor Control	4	Other	Sp	EMA 110, 120, 130 & 140	
15	EMA 250	Mechanical Components and Systems	4	Other	Sp	EMA 110, 120, 130 & 140	
16	EMA 260	Manufacturing Process	4	Other	Sp	EMA 110, 120, 130 & 140	
17	EMA 225	Industrial Electronics in Advanced Manufacturing	4	Other	F	EMA 110, 120, 130 & 140	

**Total Program Credits**

**65**

**Total Pathway Credits**

**65**

PDV 101 - First Year Seminar is required for all first time credential seeking students.

# Advanced Manufacturing Basic Systems, Certificate

## School of Technology

This 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 these 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 Manufacturing Certificate will be able to configure and troubleshoot basic manufacturing systems.

### Program Learning Outcomes

This program is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	EMA 110	Electrical Components	4	Major	Sp		
2	EMA 120	Mechanical Components & Electric Motors	4	Major	Sp		
3	EMA 130	Electro-pneumatic & Hydraulic Control Cir	4	Major	Sp		
4	EMA 140	Digital Fund & Prog Logic Controllers	4	Major	Sp	Co-Req: EMA 110	

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First Year Seminar is required for all first time credential seeking students.



## Advanced Manufacturing and Robotics Technician II, Certificate

An Advanced Manufacturing and Robotics Technician II will function as a skilled technician who can analyze and assess complex manufacturing systems as a whole 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 a 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 Manufacturing Certificate before enrolling in the Advanced Manufacturing and Robotics 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

This program is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	EMA 240	Motor Control	4	Major	Sp	EMA 110, 120, 130 & 140	
2	EMA 250	Mechanical Components and Systems	4	Major	Sp	EMA 110, 120, 130 & 140	
3	EMA 260	Manufacturing Process	4	Major	Sp	EMA 110, 120, 130 & 140	
4	ELC 192	Industrial Electrical Control	4	Major	Sp	ELC 191 or EMA 110	

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First Year Seminar is required for all first time credential seeking students.

# 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 a valuable commodity. 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, science 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.

### 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 technician, telecommunications technician, safety specialists and many others.

### 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	Certificate	Natural Gas & Oil Technology Certificate	18	Major	F, Sp, Su		
2	Certificate	Occupational Health & Safety Certificate	16	Major	F, Sp, Su		
3	Certificate	Mechatronics Systems Technician Certificate	16	Major	F, Sp, Su		
4	Certificate	Industrial Electricity Technology Certificate	16	Major	F, Sp, Su		
5	Certificate	Computer Numerical Control Technology (CNC) Certificate	16	Major	F, Sp, Su		
	Certificate	or Machine Technology I Certificate	16	Major	F, Sp, Su		
6	Certificate	Supply Chain Management Certificate	18	Major	F, Sp, Su		
7	Certificate	Petroleum & Industrial Process Operator Technology (PIPOT)	16	Major	F, Sp, Su		
8	Certificate	Pipeline Mechanic	16	Major	F, Sp, Su		
9	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
10	DFT 258	AutoCAD	4	Gen Ed	Sp		
11	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
12	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	Advisor
13	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
14	Elective	Restricted Electives	12	Gen Ed	F, Sp, Su		See List

**Total Program Credits 61/63**

**Total Pathway Credits 61/63**

Students must select two of the certificates.

Student must consult with their advisor for appropriate completion.

Restricted Electives: Technical courses with the prefix: EMA, NGT, MTT, CNC, WEL, HAC, ELC, RBT, ARC, DFT, EGR

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Architectural Drafting and Design, AAS

## School of Technology

Students in the architectural drafting and design program learn to translate the ideas, rough sketches, specifications and calculations of architects into working drawings for production and construction.

Successful completion of this program of study leads to the associate of applied science degree.

### 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

**This curriculum is designed to prepare students 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 effect 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ARC 101	Building Materials & Estimating	3	Major	F		
2	ARC 105	Architectural Drafting I	4	Major	F		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, MTH 052A or TEST	Advisor
5	ARC 102	Contracts and Specifications	3	Major	Sp		
6	ARC 106	Architectural Drafting II	4	Major	Sp	ARC 105	
7	ARC 210	Architectural AutoCAD I	4	Gen Ed	Sp		
8	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
9	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su		MTH 108
10	ARC 119	Introduction to Surveying	3	Major	F	MTH 108	
11	ARC 211	Architectural AutoCAD II	4	Major	F	ARC 210	
12	EGR 220	Introduction to Statics and Strength of Materials	3	Other	F	Co: PHY 107 or 155	
13	PHY 107	Applied Physics	4	Gen Ed	F	MTH 100, MTH 100A or 108	Advisor
14	ARC 215	Architectural Presentation	4	Major	Sp	ARC 210	
15	ARC 262	Piping, Structural Detailing and Electromechanical Drafting	4	Major	Sp	ARC 210 or DFT 258	
16	Elective	Restricted Elective	3-4	Other	F, Sp, Su		See List
17	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Advisor

**Total Program Credits 60-61**

**Total Pathway Credits 60-61**

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

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Art Business, Certificate

## School of Humanities, Social Sciences and Public Service

The art business certificate 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 house, 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. Jobs associated with museums will be introduced, from entry-level positions in visitor services and administrative assistants to advanced tracks, including curators, archivists, museum educators and technicians as well as fundraising and development.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- learn about the structure of the art world and the interplay between the commercial and non-profit sectors
- gain art market knowledge
- acquire knowledge about the range of careers within a museum
- develop transferable skills such as grant writing, collections management, and a marketing plan to sell an art work
- have networking opportunities with regional art world professionals
- become familiar with current research resources for art law and art business
- foster knowledge about employment opportunities in the commercial art world, museum professions and the creative industries

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 188	Social Media in Business	3	Major	F, Sp, Su		
2	ART 170	Introduction to Grant Writing	3	Major	F		
3	ART 171	Art Law Legal issues for Creative Professionals	3	Major	F		
4	BUS 260	Small Business Management	3	Major	F, Sp		BUS 262
5	ART 172	Museum Careers	3	Major	Sp		
6	Elective	Restricted Elective	3	Major	F, Sp,Su		See List

**Total Program Credits 18**

**Total Pathway Credits 18**

**Restricted Electives:** ART 157 Introduction to Contemporary Art (3)  
 ART 156 World Art (3)  
 ART 286 Capstone Portfolio II (3)  
 BUS 199 Business Internship (3)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Art Technology, Certificate

## School of Humanities, Social Sciences and Public Service

The art technology certificate introduces a fusion between art practice and technology, including two-dimensional and three-dimensional design, graphic software and robotics. Through interdisciplinary collaborations and individual projects, student will develop a foundational proficiency in working with a range of technologies, including options for welding, 3D printing and self-designing interdisciplinary research. Students will investigate how the arts/humanities, sciences and technology inform each other through a project-based curriculum that provides a full range of analytical and creative skill sets for 21st century employment.

### Career Opportunities

This certificate will expose students to a wide range of career tracks to initiate a professional path in creative industries, designing and entrepreneurship. Students will be prepared for entry level jobs associated with industrial design, animatronics, entertainment, media and communications as well as support jobs for a range of creative industries. The intersection of the arts and sciences provides critically needed skills on a broad front as articulated by the US Congressional STEAM caucus, for innovation in all employment sectors, and will especially begin a foundation track for research and development.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- examine ways to build multi-disciplinary projects
- engage in creative dialogues with the arts/humanities/sciences and technology
- learn to think critically
- problem-solve creatively
- acquire new technical skills
- develop collaborative partnerships
- build innovative projects that may have social impact
- explore current research in STEAM initiatives and its role in the workforce
- foster links between the arts and sciences for a broad range of professional paths in creative and manufacturing industries

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ART 160	2D Design	3	Major	F, Sp		
2	ATT 150	Art Technology Systems I	4	Major	F		
3	GCT 261	Digital Imaging and Editing II	3	Major	Sp	GCT 161	
4	Elective	Restricted Elective	3-4	Major	F,Sp,Su		See List
5	ART 161	3D Design	3	Major	Sp		
6	DFT 266	3D Solid Modeling I	4	Major	F	ART 160	
7	Elective	Restricted Elective	3-4	Major	F, Sp,Su		See List

**Total Program Credits 23-25**

**Total Pathway Credits 23-25**

**Restricted Electives:** ART 175 Special Topics (3-4)  
 ART 151 Art Technology Systems II (4)  
 DFT 105 Technical Drafting I (4)  
 DFT 112 Introduction to Design, Materials and Processing (4)  
 MED 159 DSLR Video Production (3)  
 RBT 110 Agile Robotics I (4)  
 THR 180 Introduction to Theatre Design (3)  
 WEL 125 Welding I (4)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Baking and Pastry, AAS

## APPRENTICESHIP OPTION

### School of Culinary and Hospitality

The baking and pastry apprenticeship program is one of the majors comprising the college's School of Culinary Arts/Hospitality and is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). This apprenticeship program is sponsored by The American Culinary Federation Laurel Highlands Chapter (ACFLHC) and Westmoreland. A cooperative program, it combines 63 credits of academic course work with 4,000 hours of supervised on-the-job training in a participating restaurant, club, hotel, institution, resort or wholesale/retail bakery for an associate degree. Classes are scheduled so that students have a sufficient block of uninterrupted time to complete their 40-hour week. Academic work can be completed as a full-time student in two years or as a part-time student over a period of three years.

Students enrolled in this program are registered with the U.S. Department of Labor as apprentices and are required to join the ACFLHC as student culinarians. Registration and membership fees are required and payable to the ACF during the first week of class.

Students are expected to be well-groomed in compliance with the standards of sanitation. Students will be required to present medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Employment must be secured in a facility that will provide full-time employment. The employer will agree to abide by the apprenticeship guidelines. Having fulfilled employment requirements, applicants will complete the Pennsylvania Apprenticeship and Training Council Apprenticeship Agreement and American Culinary Federation (ACF) Apprentice Registration Form. At the completion of the program, students may apply for certification with the ACF.

The baking and pastry degree apprenticeship option may be completed through a partnership with Nemaocolin Woodlands Resort as well as the other approved apprenticeship sites. For more information, call the Westmoreland Admissions Office at 724-925-4077.

## Career Opportunities

Graduates of the baking and pastry program may accept positions as: pastry cook, pastry chef, executive pastry chef, baker, cake decorator, baking sales representative, institutional baker/pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, food batch maker, operations manager, sales representative or training specialist.

## Program Learning Outcomes

This curriculum is designed to prepare students 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 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BKP 141	Baking I	4	Major	F, Sp		
2	CUL 121	Apprenticeship I	2	Major	F		
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
4	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
7	CUL 122	Apprenticeship II	2	Major	Sp	CUL 121	
8	FSM 105	Foods I	4	Major	F, Sp		
9	BKP 242	Bakery/Deli Merchandising Techniques	3	Major	F, Sp	BKP 141	
10	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
11	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
12	BKP 243	Healthy Cooking Trends	4	Major	F, Sp	FSM 105	
13	BKP 245	Decorating Techniques	3	Major	F, Sp		
14	CUL 123	Apprenticeship III	2	Major	F	CUL 122	
15	FSM 215	Purchasing and Operations	3	Major	F, Sp		
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# Baking and Pastry, Diploma

## APPRENTICESHIP OPTION

### School of Culinary Arts & Hospitality

The baking and pastry apprenticeship program is one of the majors comprising the college's School of Culinary Arts/Hospitality. This apprenticeship program is sponsored by The American Culinary Federation Laurel Highlands Chapter (ACFLHC) and Westmoreland. A cooperative program, it combines 45 credits of course work with 4,000 hours of supervised on-the-job training in a participating restaurant, club, hotel, institution, resort or wholesale/retail bakery. Classes are scheduled so that students have a sufficient block of uninterrupted time to complete their 40-hour week. Academic work can be completed as a full-time student in two years or as a part-time student over a period of three years.

Students enrolled in this program are registered with the U.S. Department of Labor as apprentices and are required to join the ACFLHC as student culinarians. Registration and membership fees are required and payable to the ACF during the first week of class.

Students are expected to be well-groomed in compliance with the standards of sanitation. Students will be required to present medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Employment must be secured in a facility that will provide full-time employment. The employer will agree to abide by the apprenticeship guidelines. Having fulfilled employment requirements, applicants will complete the Pennsylvania Apprenticeship and Training Council Apprenticeship Agreement and American Culinary Federation (ACF) Apprentice Registration Form. At the completion of the program, students may apply for certification with the ACF.

The baking and pastry diploma apprenticeship option may be completed through a partnership with Nemaquin Woodlands Resort as well as other approved apprenticeship sites. For more information, contact the Westmoreland Admissions Office, 724-925-4077.

## Career Opportunities

Graduates of the culinary arts program may accept jobs with the following titles: pastry cook, pastry chef, executive pastry chef, baker, cake decorator, institutional baker/pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, food batch maker, operations manager, sales representative or training specialist.

## Program Learning Outcomes

**This curriculum is designed to prepare students 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 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BKP 141	Baking I	4	Major	F, Sp		
2	CUL 121	Apprenticeship I	2	Major	Sp		
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
4	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
7	CUL 122	Apprenticeship II	2	Major	Sp	CUL 121	
8	FSM 105	Foods I	4	Major	F, Sp		
9	BKP 242	Bakery/Deli Merchandising Techniques	3	Major	F, Sp	BKP 141	
12	BKP 243	Healthy Cooking Trends	4	Major	F, Sp	FSM 105	
13	BKP 245	Decorating Techniques	3	Major	F, Sp		
14	CUL 123	Apprenticeship III	2	Major	F	CUL 122	
15	FSM 215	Purchasing and Operations	3	Major	F, Sp		
16	BKP 247	Specialty/Artistic Techniques	4	Major	F	BKP 142	
17	CUL 224	Apprenticeship IV	2	Major	Sp	CUL 123	
18	FSM 235	Supervision/Training	3	Major	F, Sp		

**Total Program Credits 45**

**Total Pathway Credits 45**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Baking and Pastry, AAS

NON-APPRENTICESHIP OPTION

School of Culinary Arts & Hospitality



Baking and pastry is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for various positions in the baking industry. The program of study provides students with skills necessary for the production of a wide range of bakery products. Students are expected to be well groomed in compliance with standards of sanitation. Students will be required to provide medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

This program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC).

## Career Opportunities

Graduates of the baking and pastry program may accept positions as: pastry cook, pastry chef, executive pastry chef, baker, cake decorator, baking sales representative, institutional baker/pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, food batch maker, operations manager or training specialist.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- prepare yeasts rolls, breads, pies, 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 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BKP 141	Baking I	4	Major	F, Sp		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
4	FSM 105	Foods I	4	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
7	BKP 245	Decorating Techniques	3	Major	F, Sp		
8	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
9	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
10	FSM 235	Supervision/Training	3	Major	F, Sp		
11	BKP 144	Baking III	3	Major	F	BKP 142	
12	BKP 243	Healthy Cooking Trends	4	Major	F, Sp	FSM 105	
13	FSM 215	Purchasing and Operations	3	Major	F, Sp		
14	Elective	Humanities Elective	3	Gen Ed	F, Sp, Su		FSM 170/ or Page 51 Column II
15	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	Test	MTH 100, MTH 100A
16	BKP 242	Bakery/Deli Merchandising Techniques	3	Major	F, Sp	BKP 141	
17	BKP 247	Specialty/Artistic Techniques	4	Major	Sp	BKP 142	
18	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	
19	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Baking & Pastry, Diploma

NON-APPRENTICESHIP OPTION

## School of Culinary Arts and Hospitality

Baking and pastry is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for various positions in the baking industry. The program of study provides students with skills necessary for the production of a wide range of bakery products. Students are expected to be well-groomed in compliance with standards of sanitation. Students will be required to provide medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

### Career Opportunities

Graduates of the baking and pastry program may accept positions as: pastry cook, pastry chef, executive pastry chef, baker, cake decorator, baking sales representative, institutional baker/pastry chef, retail baker/pastry chef, wholesale baker/pastry chef, production supervisor, food batch maker, operations manager or training specialist.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- prepare yeast rolls, breads, pies, 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 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BKP 141	Baking I	4	Major	F, Sp		
2	FSM 103	Intro to Hospitality Industry	3	Major	F, Sp		FSM 113
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 118	Sanitation	2	Major	F, Sp		
5	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
6	BKP 242	Bakery/Deli Merchandising Techniques	3	Major	F, Sp	BKP 141	
7	BKP 247	Specialty/Artistic Techniques	4	Major	F	BKP 142	
8	FSM 215	Purchasing and Operations	3	Major	F, Sp		
9	FSM 235	Supervision and Training	3	Major	F, Sp		
10	BKP 144	Baking III	3	Major	Sp	BKP 142	
11	BKP 243	Healthy Cooking Trends	4	Major	F, Sp	FSM 105	
12	BKP 245	Decorating Techniques	3	Major	F, Sp		
13	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	

**Total Program Credits 42**

**Total Pathway Credits 42**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Baking and Pastry, Certificate

NON-APPRENTICESHIP OPTION

## School of Culinary Arts and Hospitality

The certificate is designed to provide entry and intermediate skills in the baking, deli and food production operations of the hospitality industries. A laboratory component is included in the Foods I, Baking I and Decorating Techniques courses. Sanitation standards are addressed through ServSafe as provided by the Educational Foundation of the National Restaurant Association. Uniforms and program tool kit are required for all lab classes. Students are expected to be well groomed in compliance with standards of sanitation. Business attire may be required for some class assignments. Medical proof of good physical health is required.

### Career Opportunities

Graduates of the baking and pastry certificate program may accept positions as: pastry cook, baker, cake decorator, baking sales representative, institutional baker, retail baker, wholesale baker, production supervisor, food batch maker, operations manager or training specialist.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- prepare yeast rolls, breads, pies, cookies, doughnuts and frozen desserts based on provided formulas
- prepare and decorate cakes and cookies
- make mathematical yield adjustments
- demonstrate basic food preparation skills
- practice basic interpersonal and customer service skills and techniques

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BKP 141	Baking I	4	Major	F, Sp		
2	BKP 245	Decorating Techniques	3	Major	F, Sp		
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 113	Customer Service	3	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
<b>Total Program Credits</b>			<b>16</b>				
<b>Total Pathway Credits</b>			<b>16</b>				

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Bionanotechnology, AAS

## School of Math, Science & Engineering

This program focuses on the preparation of students for work in such fields as biotechnology and pharmaceutical research and manufacturing. Students learn to work with materials at the nano-level in analysis, production and data collection. Students will complete the first three semesters at Westmoreland and complete nanotechnology courses at the Nanofabrication Facility at Penn State University (PSU) in University Park, Pa. Students need to apply for admission for the bionanotechnology program at PSU at least one semester prior to the semester at PSU. Tuition for MPT courses completed at Penn State will be Westmoreland tuition.

### Career Opportunities

Students enrolled in this program can work in occupations such as laboratory technician, quality control, and manufacturing technician in such fields as bionanotechnology research, medical laboratories and pharmaceutical manufacturing.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- transfer patterns using optical, e-beams, stamping and imprinting lithography
- operate optical, scanning probe, atomic force and electron microscopes
- work in a bionanotechnology laboratory or manufacturing facility
- demonstrate an understanding of bionanotechnology principles and concepts
- apply statistics to analyze scientific results
- operate and maintain bionanotechnology electromechanical equipment
- apply laboratory results to experimental applications

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CHM 107	Intro to Concepts Chem I	4	Gen Ed	F, Sp, Su	MTH 052, MTH 052A or Test	
2	ELC 106	Circuits I	4	Other	F, Sp, Su	MTH 052, MTH 052A	
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
4	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	
5	BIO 171	Anatomy & Physiology I	4	Major	F, Sp, Su	CHM 107, 155, 264 or HS Chemistry & ENG 095	
6	CHM 108	Intro Concepts Chem II	4	Other	Sp	CHM 107	
7	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
8	MTH 160	Statistics	3	Other	F, Sp, Su	Test	
9	PHY 107	Applied Physics	4	Other	F, Sp	MTH 108 100 or 100A	
10	BIO 172	Anatomy & Physiology II	4	Major	F, Sp, Su	BIO 171	
11	BIO 265	Microbiology	4	Major	F, Sp, Su	BIO 155 or 171 & CHM 107, 155 or 264 or HS Chemistry & ENG 095	
12	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
13	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 43 Column III
14	MPT 211	Material Safety & Equipment	3	Major	Sp, Su	MTH 157 & ENG 161	
15	MPT 212	Basic Nanotechnology Process	3	Major	Sp, Su	MTH 157 & ENG 161	
16	MPT 213	Materials in Nanotechnology	3	Major	Sp, Su	MTH 157 & ENG 161	
17	MPT 214	Patterning in Nanotechnology	3	Major	Sp, Su	MTH 157 & ENG 161	
18	MPT 215	Material Modification for Nano	3	Major	Sp, Su	MTH 157 & ENG 161	
19	MPT 216	Char, Testing of Nano Structures	3	Major	Sp, Su	MTH 157 & ENG 161	

**Total Program Credits**  
**Total Pathway Credits**

**64** PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.  
**64**

# Business

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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.

## Associate of Applied Science Degree

The associate of applied science business degree program is offered in several areas of concentration: financial management, general management, human resource management, marketing management and small business management. All of 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 associate of applied science degree 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 associate of arts degree in Business Administration (see page 33). 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 36-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 into 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 small business management. 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 OPTION  
 School of Business

The small business management option 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 small business management option 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**

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Page 43 Column IV
4	BUS 140	Intro to Business	3	Major	F, Sp, Su		
5	FIN 155	Personal Finance	3	Major	F, Sp		
6	ACC 165	Accounting for Managers	3	Major	F, Sp, Su	BUS 120	
7	BUS 158	Principles of Management	3	Major	F, Sp, Su		
8	BUS 205	Business Law I	3	Major	F, Sp, Su		
9	ECN 256	Microeconomics	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
10	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
11	ACC 120	QuickBooks - Basics	1	Other	F, Sp, Su		
12	BUS 188	Social Media in Business	3	Major	F, Sp, Su		
13	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
14	BUS 260	Small Business Management	3	Major	F, Sp		
15	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
16	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
17	BUS 240	Techniques of Selling	3	Major	F, Sp		
18	BUS 262	Entrepreneurship	3	Major	F, Sp		
19	FIN 266	Financial Statement Analysis	3	Major	F, Sp, Su	Fin 220	
20	RLS 209	Real Estate Finance	3	Major	F, Sp		
21	BUS 296	Business Strategy	3	Major	F, Sp, Su	45 credits	

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Business, AAS

FINANCE OPTION

## School of Business

The finance option of the business degree 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Page 43 Column IV
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
4	BUS 140	Intro to Business	3	Major	F, Sp, Su		
5	ECN 256	Microeconomics	3	Other	F, Sp, Su	MTH 052, 052A or Test	
6	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
7	BUS 158	Principles of Management	3	Major	F, Sp, Su		
8	BUS 205	Business Law I	3	Major	F, Sp, Su		
9	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
10	ACC 155	Accounting I	3	Major	F, Sp, Su	MTH 052, 052A or Test	
11	BUS 244	Business Statistics	3	Major	F, Sp, Su	MTH 052, 052A or Test	
12	ECN 260	Money & Banking	3	Major	F, Sp	ECN 255	
13	ACC 156	Accounting II	3	Other	F, Sp, Su	ACC 155	
14	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
15	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
16	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
17	FIN 246	Principles of Insurance	3	Major	F, Sp		
18	FIN 266	Financial Statement Analysis	3	Major	F, Sp, Su	FIN 220	
19	BUS 296	Business Strategy	3	Major	F, Sp, Su	45 credits	
20	BUS 288	Business Analytics	3	Major	F, Sp, Su	FIN 220	

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

## Business, AAS

### HUMAN RESOURCE MANAGEMENT OPTION

#### School of Business

The human resource management option 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 human resource management option 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Page 43 Column IV
4	BUS 140	Intro to Business	3	Major	F, Sp, Su		
5	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
6	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
7	BUS 158	Principles of Management	3	Major	F, Sp, Su		
8	ACC 165	Accounting for Managers	3	Major	F, Sp, Su	BUS 120	
9	BUS 205	Business Law I	3	Major	F, Sp, Su		
10	ECN 256	Microeconomics	3	Other	F, Sp, Su	MTH 052, 052A or Test	
11	BUS 241	Human Resource Management	3	Major	F, Sp, Su		
12	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
13	BUS 249	Labor Relations	3	Major	F, Sp		
14	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
15	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
16	BUS 258	Supervisory Management	3	Major	F, Sp, Su		
17	BUS 275	Organizational Behavior	3	Major	F, Sp, Su		
18	BUS 285	Compensation Management	3	Major	F, Sp		
19	BUS 296	Business Strategy	3	Major	F, Sp, Su	45 credits	
20	FIN 246	Principles of Insurance	3	Major	F, Sp	FIN 220	

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

**Business, AAS**  
 MANAGEMENT OPTION  
 School of Business

The management option 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 general management option 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**

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
4	BUS 140	Intro to Business	3	Major	F, Sp, Su		
5	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
6	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
7	ACC 165	Accounting for Managers	3	Major	F, Sp, Su	BUS 120	
8	BUS 158	Principles of Management	3	Major	F, Sp, Su		
9	BUS 205	Business Law I	3	Major	F, Sp, Su		
10	ECN 256	Microeconomics	3	Other	F, Sp, Su	MTH 052, 052A or Test	
11	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
12	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
13	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
14	BUS 241	Human Resource Management	3	Major	F, Sp, Su		
15	BUS 244	Business Statistics	3	Major	F, Sp, Su	MTH 052, 052A or Test	
16	BUS 249	Labor Relations	3	Major	F, Sp		
17	BUS 258	Supervisory Management	3	Major	F, Sp		
18	BUS 275	Organizational Behavior	3	Major	F, Sp, Su		
19	BUS 288	Business Analytics	3	Major	F, Sp, Su	FIN 220	
20	BUS 296	Business Strategy	3	Major	F, Sp, Su	45 credits	
<b>Total Program Credits</b>			<b>60</b>				
<b>Total Pathway Credits</b>			<b>60</b>				

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

## Business, AAS

### MARKETING OPTION

#### School of Business

The marketing Option 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 marketing option 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 095 or Test	
3	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Page 43 Column IV
4	BUS 140	Intro to Business	3	Major	F, Sp, Su		
5	ECN 255	Macroeconomics	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
6	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
7	ACC 165	Accounting for Managers	3	Major	F, Sp, Su	BUS 120	
8	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
9	BUS 205	Business Law I	3	Major	F, Sp		
10	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
11	BUS 188	Social Media Business	3	Major	F, Sp, Su		
12	BUS 158	Principles of Management	3	Major	F, Sp, Su		
13	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
14	MKT 242	Retailing	3	Major	F, Sp		
15	MKT 251	Consumer Behavior	3	Major	F, Sp		
16	BUS 240	Techniques of Selling	3	Major	F, Sp		
17	MKT 252	Public Relations	3	Major	F, Sp		
18	MKT 253	Global Marketing	3	Major	F, Sp		
19	MKT 254	Advertising and Promotion	3	Major	F, Sp		
20	BUS 296	Business Strategy	3	Major	F, Sp, Su	45 credits	

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Business, Certificate

ENTREPRENEURSHIP

## School of Business

The small business management 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 AAS Small Business Management Option.

### Career Opportunities

Graduates of the small business management option 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 188	Social Media/Business	3	Major	F, Sp, Su		
2	BUS 240	Techniques of Selling	3	Major	F, Sp		
3	BUS 260	Small Business Management	3	Major	F, Sp		
4	BUS 262	Entrepreneurship	3	Major	F, Sp		
5	FIN 155	Personal Finance	3	Major	F, Sp		
6	FIN 266	Financial Statement Analysis	3	Major	F, Sp, Su	FIN 220	

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



## Business, Certificate

FINANCE

### School of Business

The 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 financial management option 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 in large corporations and in commercial lending companies, consumer finance organizations, banks and insurance companies.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- participate in developing and implementing a financial plan
- manage the financial activities in a business organization
- engage in investment planning and credit management

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ACC 155	Accounting I	3	Major	F, Sp, Su	MTH 052, 052A or Test	
2	ECN 255	Microeconomics	3	Major	F, Sp, Su	MTH 052, 052A or Test	
3	ECN 260	Money & Banking	3	Major	F, Sp	ECN 255	
4	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	
5	FIN 246	Principles of Insurance	3	Major	F, Sp		
6	FIN 266	Financial Statement Analysis	3	Major	F, Sp, Su	FIN 220	

**Total Program Credits** **18**

**Total Pathway Credits** **18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Business, Certificate

## MANAGEMENT

### School of Business

The 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 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ACC 165	Accounting for Managers	3	Major	F, Sp, Su	BUS 120	
2	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
3	BUS 140	Introduction to Business	3	Major	F, Sp, Su		
4	BUS 158	Principles of Management	3	Major	F, Sp, Su		
5	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
6	FIN 220	Business Finance	3	Major	F, Sp, Su	ACC 155 or 165	

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Business, Certificate

MARKETING

## School of Business

The 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 AAS Marketing Option.

### Career Opportunities

Graduates of the marketing option 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 245	Principles of Marketing	3	Major	F, Sp, Su		
2	BUS 188	Social Media Business	3	Major	F, Sp, Su		
3	MKT 242	Retailing	3	Major	F, Sp		
4	MKT 251	Consumer Behavior	3	Major	F, Sp		
5	MKT 253	Global Marketing	3	Major	F, Sp		
6	MKT 254	Advertising and Promotion	3	Major	F, Sp		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Business, Certificate

REAL ESTATE

## School of Business

The real estate certificate offers students the opportunity to gain proficiency in real estate brokerage and management.

### Career Opportunities

Graduates of the real estate option 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 in corporations that have real estate departments.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- participate in the buying and selling of real estate
- manage rental properties
- engage in real estate transactions

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 240	Techniques of Selling	3	Major	F, Sp		
2	RLS 101	Fundamentals of Real Estate	2	Major	F, Sp		
3	RLS 102	Real Estate Practices	2	Major	F, Sp		
4	RLS 205	Property Management	3	Major	F, Sp		
5	RLS 209	Real Estate Finance	3	Major	F, Sp		
6	RLS 210	Law of Real Estates	3	Major	F, Sp		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Communications Design

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The Communication Design program of study serves the community as an active learning environment that immerses students in a range of media channels. Beginning with print – understanding space and composition, and as students progress, they are exposed to web-based design and time-based media theory and skills required for the evolving communication environment, contemporary issues, and workforce requirements.

The curriculum provides a flexible, responsive educational experience for students to build communication and creative skills, improve digital literacy, and develop interdisciplinary thinking required to evolve into innovative, perceptive and responsible production designers/technicians, knowledgeable customer service/sales, and technical support staff to meet the needs of business, industry, and the individual.

At the same time, deadline-based, production-oriented exercises emphasize critical, conventional and digital production knowledge, skills, and techniques essential for designing and assembling a broad range of expressive communication concepts and media for commercial and wide-format printing, digital publishing, interactive PDFs, mobile devices and the web.

## Associate of Applied Science Degree

Communication Design at WCCC was previously called Graphic Design. The world of communication isn't two-dimensional and neither is this program. The department focuses on the core principles of print-based graphic design – image, typography, color, hierarchy, and message – students learn to merge these skills with basic coding and scripting, and interactive and time-based medias. Students become competent in creating and delivering compelling content that is understandable and accessible to audiences and users across diverse media and devices.

Internships provide students the opportunity to work in a variety of off-campus sites to explore career options, gain valuable work-related experience, establish contacts, and enhance their skills and techniques while developing a compelling and reflective portfolio.

## 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 Humanities, Social Sciences and Public Services offers an associate in fine arts degree in Graphic Design (see page 47). This degree option is designed especially for students who plan to transfer to a four-year college or university to further their visual arts/communication education.



# Communication Design, AAS



## School of Technology

The Communication Design associate degree 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 motion design medias for entry-level workforce employment. Students apply designer-based insights to develop four key workflow areas: research and communication; layout and design; project management and collaboration; and the progressive design process, integrating Adobe desktop and mobile apps to produce and deploy their work across print, desktop, mobile devices, and the Web.

### Career Opportunities

Students have the opportunity to pursue careers in interactive design, publication design, branding, advertising, motion graphics, graphic/web design, information visualization, exhibition/retail design, and environmental graphics. About 29 percent of individuals are contract professionals working on creative/technical projects.

### Program Learning Outcomes

The curriculum is designed to prepare students to:

- independently read and research current technical periodicals and publications related to the design disciplines, emerging technology, global market trends, and popular culture
- create accessible and understandable communications, for audiences and users on a wide variety of platforms, that are informed and inspired by communities and cultural spaces, and social responsibility and ethical practice
- incorporate decision-making, management and scheduling, and teamwork skills that address quality and accuracy, industry regulations and policies while meeting the client/customer's expectations within set deadlines and budgets
- communicate effectively both verbally and written with client and team, solve problems creatively, think laterally, apply computation skills, and adhere to specified media workflow
- function effectively as a member of a team, or independently, to develop appropriate attitudes, work habits, and soft skills for lifelong learning

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
2	GCT 100	Design Technology	1	Major	F1		
3	GCT 115	Design & Layout I	3	Major	F, Sp		
4	GCT 151	Art & Illustration I	3	Major	F, Sp		
5	GCT 161	Digital Imaging & Editing	3	Gen Ed	F, Sp, Su		
6	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 43 Column III
7	GCT 125	Emerging Technology I	3	Major	Sp1	Illustrator Experience	
8	GCT 131	Type & Publishing I	3	Major	Sp1		
9	GCT 155	Graphics & Lettering I	3	Major	Sp1	GCT 151 GCT 151	
10	GCT 185	Print & Prepress I	3	Major	Sp1	GCT 151, 161	
11	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
					Continued on next page		

**COMMUNICATIONS DESIGN, AAS - CONTINUED**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
12	GCT 215	Design & Layout II	3	Major	F2	GCT 115	
13	GCT 255	Graphics & Lettering II	3	Major	F2	GCT 155	
14	GCT 285	Print & Prepress II	3	Major	F2	GCT 185	
15	GCT 290	Seminar in Graphics	3	Major	F2	27 GCT cr	
16	MED 103	Podcasting & Social Media	1	Other	F, Sp		
17	MED 105	Multimedia Basics for Web	3	Other	F, Sp *PM only		
18	GCT 163	Emerging Technology II	3	Major	Sp2	PSD experience	
19	GCT 287	Emerging Technology III	3	Major	Sp2	GCT 131	
20	GCT 299	Graphics Internship	3	Major	Sp2	Approval GCT 261, MKT 254	
21	MTH 161	Modern Math	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Page 43 Column IV
22	SPC 155	Speech Communication	3	Gen Ed	F, Sp, Su		SPC 156

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Communication Design, Certificate

GRAPHICS AND PUBLISHING

## School of Technology

The Graphics & Publishing certificate is designed to provide 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 have the opportunity to 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 ([www.bls.gov](http://www.bls.gov)).

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	GCT 100	Design Technology	1	Major	F, Sp		
2	GCT 115	Design & Layout I	3	Major	F, Sp		
3	GCT 131	Type & Publishing I	3	Major	F, Sp		
4	GCT 151	Art & Illustration I	3	Major	F, Sp		
5	GCT 155	Graphics & Lettering I	3	Major	Sp1	co-reg GCT 151	
6	GCT 161	Digital Imaging & Editing I	3	Major	Sp1		

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Communication Design, Certificate

WEB AND MOBILE

## School of Technology

The Web & 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 ([www.bls.gov](http://www.bls.gov)).

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	GCT 100	Design Technology	1	Major	F, Sp		
2	GCT 115	Design & Layout I	3	Major	F, Sp		
3	GCT 125	Emerging Technology I	3	Major	F1		
4	GCT 151	Art & Illustration I	3	Major	F, Sp		
5	GCT 163	Emerging Technology II	3	Major	Sp1	PSD exper	
6	MED 103	Podcasting and Social Media	1	Other	F, Sp *PM only		
7	MED 105	Multimedia for Web	3	Other	F		

**Total Program Credits** 17

**Total Pathway Credits** 17

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Information Security, AAS

## School of Technology



The Computer Information Security program provides students with extensive hands-on instruction in all facets of information security, network security, and PC security. Students will gain experience with the tools and techniques of security professionals. Topics covered include computer forensics, intrusion detection, anti-virus software, and firewalls, among others.

### Career Opportunities

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

**This curriculum is designed to prepare students to:**

- identify and assess potential security risks against PCs, web sites, programs and networks
- develop and implement a security plan to minimize security threats and manage security risks
- develop familiarity with current security software and hardware
- assume the duties and responsibilities of a corporate or government agency security officer
- adhere to a moral code of ethics and understand the legal responsibilities in the security field
- develop oral, written and listening communication skills integrate and apply mathematical skills to solve quantitative problems

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Computer Technology	3	Major	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	CPT 181	Intro to Telecommunications	3	Major	F		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
6	CIS 168	Principles of Information Security	3	Major	Sp		
7	CIS 212	Computer Forensics	3	Major	F		
8	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or 150	
9	CPT 183	Local Area Networks	3	Major	Sp, Su		
10	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
11	CIS 210	Internet Security	3	Major	F, Sp		
12	CPT 214	Wireless Communication	3	Major	F	CPT 171 or CPT 183	
13	CPT 248	PC Hardware	3	Major	F, Su		
14	HSM 101	Orientation to Homeland Security	3	Other	F		
15	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
16	CIS 209	LAN Security	3	Major	Sp		
17	CPT 249	PC Troubleshooting	3	Major	Sp, Su	CPT 182 & 248	
18	CPT 256	Linux Desktop	3	Major	Sp	CPT 182	
19	CPT 286	System Analysis and Design	3	Major	Sp, Su		
20	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.





# Computer Numerical Control Technology, AAS



## School of Technology

In Westmoreland County, employment in the machining industry is increasing at a steady rate, creating a need for more trained machinists. In order to compete with foreign manufacturers, Westmoreland County shops are increasing the number of computer numerical controlled machines as well as other automated equipment. This has created a need for technicians, programmers and operators that is not being met at the present time.

### Career Opportunities

Students completing this program can expect to be employed as CNC programmers, operators, technicians and coordinators. This program can also benefit those who have a desire to be designers or managers.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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 an advanced drafting and design portfolio
- apply concepts from physics, engineering, mechanics, mathematics, and drafting to the manufacturing of durable mechanical machines and products
- analyze and select appropriate materials and components for designing and manufacturing industrial products
- communicate effectively and appropriately; record and report information significant to the job

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 111	Computer Numerical Control I	4	Major	F		
2	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	Advisor
3	MTT 101	Blueprints	4	Other	F		
4	MTT 111	Machining I	4	Major	F		
5	CNC 112	Computer Numerical Control II	5	Major	Sp	CNC 111	
6	DFT 112	Introduction to Design, Materials and Processing	3	Other	Sp		
7	DFT 258	AutoCAD	4	Gen Ed	Sp		
8	MTH 109	Mathematics for the Technologies II	4	Gen Ed	F, Sp, Su	TEST	Advisor
9	CNC 213	Computer Numerical Control III	5	Major	F	CNC 112	
10	DFT 207	Tool Design	4	Other	F	DFT 106	
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
12	MTT 201	Inspection	4	Other	F		
13	CNC 214	Computer Numerical Control IV	6	Major	Sp	CNC 213	
14	DFT 266	AutoDesk Inventor	4	Other	Sp		
15	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	
16	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Numerical Control I, Certificate

## School of Technology

In Westmoreland County, employment in the machining industry is increasing at a steady rate, creating a need for more trained machinists. In order to compete with foreign manufacturers, Westmoreland County shops are increasing the number of computer numerical controlled machines as well as other automated equipment. This has created a need for technicians, programmers and operators that is not being met at the present time.

This is the first of four certificate programs for students studying the computer numerical control of machining equipment. Students will begin their studies in software programming of CNC mills and lathes by using MasterCAM software.

### Career Opportunities

Production machinists produce large quantities of one part, especially parts requiring the use of complex operations and great precision. Many modern machine tools are computer numerically controlled (CNC). CNC machines control the cutting tool speed and do all necessary cuts to create a part. The machinist determines the cutting path, the speed and does all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut, and the feed rate by programming instructions into the CNC machine. Many machinists must be able to use both manual and computer-controlled machinery in their job. Job opportunities would be CNC machinist, CNC operator and CNC programmer.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- explain the G codes and M codes used in CNC programming
- write CNC machine code using standard G-code formatting
- safely start-up and operate CNC mills and lathes
- correctly set-up tooling and produce accurate parts

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 111	Computer Numerical Control I	4	Major	F		
2	MTT 111	Machining I	4	Major	F		
3	MTT 101	Blueprints	4	Major	F		
4	MTH 108	Math for Technologies I	4	Major	F, Sp, Su	Test	Advisor

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Numerical Control II, Certificate

## School of Technology

In Westmoreland County, employment in the machining industry is increasing at a steady rate, creating a need for more trained machinists. In order to compete with foreign manufacturers, Westmoreland County shops are increasing the number of computer numerical controlled machines as well as other automated equipment. This has created a need for technicians, programmers and operators that is not being met at the present time.

This is the second of four certificate programs for students studying the computer numerical control of machining equipment. Students will continue their studies in software programming of CNC mills and lathes by using MasterCAM software.

### Career Opportunities

Production machinists produce large quantities of one part, especially parts requiring the use of complex operations and great precision. Many modern machine tools are computer numerically controlled (CNC). CNC machines control the cutting tool speed and do all necessary cuts to create a part. The machinist determines the cutting path, the speed and does all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut, and the feed rate by programming instructions into the CNC machine. Many machinists must be able to use both manual and computer-controlled machinery in their job. Job opportunities would be CNC machinist, CNC operator and CNC programmer.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- produce geometry and toolpaths using MasterCAM software
- generate CNC G-code programs using MasterCAM postprocessors
- verify program integrity using the CNC equipment simulators
- setup and produce accurate parts using the developed programs

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 112	Computer Numerical Control II	5	Major	Sp	CNC 111	
2	DFT 112	Introduction to Design, Materials and Processing	3	Major	Sp		
3	DFT 258	AutoCAD	4	Major	Sp		
4	MTH 109	Mathematics for Technologies II	4	Major	F, Sp, Su	MTH 108 or TEST	Advisor

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Numerical Control III, Certificate

## School of Technology

In Westmoreland County, employment in the machining industry is increasing at a steady rate, creating a need for more trained machinists. In order to compete with foreign manufacturers, Westmoreland County shops are increasing the number of computer numerical controlled machines as well as other automated equipment. This has created a need for technicians, programmers and operators that is not being met at the present time.

This is the third of four certificate programs for students studying the computer numerical control of machining equipment. Students will continue their studies in software programming of CNC mills and lathes by using MasterCAM software.

### Career Opportunities

Production machinists produce large quantities of one part, especially parts requiring the use of complex operations and great precision. Many modern machine tools are computer numerically controlled (CNC). CNC machines control the cutting tool speed and do all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut and does all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut, and the feed rate by programming instructions into the CNC machine. Many machinists must be able to use both manual and computer-controlled machinery in their job. Job opportunities would be CNC machinist, CNC operator and CNC programmer.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- generate complex parts using advanced MasterCAM features
- troubleshoot and verify advanced G-code programs
- start-up and operate 4 and 5 axis CNC equipment
- setup and manufacture accurate machined parts

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 113	Computer Numerical Control III	5	Major	F	CNC 112	
2	DFT 207	Tool Design	4	Major	F	DFT 106	
3	ENG 161	College Writing	3	Major	F, Sp, Su	Test	
4	MTT 201	Inspection	4	Major	F		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Numerical Control IV, Certificate

## School of Technology

In Westmoreland County, employment in the machining industry is increasing at a steady rate, creating a need for more trained machinists. In order to compete with foreign manufacturers, Westmoreland County shops are increasing the number of computer numerical controlled machines as well as other automated equipment. This has created a need for technicians, programmers and operators that is not being met at the present time.

This is the fourth of four certificate programs for students studying the computer numerical control of machining equipment. Students will continue their studies in software programming of CNC mills and lathes by using MasterCAM software.

### Career Opportunities

Production machinists produce large quantities of one part, especially parts requiring the use of complex operations and great precision. Many modern machine tools are computer numerically controlled (CNC). CNC machines control the cutting tool speed and do all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut and does all necessary cuts to create a part. The machinist determines the cutting path, the speed of the cut, and the feed rate by programming instructions into the CNC machine. Many machinists must be able to use both manual and computer-controlled machinery in their job. Job opportunities would be CNC machinist, CNC operator and CNC programmer.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- produce finished parts from raw materials using CNC software and equipment
- enumerate and follow the appropriate production steps to produce parts
- generate the tooling and fixturing needed to produce complex parts
- demonstrate the ability to analyze and correct errors in production

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 214	Computer Numerical Control IV	6	Major	Sp	CNC 213	
2	DFT 266	3D Solid Modeling I	4	Major	Sp		
3	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
4	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology

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## 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 associate of applied science degree in computer technology 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 associate of applied science degree program is offered as four options: programming, networking, technical support and web publishing. Each of these areas of concentration was chosen to reflect the projected needs of the information technology industry. The AAS degree program 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 associate of applied science degree in computer technology 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 technical topics. Certificates are available in: database development, fiber optic technologies, 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 OPTION

School of Technology



The networking option of the computer technology program provides students with extensive hands-on instruction in all facets of local area network operation and administration. Students will learn to install, operate, maintain and troubleshoot these products in a corporate enterprise-networking environment.

## Career Opportunities

Graduates of the networking option 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 local area network.

## Program Learning Outcomes

This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Computer Technology	3	Major	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	CPT 181	Intro to Telecommunications	3	Major	F		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
6	CIS 209	LAN Security	3	Major	SP, Su		
7	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or CPT 150	
8	CPT 183	Local Area Networks	3	Major	Sp, Su		
9	CPT 198	Fiber Optic Technology	3	Major	Sp		
10	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
11	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		Page 43 Column III
12	CPT 214	Wireless Communication	3	Major	F	CPT 171 or CPT 183	
13	CPT 219	Fiber Optic Analysis Design	3	Major	F	CPT 198	
14	CPT 248	PC Hardware	3	Major	F, Su		
15	CPT 262	Windows Client Server	3	Major	F	CPT 182	
16	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
17	CPT 222	Fiber Optic Testing	3	Major	Sp	CPT 198	
18	CPT 249	PC Troubleshooting	3	Major	Sp, Su	CPT 182 & 248	
19	CPT 256	Linux Desktop	3	Major	Sp	CPT 182	
20	CPT 264	Windows Server Management	3	Major	Sp	CPT 262	
21	CPT 286	System Analysis and Design	3	Major	Sp, Su		

**Total Program Credits 63**

**Total Pathway Credits 63**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Computer Technology, AAS

PROGRAMMING OPTION

## School of Technology

Behind every application lies a database of storage of one of the most valuable assets of any enterprise - its data. Developed in consultation with professionals in the field, the programming for the enterprise option provides the student with a strong background in the programming and data extraction skills necessary for success as a programmer by providing hands-on experience in Visual Basic, JAVA, SQL and current 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 programming option may find employment as computer programmers, 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Computer Technology	3	Major	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	CPT 160	Intro to Programming	3	Major	F, Sp, Su		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	
6	OFT 100	Basic Keyboarding	1	Other	F, Sp, Su		
7	CPT 162	Visual Basic I	3	Major	Sp, Su	CPT 160	
8	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or CPT 150	
9	CPT 196	Access for Windows	3	Major	F, Sp		
10	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
11	WEB 188	Social Media	3	Major	F, Sp, Su		
12	CPT 163	Java Programming I	3	Major	F	CPT 160	
13	CPT 203	HTML and CSS	3	Major	F		
14	CPT 271	PHP & SQL	3	Major	F	CPT 196	
16	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
15	CPT 201	Web Content Development	3	Major	F		
17	CPT 180	C++ Programming	3	Major	Sp, Su	CPT 160	
18	CPT 206	JavaScript	3	Major	Sp	CPT 203	
19	CPT 213	Java Programming II	3	Major	Sp	CPT 163	
20	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		Page 43 Column III
21	CPT 286	System Analysis and Design	3	Major	Sp, Su		

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, AAS

TECHNICAL SUPPORT OPTION

## School of Technology



The technical support option of the computer technology 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.

### Career Opportunities

Graduates of the technical support option may find employment as technical support technicians, LAN technicians, junior systems analysts, technical sales representatives, customer service technicians, help-desk analyst, 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Computer Technology	3	Major	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
4	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
5	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		Page 43 Column III
6	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or CPT 150	
7	CPT 183	Local Area Networks	3	Major	Sp, Su		
8	CPT 195	Excel for Windows	3	Major	F, Sp		
9	OFT 190	Word for Windows	3	Major	F, Sp		
10	OFT 235	Customer Service	3	Other	F, Sp, Su		
11	CPT 196	Access for Windows	3	Major	F, Sp		
12	CPT 201	Web Content Development	3	Major	F		
13	CPT 248	PC Hardware	3	Major	F, Su		
14	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
15	OFT 185	Powerpoint	1	Major	F, Sp		
16	OFT 210	Office Technologies	3	Other	F		
17	CPT 249	PC Troubleshooting	3	Major	SP, Su	CPT 182/ 248	
18	CPT 259	User Support Operations	3	Major	Sp	CPT 150	
19	WEB 277	eCommerce Technology	3	Major	Sp		
20	CPT 278	Integ. Office Applications	3	Major	Sp	CPT 195 & 196/ & OFT 185 & 190	
21	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, AAS

WEB PUBLISHING OPTION

## School of Technology



The Web Technology Program is designed to provide students with the knowledge needed to design and implement effective, dynamic web sites. Students build static and dynamic web sites utilizing the most current versions of industry standard applications and the scripting and programming languages that drive the web. As sites take on a more important position in the operation of business, from commerce to communication, web publishers play a more significant role in a company's success.

### Career Opportunities

Graduates have a range of expertise and interests that determine their selection of occupation within the fields of web design, electronic commerce, web development, web content management, web marketers, technical support and corporate communications.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- plan and create effective, cohesive design solutions using a variety of web communications
- blend web design, computer technology and business commerce expertise for delivery of interactive projects over the Internet
- utilize appropriate scripting technologies to generate dynamic, interactive web pages and perform other server and client-side processing functions
- demonstrate knowledge of Internet-based business strategies of marketing, e-commerce and security
- work effectively as part of an information technology team and provide appropriate web technology support to internal and external clients
- demonstrate academic knowledge required of all graduates including competency in: critical thinking, writing, information literacy, oral communication and quantitative reasoning
- identify the resources necessary to maintain technical skills as electronic commerce continues to evolve

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	GCT 125	Emerging Technologies I	3	Other	F		
4	WEB 110	Web Design	3	Major	F		
5	WEB 140	Dreamweaver - Basic	3	Major	F		
6	CPT 196	Access for Windows	3	Major	F, Sp		
7	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
8	WEB 162	Fireworks	3	Major	Sp		
9	WEB 188	Social Media	3	Major	F, Sp, Su		
10	WEB 235	Interactive Design	3	Major	Sp		
11	CPT 201	Web Content Development	3	Major	F		
12	CPT 203	HTML & CSS	3	Major	F		
13	CPT 271	PHP and SQL	3	Major	F		
14	OFT 235	Customer Service	3	Other	F, Sp, Su		
15	WEB 102	Acrobat Essentials	1	Major	F, Sp, Su		
16	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	Test	
17	MKT 254	Advertising and Promotion	3	Other	Sp		
18	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		SPC 155
19	CPT 206	JavaScript	3	Major	Sp	CPT 203	
20	WEB 277	E-Commerce Tech	3	Major	Sp		
21	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su	PSY 160	Page 43 Column III

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, Diploma

COMPUTER TECHNOLOGY

## School of Technology

Students develop skills in functional applications of the computer to a business environment. The 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 program may find employment as technical support technicians, technical sales representatives, customer service technicians, help-desk analysts and IT trainers.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or CPT 150	
3	CPT 248	PC Hardware	3	Major	F, SP		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
6	CPT 145	Intro Computer Technology	3	Major	F, Sp, Su		
7	CPT 181	Intro to Telecommunications	3	Major	F		
8	CPT 249	PC Troubleshooting	3	Major	Sp, Su	CPT 182 & CPT 248	
9	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
10	WEB 188	Social Media	3	Major	F, Sp, Su		

**Total Program Credits 30**

**Total Pathway Credits 30**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, Certificate

DATABASE APPLICATION DEVELOPMENT

## School of Technology

The database application development certificate provides students with an intensive experience in relational database management systems with emphasis on Access and Oracle SQL products. Courses included in this certificate may be applied toward the Computer Technology AAS Programming for the Enterprise Option.

### Career Opportunities

Graduates of the database application development certificate may find employment as database administrators, database operators, customer service representatives, technical sales representatives, technical support analysts and database trainers.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- analyze problems for development and design of information processing solutions
- use appropriate design techniques to create data structures that provide for data accuracy
- become proficient in the use of current database management software

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Comp Technology	3	Major	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Major	F, Sp, Su		
3	CPT 160	Intro to Programming	3	Major	F, Sp, Su		
4	CPT 196	Access for Windows	3	Major	F, SP		
5	CPT 271	PHP & SQL	3	Major	F	CPT 196	
6	CPT 286	Sys Analysis and Design	3	Major	Sp, Su		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, Certificate

FIBER OPTIC TECHNOLOGIES

## School of Technology

The fiber optic technologies certificate provides the student with an intensive, hands-on educational experience in fiber optic technologies, focusing on multimode and single-mode fiber optic applications, installation, restoration, design and troubleshooting analysis. This certificate places emphasis on "fiber to the home" cabling systems, which is important to meeting the current employment opportunities for deploying "fiber to the home" technology upgrades in the telecommunication industry. Fiber optic laser based systems will be investigated. Fiber to the premise system installation, restoration and troubleshooting along with optical electronic interfacing will be deployed in the state-of-the-art fiber optics lab. This program of study will prepare students to design, build, maintain, and troubleshoot fiber optic networks. Courses included in this certificate may be applied toward the Computer Technology AAS Networking Option.

### Career Opportunities

Graduates of fiber optics technologies certificate may find employment as fiber optic technicians, fiber optic cable installation technicians, fiber optic cable restoration specialists, technical sales representatives, customer service representatives, fiber optic technical support analysts or as fiber optics procurement specialists used with marketing and purchasing support functions.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- understand the fundamentals of fiber optic systems
- install, configure, maintain, and troubleshoot fiber optic systems
- design and specify a fiber optic network
- design, configure, maintain, and troubleshoot fiber optic systems
- design and planning of fiber optic inside and outside plant cabling systems
- restore fiber optic systems
- develop expertise with long and short haul fiber optic media and associated equipment
- employ proper troubleshooting methods for optimal diagnosis and repair of fiber optic systems problems utilizing state of the art optic instrumentation or test equipment

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 181	Intro to Telecommunications	3	Major	F		
2	CPT 183	Local Area Networks	3	Major	Sp, Su		
3	CPT 198	Fiber Optic Technology	3	Major	Sp		
4	CPT 219	Fiber Optic Analysis and Design	3	Major	F	CPT 198	
5	CPT 222	Fiber Optic Sys Testing	3	Major	Sp	CPT 198	
6	CPT 248	PC Hardware	3	Major	F, Su		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, Certificate

MICROCOMPUTER SUPPORT

## School of Technology

The microcomputer support certificate offers instruction in the Microsoft Office suite of office productivity software products and will guide students toward professional certification. Courses included in this certificate may be applied toward the Computer Technology AAS Technical Support Option.

### Career Opportunities

Graduates of the 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Major	F, Sp, Su		
2	CPT 195	Excel for Windows	3	Major	F, Sp, Su		
3	CPT 196	Access for Windows	3	Major	F, Sp		
4	CPT 259	User Support Operations	3	Major	Sp	CPT 150	
5	OFT 185	Powerpoint	1	Major	F, Sp, Su		
6	OFT 190	Word for Windows	3	Major	F, Sp, Su		

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.





# Computer Technology, Certificate

PC REPAIR/A+

## School of Technology

The PC repair certificate program 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 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

**This curriculum is designed to prepare students to:**

- install, configure and operate MS-DOS, Windows 9x and Linux operating systems
- understand the architecture and troubleshoot several popular PC operating systems
- become proficient in the installation and configuration of PC hardware

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Major	F, Sp, Su		
2	CPT 182	Operating Systems	3	Major	Sp, Su	CPT 145 or CPT 150	
3	CPT 183	Local Area Networks	3	Major	SP, Su		
4	CPT 248	PC Hardware	3	Major	F, Su		
5	CPT 249	PC Troubleshooting	3	Major	Sp, Su	CPT 182 & 248	
6	CPT 256	Linux Desktop	3	Major	Sp	CPT 182	

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Computer Technology, Certificate

PROGRAMMING

## School of Technology

The programming certificate offers the student a firm foundation in Visual Basic and Java, two of the most popular programming languages being used in industry. Courses included in this certificate may be applied toward the Computer Technology AAS Programming for the Enterprise Option.

### Career Opportunities

Graduates of the programming certificate may find employment as computer programmers, programmer analysts, technical sales representatives, technical support analysts and web developers.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- build full-featured Windows application programs
- enhance application design with object-oriented programming skills
- create, test and debug computer programs

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 145	Intro to Computer Technology	3	Major	F, Sp, Su		
2	CPT 160	Intro to Programming	3	Major	F, Sp, Su		
3	CPT 162	Visual Basic I	3	Major	Sp	CPT 160	
4	CPT 163	Java Programming I	3	Major	F	CPT 160	
5	CPT 213	Java Programming II	3	Major	Sp	CPT 163	
6	OFT 100	Basic Keyboarding	1	Major	F, Sp, Su		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.





# Criminal Justice, AAS

## School of Humanities, Social Sciences and Public Service



The criminal justice career option 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.

Successful completion of this program of study leads to the associate of applied science degree.

### Career Opportunities

Recent graduates of the criminal justice program have obtained jobs with the following titles: corrections officer, security manager, police officer and youth worker.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- apply relevant laws, regulations and procedures to a law enforcement situation
- learn to 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 police/community relations
- practice positive interpersonal and communication skills as a member of the criminal justice environment
- effect relevant procedures for handling a juvenile delinquent case
- practice appropriate investigative techniques
- adhere to accepted practices involved 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 officer

**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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	CRJ 155	Intro to Criminal Justice	3	Major	F, Sp, Su		
3	CRJ 160	Criminal Law I	3	Major	F, Sp, Su		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
6	Elective	Restricted Elective	3	Major	F, Sp, Su		See List
7	CRJ 172	Substance Abuse and Crime	3	Major	F, Sp, Su		
8	POL 255	American State & Local Government	3	Other	F, Su		SOC 155
9	Elective	Restricted Elective	3	Major	F, Sp, Su		See List
10	HUM 156	Critical Thinking	3	Gen Ed	F, Sp, Su		Page 43 Column II
					Continued on next page.		

**CRIMINAL JUSTICE, AAS - CONTINUED**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
11	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
12	CRJ 255	Juvenile Delinquency	3	Major	F, Su		
13	CRJ 296	Criminalistics	3	Major	F, Su	CRJ 155	CRJ 263
14	CRJ 290	Principles of Criminology	3	Major	F, Sp, Su		
15	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163, 164, 168
16	Elective	Restricted Elective	3	Major	F, Sp, Su		See List
17	CRJ 162	Police Administration I	3	Major	Sp, Su	CRJ 155	
18	CRJ 287	Multiculturalism and CRJ System	3	Major	F, Sp, Su		
19	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		
20	Elective	Restricted Elective	3	Major	F, Sp, Su		See List

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

**Restricted Electives:** CRJ 195 Private Security  
 CRJ 180 Corrections  
 CRJ 220 Research Methods in Criminal Justice  
 CRJ 225 Criminology of Terrorism  
 CRJ 261 Criminal Law II  
 CRJ 262 Crime Prevention  
 CRJ 265 White Collar Crime  
 CRJ 276 Community Relations  
 CRJ 277 Ethics in the Criminal Justice System  
 CRJ 283 Institutional Treatment of Adults and Juveniles  
 CRJ 296 Introduction to Criminalistics  
 POL 155 American National Government  
 PSY 270 Abnormal Psychology



# Criminal Justice, AAS

INFORMATION SECURITY OPTION

School of Humanities, Social Sciences and Public Service

The information security option of the criminal justice 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, Internet security consultant, security technician or other network position with an emphasis on security.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- apply relevant laws, regulations and procedures to a law enforcement situation
- practice appropriate investigative techniques
- adhere to accepted practices involved in criminal procedures related to search and seizure
- identify and assess potential security risks against PCs, web sites, programs and networks
- 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 officer
- demonstrate a moral code of ethics and understand the legal responsibilities in the security field

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CIS 168	Principles of Information Security	3	Other	Sp		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	CPT 181	Intro to Telecommunication	3	Other	F		
4	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
5	HSM 101	Orientation to HSM	3	Other	F		CRJ 155
6	CIS 210	Internet Security	3	Other	F		
7	CPT 182	Operating Systems	3	Other	Sp, Su	CPT 145 or CPT 150	
8	CPT 183	Local Area Networks	3	Other	Sp, Su		
9	CRJ 163	Criminal Procedure	3	Major	F, Sp, Su		
10	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163
11	MTH 161	Modern College Mathematics	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
12	CIS 212	Computer Forensics	3	Other	Sp		
13	CPT 214	Wireless Communication	3	Other	F	CPT 171 or CPT 183	
14	CRJ 195	Intro to Private Security	3	Major	F, Su		CRJ 220
15	CRJ 263	Investigative Concepts	3	Major	F, Sp, Su	CRJ 155	CRJ 296
16	SPC 155	Effective Speech	3	Gen Ed	F, Sp, Su		SPC 156
17	CIS 209	LAN Security	3	Other	Sp, Su		
18	CPT 256	Linux Desktop	3	Other	Sp	CPT 182	
19	CPT 259	User Support Operations	3	Other	Sp	CPT 150	
20	CRJ 265	White Collar Crime	3	Major	F, Sp*		CRJ 277
21	SOC 155	Introduction to Sociology	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 63**

**Total Pathway Credits 63**

\*CRJ 265 only offered every 4th semester

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Criminal Justice, Certificate

CORRECTIONS OFFICER

School of Humanities, Social Sciences and Public Service

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The corrections officer certificate is designed for those who seek entry level employment with a corrections facility.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- provide correctional institution care of adults and/or juveniles
- apply relevant laws, regulations and procedures within a correctional facility
- adhere to practices found in the criminal justice system

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CRJ 155	Intro to Criminal Justice	3	Major	F, Sp, Su		
2	CRJ 180	Corrections	3	Major	F, Su		
3	CRJ 255	Juvenile Delinquency	3	Major	F, Sp, Su		
4	CRJ 283	Inst. Treatment of Adol & Juveniles	3	Major	Sp		
5	CRJ 290	Principles of Criminology	3	Major	F, Sp, Su		
6	CRJ 172	Substance Abuse and Crime	3	Major	F, Sp, Su		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Criminal Justice, Certificate

SECURITY PROFESSIONAL

School of Humanities, Social Sciences & Public Service

The security professional certificate is designed for those students who seek entry level positions in the field of private security.

## Career Opportunities

This 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

- 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	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CRJ 195	Intro to Private Security	3	Major	F, Su		
2	CRJ 262	Crime Prevention	3	Major	F		
3	CRJ 296	Criminalistics	3	Major	Sp, Su	CRJ 155	CRJ 263
4	CRJ 287	Multiculturalism and CRJ System	3	Major	F, Sp, Su		HSM 101
5	HSM 102	Principles of Emergency Services	3	Major	Su		
6	HSM 103	Vulnerability Assmts & Physical Security	3	Major	F		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

The culinary arts apprenticeship program is one of the majors comprising the college's School of Culinary Arts/Hospitality. This 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 63 or 64 credits of academic course work with 4,000 hours of supervised on-the-job training in a participating restaurant, club, hotel, resort or institution for an associate degree. Classes are scheduled so that students have a sufficient block of uninterrupted time to complete their 40-hour week. Academic work can be completed as a full-time student in two years or as a part-time student over a period of three years.

Students enrolled in this program are registered with the U.S. Department of Labor as apprentices and are required to join the ACF Laurel Highlands Chapter as student culinarians. Registration and membership fees are required and payable to the ACF during the first week of class.

Students are expected to be well-groomed in compliance with the standards of sanitation. Students will be required to present medical proof of good physical health. Uniforms and program tool kit are required for all lab classes.

Employment must be secured in a facility that will provide full-time employment. The employer will agree to abide by the apprenticeship guidelines. Business attire may be required for some class assignments.

Having fulfilled employment requirements, applicants will complete the Pennsylvania Apprenticeship and Training Council Apprenticeship Agreement and ACF Apprentice Registration Form.

At the completion of the program, students may apply for certification with the ACF.

The culinary arts associate degree apprenticeship option may be completed through a partnership with Nemacolin Woodlands Resort as well as other approved apprenticeship sites. For information, contact the Westmoreland Admissions Office, 724-925-4077.

## **Career Opportunities**

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

## **Program Learning Outcomes**

**This curriculum is designed to prepare students 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 artistry 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

**CULINARY ARTS, AAS — APPRENTICESHIP OPTION (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CUL 121	Apprenticeship I	2	Major	F		
2	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	BKP 141	Baking I	4	Major	F, Sp		
7	CUL 122	Apprenticeship II	2	Major	Sp	CUL 121	
8	FSM 235	Supervision/Training	3	Major	F, Sp		
9	FSM 218	Hospitality Marketing	3	Major	F, Sp		
10	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or TEST	
12	CUL 123	Apprenticeship III	2	Major	F	CUL 122	
13	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
14	FSM 215	Purchasing and Operations	3	Major	F, Sp		
15	CUL 132	Garde Manger	3	Major	F,Sp	FSM 105	
16	CUL 224	Apprenticeship IV	2	Major	Sp	CUL 123	
17	CUL 232	Food Specialities	3	Major	F, Sp	FSM 105	
18	FSM 119	Beverage Management	1	Major	F, Sp		FSM 120
19	FSM 159	Nutrition	3/4	Major	F, Sp,		BKP 243 PRE-REQ FSM 105
20	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	MTH 100, 100A
21	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
22	Elective	Humanities Elective	3	Gen Ed	F, Sp, Su		FSM 170/ or Page 43 Column II
23	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 63/64**

**Total Pathway Credits 63/64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Culinary Arts, Diploma

## APPRENTICESHIP OPTION

### School of Culinary Arts & Hospitality

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The culinary arts apprenticeship program is one of the majors comprising the college's School of Culinary Arts/Hospitality. This apprenticeship program is sponsored by the American Culinary Federation Laurel Highlands (ACFLHC) Chapter and Westmoreland. A cooperative program, it combines 45/46 credits of course work with 4,000 hours of supervised on-the-job training in a participating restaurant, club, hotel or institution. Classes are scheduled so that students have a sufficient block of uninterrupted time to complete their 40-hour week. Academic work can be completed as a full-time student in two years or as a part-time student over a period of three years.

Students enrolled in this program are registered with the U.S. Department of Labor as apprentices and are required to join the ACF Laurel Highlands Chapter as student culinarians. Registration and membership fees are required and payable to the ACF during the first week of class.

Students are expected to be well-groomed in compliance with the standards of sanitation. Students will be required to present medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Employment must be secured in a facility that will provide full-time employment. The employer will agree to abide by the apprenticeship guidelines.

Having fulfilled employment requirements, applicants will complete the Pennsylvania Apprenticeship and Training Council Apprenticeship Agreement and ACF Apprentice Registration Form.

At the completion of the program, students may apply for certification with the ACF. The culinary arts apprenticeship option certificate program may be completed through a partnership with Nemacolin Woodlands Resort and other approved apprenticeship training sites. For more information, contact the Westmoreland Admissions Office, 724-925-4077.

## Career Opportunities

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

## Program Learning Outcomes

**This curriculum is designed to prepare students 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

**CULINARY ARTS, DIPLOMA — APPRENTICESHIP OPTION (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CUL 121	Apprenticeship I	2	Major	F		
2	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	BKP 141	Baking I	4	Major	F, Sp		
7	CUL 122	Apprenticeship II	2	Major	Sp	CUL 121	
8	FSM 218	Hospitality Marketing	3	Major	F, Sp		
9	FSM 235	Supervision/Training	3	Major	F, Sp		
10	CUL 123	Apprenticeship III	2	Major	F	CUL 122	
11	CUL 132	Garde Manger	3	Major	F, Sp	FSM 105	
12	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
13	FSM 215	Purchasing and Operations	3	Major	F, Sp		
14	CUL 224	Apprenticeship IV	2	Major	Sp	CUL 123	
15	CUL 232	Food Specialities	3	Major	F, Sp	FSM 105	
16	FSM 159	Nutrition	3/4	Major	F,Sp, Su		BKP 243 PRE-REQ FSM 105
17	FSM 119	Beverage Management	1	Major	F, Sp		FSM 120

**Total Program Credits 45/46**

**Total Pathway Credits 45/46**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



**Culinary Arts, AAS**  
 NON-APPRENTICESHIP OPTION  
**School of Culinary Arts & Hospitality**



The culinary arts non-apprenticeship 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 chefs and culinary experts. The program includes classroom and food laboratory experiences and requires students to complete an internship. This option accommodates both part- and full-time students and is available in two-year and 16-month programs. Students are expected to be well-groomed in compliance with standards of sanitation. Students will be required to provide medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Although the non-apprenticeship program accommodates part-time students, full-time students may complete the program in two years.

The program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC).

**Career Opportunities**

Graduates of the culinary arts program have accepted jobs with the following titles: cook, working chef, station chef, sous chef, personal family chef, sales representative, executive chef, culinary educator and manager.

**Program Learning Outcomes**

**This curriculum is designed to prepare students 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 artistry 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp,Su		
2	CUL 130	Basic Culinary Skills	3	Major	F, Sp		
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
4	FSM 105	Foods I	4	Major	F, Sp		
5	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
6	FSM 118	Sanitation	2	Major	F, Sp		
7	FSM 119	Beverage Management	1	Major	F, Sp		FSM 120
8	BKP 141	Baking I	4	Major	F, Sp		
9	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
10	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
11	FSM 215	Purchasing and Operations	3	Major	F, Sp		
12	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	TEST	MTH 100, 100A
13	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
14	CUL 132	Garde Manger	3	Major	F, Sp	FSM 105	
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# Culinary Arts, AAS

NON-APPRENTICESHIP OPTION (ACCELERATED)

## School of Culinary Arts & Hospitality



The culinary arts non-apprenticeship 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 chefs and culinary experts. The program includes classroom and food laboratory experiences and requires students to complete an internship. This option accommodates both part- and full-time students and is available in two-year and 16-month programs. Students are expected to be well-groomed in compliance with standards of sanitation. Students will be required to provide medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Although the non-apprenticeship program accommodates part-time students, full-time students may complete the program in two years.

The program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC).

### Career Opportunities

Graduates of the culinary arts program have accepted jobs with the following titles: cook, working chef, station chef, sous chef, personal family chef, sales representative, executive chef, culinary educator and manager.

### Program Learning Outcomes

This curriculum is designed to prepare students 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 artistry 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	CUL 130	Basic Culinary Skills	3	Major	F, Sp		
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
4	FSM 105	Foods I	4	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	FSM 159	Nutrition	3/4	Major	F, Sp, Su		BKP 243 PRE REQ FSM 105
7	CUL 132	Garde Manger	3	Major	F, Sp	FSM 105	
8	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
9	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
10	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
11	FSM 215	Purchasing and Operations	3	Major	F, Sp		
12	FSM 218	Hospitality Marketing	3	Other	F, Sp		
13	BKP 141	Baking I	4	Major	F, Sp		
14	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
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**CULINARY ARTS, AAS, NON-APPRENTICESHIP OPTION (ACCELERATED) - CONTINUED**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
15	Elective	Humanities Elective	3	Gen Ed	F, Sp, Su		FSM 170 or Page 51 Column II
17	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su		MTH 100
16	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III
18	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
19	CUL 232	Food Specialities	3	Major	F, Sp	FSM 105	
20	FSM 119	Beverage Management	1	Major	F, Sp		FSM 120
21	FSM 213	A la Carte Kitchen	4	Major	F, Sp	FSM 105 & 112	
22	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	
23	FSM 235	Supervision/Training	3	Major	F, Sp		

**Total Program Credits 68/69**

**Total Pathway Credits 68/69**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Culinary Arts, Diploma

NON-APPRENTICESHIP OPTION

## School of Culinary Arts & Hospitality

The culinary arts non-apprenticeship 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 chefs and culinary experts. The program includes classroom and food laboratory experiences and requires students to complete an internship. This option accommodates both part- and full-time students. Students are expected to be well-groomed in compliance with standards of sanitation. Students will be required to provide medical proof of good physical health. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some class assignments.

Although the non-apprenticeship program accommodates part-time students, full-time students may complete the program in two years.

### Career Opportunities

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

### Program Learning Outcomes

This curriculum is designed to prepare students 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 the production operations of a food service team
- demonstrate supervisory and interpersonal skills within a food operation team
- demonstrate basic skills in culinary artistries including ice carving, tallow sculpting, cake decorating and garniture display
- utilize the technology to maintain acceptable systems of operation
- research and adhere to sound practices for sanitation and safety
- develop basic practical mathematical skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CUL 130	Basic Culinary Skills	3	Major	F, Sp		
2	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		FSM 113
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 118	Sanitation	2	Major	F, Sp		
5	BKP 141	Baking I	4	Major	F, Sp	BKP 141	
6	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
7	FSM 215	Purchasing and Operations	3	Major	F, Sp		
8	FSM 119	Beverage Management	1	Major	F, Sp		FSM 120
9	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
10	CUL 132	Garde Manger	3	Major	F, Sp	FSM 105	
11	FSM 159	Nutrition	3/4	Major	F, Sp		BKP 243 PRE-REQ FSM 105
12	FSM 213	A la Carte Kitchen	4	Major	F, Sp	FSM 105 & 112	
13	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instr Permission	
14	BKP 142	Baking II	3	Major	F, Sp	BKP 141	
15	CUL 232	Food Specialities	3	Major	F, Sp	FSM 105	
16	FSM 218	Hospitality Marketing	3	Major	F, Sp		
17	FSM 235	Supervision/Training	3	Major	F, Sp		

**Total Program Credits 50/51**

**Total Pathway Credits 50/51**

# Dental Assisting, Diploma

## School of Health Professions



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 312-440-2719 or at 211 East Chicago Ave., Chicago, Illinois 60611.

### Special Admission and Selection Criteria

Since this program requires a clinical placement, enrollments may be limited.

- Applicants must be graduates of accredited secondary school programs or those who hold GED equivalency certificates prior to selection.
- Students may take general education courses before acceptance into the program. All courses must be completed with a "C" or better.

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

#### \*For selected spring Start Classes

Application Deadline May 15 prior to spring start  
Acceptance Notification Mid-August

- Applicants must take the computerized placement test (Accuplacer) and have successfully completed any required developmental courses prior to acceptance for the dental assisting program. All developmental course work including science course prerequisites must be completed with a grade of C prior to program enrollment. (C minus grade not accepted.)
- Applicants who have completed college-level credit courses must have a 2.0 GPA or higher.

### School of Health Professions Final Admission Criteria

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

- Please be aware that based on ongoing changes occurring in the dental profession, it may be necessary to modify courses listed in this catalog to meet changing practice competencies.

## DENTAL ASSISTING, DIPLOMA (CONTINUED)

### Program Learning Outcomes

This curriculum is designed to prepare students 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, etc.
  - 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 107	Human Biology	3	Gen Ed	F, Sp, Su		
2	DAS 100	Intro Dental Assisting	4	Major	F		
3	DAS 101	Oral Anatomy	2	Major	F		
4	DAS 102	Dental Material for Dental Assisting	2	Major	F		
5	DAS 103	Dental Assisting Lab	4	Major	F		
6	DAS 105	Dental Rad for Dental Assisting	3	Major	F		
7	DAS 104	Dental Science	4	Major	Sp	DAS 100, 101, 102, 103 & 105, BIO 107	
8	DAS 106	CLN Dental Assisting I	5	Major	Sp	DAS 100, 101, 102, 103 & 105, BIO 107	
9	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
10	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
11	DAS 108	CLN Dental Assisting II	4	Major	Su	DAS 104 & 106, ENG 161, PSY 160	
12	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		
13	DAS 109	Practice Management	2	Major	Su	DAS 104 & 106, ENG 161, PSY 160	

**Total Program Credits 42**

**Total Pathway Credits 42**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Dental Hygiene, AAS

## School of Health Professions

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The dental hygiene 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 312-440-2719 or at 211 East Chicago Avenue, Chicago, Illinois 60611.

### Special Admission and Selection Criteria

Admission to the dental hygiene program is highly competitive and enrollment is limited. Specific criteria for admission and selection are listed below.

- Applicants must be graduates of an accredited secondary school program, or high school seniors enrolled in an accredited secondary school program, or those who hold a GED equivalency certificate prior to selection.
- High school preparation should include one year each of biology, chemistry and algebra. If these courses were not taken in high school, BIO 107, CHM 107 and MTH 052 must be completed prior to testing for the dental hygiene program.
- College prerequisite coursework includes completion of CHM 264-Chemistry for the Health Sciences, BIO 171-Anatomy and Physiology I, PSY 160-General Psychology and SOC 155-Principles of Sociology with a minimum grade of C. (C minus grade not accepted.)

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

### For Fall Start Classes:

Application Deadline January 12 prior to fall start

Acceptance Notification Mid-March

### \*For selected spring Start Classes

Application Deadline May 15 prior to spring start

Acceptance Notification Mid-August

- Applicants must take the computerized placement test (Accuplacer) and have successfully completed any required developmental courses and/or high school course work with a minimum grade of C prior to taking the dental hygiene admission examination. (C minus grade not accepted.) Also, applicants who have completed credit courses must have a 2.5 GPA prior to taking the dental hygiene admission examination. Only courses necessary to meet the dental hygiene program requirements are considered when calculating the GPA. If the GPA is less than 2.5, one or more of these courses can be repeated in order to meet this requirement before testing.
- Applicants who have enrolled in developmental or sciences courses three or more times will be deemed ineligible for admission to the Dental Hygiene program. An enrollment is considered any course that has been attempted with a grade of "D," "F" or "W."
- Those who apply must take a Dental Hygiene admissions test administered by Westmoreland. Applicants will be notified of testing dates. Candidates will be selected until available seats are filled.
- Applicants selected for admission must submit satisfactory results from pre-entrance physical, dental, hearing and eye examinations obtained at the candidate's expense. Specific information regarding the examination will be provided to students upon acceptance.

### **School of Health Professions Final Admission Criteria**

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### **Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs**

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

- Please be aware that based on ongoing changes in the dental hygiene profession, it may be necessary to modify courses listed in this catalog to meet changing practice competencies.

### **Program Learning Outcomes**

**This curriculum is designed to prepare students to:**

- provide dental hygiene care for the child, adolescent, adult, geriatric and medically compromised patient with an awareness of cultural diversity within the community
- provide the dental hygiene process of care that includes assessment, planning, implementation and evaluation utilizing critical thinking and information management skills
- provide dental hygiene care for all types of classifications of periodontal disease, including patients who exhibit moderate to severe periodontal disease
- operate all dental equipment safely, effectively and efficiently
- expose, process and evaluate all types of oral radiography
- apply computation skills to provide safe exposure to oral radiation
- develop interpersonal and communication skills to effectively interact with diverse population groups
- develop competency in assessing, planning, implementing and evaluating community based oral health programs, including health promotion and disease prevention activities with awareness of local community needs
- provide appropriate life-support measures for medical emergencies that may be encountered in dental hygiene practice
- apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services
- manage self to adapt to the changing demands of the oral health care profession
- accept personal responsibility to prepare for professional development through lifelong learning
- utilize computer literacy to assess current scientific literature
- be competent in the evaluation of current scientific literature

**DENTAL HYGIENE, AAS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry & ENG 095	
2	CHM 264	Chem for the Health Sciences	4	Pre-Req	F, Sp, Su	CHM 107 or 155	
3	SOC 155	Principles of Sociology	3	Pre-Req	F, Sp, Su		
4	PSY 160	General Psychology	3	Pre-Req	F, Sp, Su		
5	BIO 172	Anatomy & Physiology II	4	Other	F, Sp, Su	BIO 171	
6	DAH 101	Intro to Dentistry	3	Major	Fall	BIO 171, CHM 264 PSY 160 & SOC 155	
7	DAH 102	Dental Materials	2	Major	Fall	BIO 171, CHM 264, PSY 160 & SOC 155	
8	DAH 104	Head, Neck and Dental Anatomy	4	Major	Fall	BIO 171, CHM 264, PSY 160 & SOC 155	
9	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
10	DAH 103	Medical Emergencies	1	Major	Spring		
11	DAH 105	Dental Radiology	3	Major	Spring	DAH 104	
12	DAH 111	Dental Hygiene Lecture	3	Major	Spring		
13	DAH 112	Dental Hygiene Lab	4	Major	Spring	BIO 172	
14	DAH 113	Histology/Embryology	2	Major	Spring		
15	DAH 114	Periodontics I	3	Major	Spring		
16	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
17	DAH 106	Nutritional Biochemistry	2	Major	Summer	DAH 103, 105, 111, 112, 113 & 114	
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**DENTAL HYGIENE, AAS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
19	DAH 115	Clinical Dental Hyg I	5	Major	Summer	DAH 103, 105, 111, 112, 113 & 114	
20	DAH 117	Local Anesthesia	3	Major	Summer	DAH 103, 105, 111, 112, 113 & 114	
21	BIO 265	Microbiology	4	Other	F, Sp, Su	BIO 155 or 171 & CHM 107, 155 or 264 or HS Chemistry & ENG 095	
22	DAH 205	Periodontics II	1	Major	Fall	DAH 106, 109, 114, 115 & 117	
23	DAH 206	Clinical Dental Hyg III	6	Major	Fall	DAH 106, 109, 114, 115 & 117	
24	DAH 207	Pharmacology	2	Major	Fall	DAH 115	
25	DAH 209	Community Dental Health	3	Major	Fall		
26	BUS 120	Math of Business	3	Other	F, Sp, Su	Test	
27	DAH 208	Clinical Dental Hyg III	6	Major	Spring	DAH 205 & 206	
28	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	
29	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		

**Total Program Credits 78**

**Total Pathway Credits 92** (Include Pre-requisites)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Diagnostic Medical Sonography, AAS

## School of Health Professions

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The diagnostic medical sonography program offers the academic preparation, laboratory and clinical training for a career as a diagnostic medical sonographer. This curriculum provides students with the entry-level skills needed to use diagnostic ultrasound equipment under the supervision of a physician for the use and interpretation of ultrasound procedures. Sonographers assist in gathering sonographic data necessary to reach diagnostic decisions. Sonographers work in a variety of healthcare settings, including regional medical centers, hospitals, diagnostic centers, clinics and doctors' offices. They perform their duties in diagnostic labs, trauma centers, emergency rooms, operating rooms, interventional suites, labor and delivery facilities, and at the bedside.

Students who successfully complete all requirements of the program are eligible to apply to take the American Registry in Diagnostic Medical Sonography Exam.

### Mission and Goals

The mission of the program is to prepare graduates with a complete educational experience for those who wish to become healthcare providers. The goal of the program is to prepare competent entry-level general sonographers in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains.

### The program goals seek to develop graduates who:

- perform in entry-level diagnostic medical sonography positions
- perform safely the basic principles of diagnostic medical sonography and its disciplines
- demonstrate the role of diagnostic medical sonographer in relationship to the interdisciplinary functions and members of the health care team
- demonstrate individual honesty, integrity and caring
- demonstrate individual professional proficiency and currency in skills and patient care
- show the importance of quality patient care in the healthcare setting
- apply self evaluation and life-long learning
- achieve a passing grade on the American Registry of Diagnostic Medical Sonographers' examinations

### Special Admission and Selection Criteria

Since this program requires a clinical placement, enrollment is selective and enrollment is limited by the clinical placement necessary to complete the diagnostic medical sonography course requirements. Students may be required to interview at one or more clinical sites on their own time and expense.

Clinical site preference is not guaranteed. There may be a possibility that clinical placement is deferred a semester if appropriate clinical site placement is not available.

- Applicants must be graduates of an accredited secondary school program, or high school seniors enrolled in an accredited secondary school program, or those who hold a GED equivalency certificate prior to selection.
- High school preparation should include one year each of biology, physics, chemistry and algebra. If these courses were not taken in high school, BIO 107, PHY 110, CHM 107 and MTH 100 must be completed prior to testing for the diagnostic medical sonography program and must be completed with a C grade or better.

- College prerequisite coursework includes completion of ALH 122 - Medical Terminology, BIO 171-Anatomy and Physiology I, BIO 172- Anatomy and Physiology II, ENG 161-College Writing, MTH 157-College Algebra and PHY 130-Physics for Sonography with a minimum grade of C. All of these courses must be completed by the application deadline which is January 12 of each year.

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

- Applicants must take the computerized placement test (Accuplacer) and have successfully completed any required developmental courses and/or high school course work with a minimum grade of C prior to taking the diagnostic medical sonography admission examination. In addition, applicants who have completed credit courses must have a 2.5 or better GPA prior to taking the Diagnostic Medical Sonography admission examination. Only courses necessary to meet the diagnostic medical sonography program requirements are considered when calculating the GPA. If the GPA is less than 2.5, one or more of these courses can be repeated in order to meet this requirement before testing. Transfer courses are not calculated into the GPA.
- Students who have attempted developmental courses in math or science three or more times will not be considered for admission.
- Applicants to the diagnostic medical sonography program should review the following web sites for specific information:
  - Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)
  - Commission on Accreditation of Allied Health Educational Programs (CAAHEP)
  - American Registry of Diagnostic Medical Sonographers (ARDMS) in Abdomen and Obstetrics & Gynecology.
- Those who apply must take a diagnostic medical sonography admissions test administered by Westmoreland. Applicants will be notified of testing dates.

**NOTE: Admission decisions are based on three factors which contribute to the overall admission score: GPA, Diagnostic Medical Sonography Entrance Exam Score, and evidence of success in courses already taken. Admission to the diagnostic medical sonography program is competitive and there are a limited number of seats.**

**After acceptance into the Diagnostic Medical Sonography program, students must maintain a GPA of 2.0 or better and must not earn less than a grade of "C" in any DMS course. Students who fail to meet these requirements must withdraw from the Diagnostic Medical Sonography program.**

### **Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs**

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

*It should be noted that at times criteria and requirements may change due to modifications that take place in various agencies and other external rules and regulations of the program and clinical sites. At times these are not known at the time of admission to the program.*

### **School of Health Professions Final Admission Criteria**

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

**DIAGNOSTIC MEDICAL SONOGRAPHY, AAS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ALH 122	Medical Terminology	3	Pre-Req	F, Sp, Su		
2	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155, 264 or HS CHM & ENG 095	
3	BIO 172	Anatomy & Physiology II	4	Pre-Req	F, Sp, Su	BIO 171	
4	ENG 161	College Writing	3	Pre-Req	F, Sp, Su	Test	
5	MTH 157	College Algebra	3	Pre-Req	F, Sp, Su	Test	
6	PHY 130	Physics for Sonography	3	Pre-Req	F, Sp	PHY 110 or HS PHY	
7	DMS 103	Cross Section Anatomy for Ultrasound	2	Major	Fall 1	Co: DMS 105, 204	
8	DMS 105	Abdominal I	4	Major	Fall 1	Co: DMS 103, 204	
9	DMS 204	Gynecology	3	Major	Fall 1	Co: DMS 103, 105	
10	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		
11	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
12	DMS 106	Obstetrics I	3	Major	Spring 1	Co: DMS 201, 205	
13	DMS 201	Patient Care/Legal/Ethical Issues	2	Major	Spring 1	Co: DMS 205, 106	
14	DMS 205	Abdominal II	4	Major	Spring 1	Co: DMS 201, 106	
15	DMS 210	Clinical I	3	Major	Summer 1	Co: DMS 207	
16	DMS 207	Small Parts Breast & Neuro	2	Major	Summer 1	Co: DMS 210	
17	DMS 206	Obstetrics II	3	Major	Fall 2	Co: DMS 208, 211, 213	
18	DMS 208	Intro to Vascular	3	Major	Fall 2	Co: DMS 206, 211, 213	
19	DMS 211	Clinical II	3	Major	Fall 2	Co: DMS 206, 208, 213	
20	DMS 213	Acoustical Prin & Instrument I	4	Major	Fall 2	Co: DMS 206, 208, 211	
21	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163 or 164
22	DMS 212	Clinical III	3	Major	Spring 2	Co: DMS 212, 214	
23	DMS 214	Acoustical Prin & Instrument II	3	Major	Spring 2	DMS 213	
24	HUM 156	Critical Thinking	3	Gen Ed	F, Sp, Su		

**Total Program Credits** **74** (Include Pre-requisites)

**Total Pathway Credits** **74** (Include Pre-requisites)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Dietetic Technology/Nutritional Services Management, AAS



## School of Culinary Arts & Hospitality

Dietetic Technology/Nutritional Services Management is one of the majors included in the college's School of Culinary Arts/Hospitality. Students enrolling in this program may seek employment in long-term care facilities, retirement centers, child nutrition and school lunch programs, nutrition programs for the elderly, hospitals, public health nutrition programs, and food service systems management firms as food service managers, dietary managers or nutrition care support workers. Students complete 60 credit hours of classroom/laboratory work along with a three credit capstone practicum in area facilities/related activities. Students are responsible for securing a practicum site which meets the program requirements. A physical examination is required for enrollment in the practicum course. Components required in this exam are contingent upon the practicum site and immunizations may be required. Graduates of the nutritional services option of dietetic technology are eligible to become members of the Association of Food and Nutrition Professionals and to write the certification examination to become a Certified Dietary Manager (CDM). Students will be required to provide medical proof of good physical health to begin the first laboratory course. Students are expected to be well groomed in compliance with standards of sanitation. Uniforms, program tool kit and transportation to the practicum site are required. Special attire may be required at the practicum site as students are expected to conform to the dress code and regulation of the facility. Business attire may be required for some class assignments.

### Program Learning Outcomes

**This curriculum is designed to prepare students to function as an integral part of the nutrition care team and/or foodservice management team to:**

- assist in the organization, development, implementation and evaluation of nutrition care and wellness plans
- obtain and record diet history, analyze clients nutritional care status, utilize communication skills to counsel clients and families from diverse backgrounds in medical nutrition therapy
- demonstrate the ability to work as part of a production team to prepare quantity foods
- evaluate food quality and meal acceptance
- utilize interpersonal skills to supervise nutrition clerks and food-service employees and to communicate with the other members of the health care team
- procure and receive supplies and equipment following industry standards
- apply organizational and communication skills in supervising food production
- implement cost control procedures applying mathematical concepts of profit and loss
- enforce sanitation and safety standards
- write job descriptions, specifications and work schedules for nutritional services employees
- design menus, analyze specialized meal patterns and write standardized recipes
- retrieve and manage nutrition information using the latest technology
- utilize computer technology to plan, organize and document food service and nutrition related information
- research and adhere to sound practices for sanitation and safety
- develop basic practical mathematical skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	DTT 111	Introduction to Dietetics	3	Major	F		
3	FSM 105	Foods I	4	Major	F, Sp		
4	FSM 118	Sanitation	2	Major	F, Sp		
5	FSM 159	Nutrition	3	Major	F, Sp, Su		
6	BKP 141	Baking I	4	Major	F, Sp		
7	CUL 135	Speed Scratch Cooking	3	Major	Sp	FSM 105	
8	DTT 114	Topics in Nutrition and Health	3	Major	Sp	FSM 159	
9	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
10	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	Test	MTH 100, 100A
Continued on next page.							



# Dining Room Management, Certificate

## School of Culinary Arts & Hospitality

Dining room management is one of the majors comprising the School of Culinary Arts/Hospitality. The certificate in dining room management is designed to provide entry and intermediate level skills for employment within resorts, restaurants, lodging and institutional facilities. Customer service and sanitation standards are both emphasized. Courses within this program also include information on beverage and wine service, techniques of service and marketing as it relates to this industry. Dining room attire required. Business attire may be required for some class assignments.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- use interpersonal and personal skills to effectively work within the hospitality operation
- identify the characteristics of successful service techniques
- practice the technical service skills needed for dining room employees
- identify the basic laws of food and beverage service
- identify diverse customer expectations
- collect and organize marketing information to reflect local, regional and international differences
- utilize the technology to maintain acceptable dining room systems of operation

### Career Opportunities

Graduates of the dining room management certificate program may accept positions as: dining room manager, maitre'd, customer service specialist or training specialist.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	FSM 103	Intro to Hospitality	3	Major	F, Sp		
2	FSM 113	Customer Service	3	Major	F, Sp		
3	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
4	FSM 118	Sanitation	2	Major	F, Sp		
5	FSM 119	Beverage Management	1	Major	F, Sp		
6	FSM 120	Wine Appreciation and Service	1	Major	F, Sp		
7	FSM 218	Hospitality Marketing	3	Major	F, Sp		
8	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instr Permission	

**Total Program Credits** 17

**Total Pathway Credits** 17

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# 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

**This curriculum is designed to prepare students 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 effect 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 105	Technical Drafting I	4	Major	F		
2	DFT 112	Introduction to Design, Materials and Processing	3	Major	F		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Advisor
5	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III
6	CNC 111	Computer Numerical Control I	4	Other	Sp		
7	DFT 106	Technical Drafting II	4	Major	Sp	DFT 105	
8	DFT 258	AutoCAD	4	Gen Ed	Sp		
9	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su	MTH 108 or Test	
10	CNC 112	Computer Numerical Control II	5	Other	F	CNC 111	
11	DFT 266	3D Solid Modeling I	4	Major	F		
12	EGR 220	Introduction to Statics and Strength of Materials	3	Other	F	PHY 107 or 155	
13	MTT 111	Machining I	4	Other	F		
14	ARC 262	Piping, Structural Detailing and Electromechanical Drafting	4	Major	Sp	ARC 210 or DFT 258	
15	DFT 267	3D Solid Modeling II	4	Major	Sp	DFT 266	
16	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
17	PHY 107	Applied Physics	4	Gen Ed	Sp	MTH 100, 100A or 108	Advisor

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Drafting and Design Technology, AAS

MECHANICAL DRAFTING AND DESIGN OPTION

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.

Successful completion of this program of study leads to the associate of applied science degree.

## 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 105	Technical Drafting I	4	Major	F		
2	DFT 112	Introduction to Design, Materials and Processing	3	Major	F		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	Advisor
5	DFT 106	Technical Drafting II	4	Major	Sp	DFT 105	
6	DFT 258	AutoCAD	4	Gen Ed	Sp		
7	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
8	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su	MTH 108 or TEST	
9	DFT 207	Tool Design	4	Major	F	DFT 106	
10	DFT 266	3D Solid Modeling I	4	Major	F		
11	EGR 110	Descriptive Geometry	3	Other	F		
12	EGR 220	Introduction to Statics and Strength of Materials	3	Other	F	PHY 107 or 155	
13	PHY 107	Applied Physics	4	Gen Ed	F	MTH 100, 100A or 108	Advisor
14	ARC 262	Piping, Structural Detailing and Electromechanical Drafting	4	Major	Sp	ARC 210 or DFT 258	
15	DFT 208	Product Design	3	Major	Sp	EGR 105 or DFT 112 & DFT 207	
16	DFT 267	3D Solid Modeling II	4	Major	Sp	DFT 266	
17	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Education/Pre-K–Grade 4, AAS

## School of Humanities, Social Sciences & Public Service

This program reflects the standards established by the National Association of Education for Young Children for students in the field of early childhood education. The program provides a solid foundation in the who, what, and why of effective early childhood education (infancy through nine years). Supervised observational field experience is required. This experience may occur in the Westmoreland Campus Children’s Center, students’ work-site classrooms, or approved off-campus locations including Head Start, public schools and IU classrooms.

### Career Opportunities

Graduates of this program have accepted positions with the following titles: preschool teacher, group supervisor, assistant group supervisor, center supervisor and homevisitor. Other graduates have started their own child care centers, family day care home or group day care home. With experience and additional education, graduates may be employed as program directors. Many graduates transfer to four-year universities to obtain advanced degrees in early childhood education where they will receive Pre-K to Grade 4 PA certification for employment in early childhood or elementary school settings. Transfer requires a minimum 3.0 GPA and successful completion of PAPA exams.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- formulate a plan to support and value relationships with families and communities
- demonstrate the use of systematic observations and other effective assessments to positively influence children’s development
- design, implement and evaluate appropriate curriculum that promotes positive development and learning in all young children
- identify and utilize ethical guidelines and other professional standards related to early childhood practices
- evaluate and design learning environments that are healthy, respectful, and supportive of all children
- demonstrate technological skills needed to manage information and to educate your children

**Students enrolled in the associate degree program must be certified in first aid/CPR prior to graduation.**

The Westmoreland Education/Pre-K–Grade 4 program is a participating agency of PA KEY-funded workshops and courses for program directors and practitioners.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ECE 179	Infant and Toddler Development	3	Major	F, 1st yr		
2	ECE 185	Intro Early Childhood Education	3	Major	F, 1st yr		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
4	MTH 180	Elements of Math I	3	Gen Ed	F	Test	
5	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
6	ECE 180	Child Growth and Development	3	Major	Sp, 1st yr		
7	ECE 183	Creative Experiences	3	Major	Sp, 1st yr		
8	ECE 188	Intro to Exceptional Dev.	3	Major	Sp, 1st yr		
9	MTH 185	Elements of Math II	3	Gen Ed	Sp	MTH 180	
10	ART 155	Intro to Art History	3	Gen Ed	F, Sp, Su		MUS 155
11	BIO 155	General Biology I	4	Gen Ed	F, Sp, Su		
12	ECE 182	Early Childhood Ed Curriculum	3	Major	F, 2nd yr		
13	ECE 189	Early Childhood Lang and Literacy	3	Major	F, 2nd yr		
14	ECE 191	Assessment and Obser Young Children	3	Major	F, Sp, 2nd yr		
15	ENG 250	Teaching Eng to Speaker/Other Languages	3	Gen Ed	Sp, 2nd yr		
16	ECE 186	Family and Society	3	Major	Sp, 2nd yr		
17	ECE 284	Early Childhood Ed Practicum	4	Major	Sp, 2nd yr		
18	ENG 255	Intro to Literature	3	Gen Ed	F, Sp, Su		
19	HIS 255	Early US and PA History	3	Gen Ed	F, Sp, Su		
20	Elective	Restricted Elective	3	Other	F, Sp, Su		See List

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

Restricted Electives	ASL 101 American Sign Language CPT 150 Microcomputer Concepts ECE 187 Child Care Management ECE 190 Child Health/Safety/Nutrition	ECE 194 Educ. of Young Children with Special Needs EDU 200 Introduction to Instructional Technology PSY 165 Education Psychology
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# Education/Early Childhood, Certificate

DIRECTOR CREDENTIAL

## School of Humanities, Social Sciences & Public Service

This nine-credit credential program is designed to prepare personnel to increase their knowledge and understanding of the role of the Early Childhood Director, as defined in Section 3270.34, Chapter 55, Commonwealth of Pennsylvania Child Day Care Center Regulations, and to meet the requirements for Staff Education, STAR #3 in the Keystone STARS Quality Improvement Initiative Performance Standards.

In order to enroll in the Pennsylvania Early Childhood Core Credential program, students must: 1) have an associate degree in early childhood education, child development, special education, elementary education or social science field; 2) have an associate degree in any other field, including 30 hours of early childhood education, child development, special education, elementary education or social science field; 3) have a bachelor's degree in early childhood education, child development, special education, elementary education or social science field; or 4) have a bachelor's degree in any other field, including 30 credit hours in early childhood education, child development, special education, elementary education or social science field.

Following completion of the 9 credits of appropriate coursework obtained here, students may locate information concerning the application process through the PA Key by accessing <http://www.pakeys.org/pages/get.aspx?page=home>. Click on "Career Development" in the center of the page and then "Degrees/Credentials" in the left menu. The Director's Credential will be awarded to the student by the PA Key when the application requirements have been successfully met.

### Program Learning Outcomes

**This curriculum is designed to prepare directors of early childhood programs to:**

- apply knowledge of ages and stages of development in program planning
- create learning environments and curriculums that reflect children's ages, abilities, interests and diverse home culture
- evaluate and select assessment tools to be used with children, staff, and center
- demonstrate effective communication skills with children, parents, staff and community
- demonstrate professional behavior and interpersonal skills while adhering to early childhood professional code of ethics
- evaluate and ensure that health, safety, and nutritional practices are compliant with all standards
- analyze the organization, administration, management, budget and the daily operations of an early childhood facility

For a candidate to be awarded a director credential, the candidate's choice of three three-credit courses must be pre-approved by the the granting institution faculty advisor based on the candidates prior academic record and prior experience. Successful completion of each of the three courses means a grade of "C" or better.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
	ECE 179	Infant and Toddler Development	3	Major	F		
	ECE 180	Child Growth and Development	3	Major	Sp		
	ECE 182	Early Childhood Ed Curr.	3	Major	F, 2nd yr		
	ECE 183	Creative Experiences	3	Major	Sp		
	ECE 185	Intro Early Childhood Education	3	Major	F		
	ECE 186	Family and Society	3	Major	Sp		
	ECE 187	Child Care Management	3	Major	Sp		
	ECE 188	Intro to Exceptional Dev.	3	Major	Sp, 1st yr		
	ECE 189	Early Childhood Lang and Literacy	3	Major	F, 2nd yr		
	ECE 190	Child Health, Safety and Nutrition	3	Major	Sp		
	ECE 191	Assessment and Obser Young Children	3	Major	F, Sp, 2nd yr		
	ENG 250	Teaching Eng to Speaker/Other Languages	3	Major	Sp, 2nd yr		
	BUS 120	Mathematics for Business	3	Major	F, Sp, Su	Test	
	BUS 140	Introduction to Business	3	Major	F, Sp, Su		
	BUS 241	Human Resource Management	3	Major	F, Sp, Su		
	BUS 258	Supervisory Management	3	Major	F, Sp		
	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
	EDU 156	Introduction to Middle and Secondary Education	3	Major	F, Sp, Su	Current Clearances	
Continued on next page							

**EDUCATION/EARLY CHILDHOOD, CERTIFICATE (CONTINUED)**

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<b>Seq #</b>	<b>Course</b>	<b>Course Title</b>	<b>Credits</b>	<b>Type</b>	<b>Term Offered</b>	<b>Pre-Req</b>	<b>Options Available</b>
	HMS 155	Intro to Human Services & Social Work	3	Major	F		
	PSY 165	Educational Psychology	3	Major	F,Sp,Su	PSY 160	
	SOC 161	Marriage & Family	3	Major	F,Sp,Su		

**Total Program Credits** **9**

**Total Pathway Credits** **9**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Electrical Utility Technology, AAS

## School of Technology

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The electric utility technology degree will prepare students for mid level positions in the electric utility industry. Students who complete this program will develop a comprehensive understanding of the activities associated with electric utility line work, including circuit analysis, technical communication, heavy equipment operation, working with high voltage electricity, class A CDL license, first aid and CPR certifications, electrical transmission and distribution, and the safety aspects related to each. Students will engage in classroom and laboratory activities that will develop the basic technical skills necessary to obtain a position within the electric utility industry. In addition, students will be required to participate in a 10-week, compensated field experience with FirstEnergy that supplements the learning process.

### Special Admission and Selection Criteria

- Students who are accepted must have and maintain a valid driver's license.
- Students must successfully pass a background screening for criminal and driving records conducted by FirstEnergy.
- Students must successfully pass a physical capabilities test administered by Industrial Physical Capability Services, Inc.
- Students must pass a Department of Transportation CDL physical and provide a copy of the Medical Examiners Certificate to FirstEnergy.
- Students must meet all academic and hands-on training requirements as part of FirstEnergy's selection process.

### Career Opportunities

Graduates of the electric utility technology program may accept positions such as electric utility line worker, lineman, cableman, electrical utility foreman, electrical line supervisor and electrical line contractor.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- adhere to safety practices and procedures, such as checking equipment regularly and erecting barriers around work areas
- open switches or attach grounding devices to remove electrical hazards from disturbed or fallen lines or to facilitate repairs
- climb poles or use truck-mounted buckets to access equipment
- place insulating or fireproofing materials over conductors and joints
- install, maintain and repair electrical distribution and transmission systems, including conduits, cables, wires and related equipment such as transformers, circuit breakers and switches.
- identify defective sectionalizing devices, circuit breakers, fuses, voltage regulators, transformers, switches, relays or wiring using wiring diagrams and electrical-testing instruments
- demonstrate operation of vehicles equipped with tools and materials to job sites
- coordinate work assignment preparation and completion with other workers
- inspect and test power lines and auxiliary equipment to locate and identify problems using reading and testing instruments
- string wire conductors and cables between poles, towers, trenches, pylons and buildings; setting lines in place; and using winches to adjust tension
- identify and explain the components of an electrical distribution and transmission system
- develop the key technical skills necessary to secure a job in the electric utility industry
- install, maintain and troubleshoot electrical distribution and transmission systems
- demonstrate safe work practices at all times while on the jobsite
- demonstrate and utilize technology to maintain and troubleshoot various electrical industry systems
- demonstrate and utilize personal and interpersonal skills as an integral member of a team

Our mission is to provide students with a high quality and a variety of educational activities and experiences that will allow them to gain the level of knowledge necessary to become competent and successful in mid level line worker positions in the electric utility industry, specifically for FirstEnergy and its operating companies, West Penn and Potomac Edison.

Continued on next page.

**ELECTRICAL UTILITY TECHNOLOGY, AAS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ELC 191	Basic Principles of Industrial Electricity	4	Major	F		
3	EUT 101	Overhead Line Technology I	5	Major	F		
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	Advisor
5	PDV 101	First Year Seminar	1	Gen Ed	F, Sp, Su		
6	ELC 106	Circuit Analysis I	4	Major	Sp		
7	ELC 192	Industrial Electrical Equipment	4	Major	Sp	ELC 191	
8	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or TEST	
9	EUT 102	Overhead Line Technology II	5	Major	Sp	EUT 101	
10	ELC 107	Circuit Analysis II	4	Major	F	ELC 106 & MTH 108	
11	EUT 201	Overhead Line Technology III	5	Major	F	EUT 102	
12	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
13	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
14	BUS 249	Labor Relations	3	Gen Ed	F, Sp, Su		
15	ELC 223	Power Distribution and Transmission	4	Major	Sp	ELC 106, 107 & 191 and EUT 101 & 102	
16	EUT 202	Overhead Line Technology II	5	Major	Sp	EUT 201	
17	HUM 156	Critical Thinking	3	Gen Ed	Sp		

**Total Program Credits 63**

**Total Pathway Credits 63**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Electronics Engineering Technology, AAS

GENERAL OPTION

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.

Successful completion of this program of study leads to the associate of applied science degree.

## 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

This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ELC 106	Circuit Analysis I	4	Major	F		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or TEST	
3	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	Advisor
4	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column IV
5	ELC 102	Electronic Devices	4	Major	Sp	ELC 106	
6	ELC 107	Circuit Analysis II	4	Major	Sp	ELC 106 & MTH 108	
7	ELC 114	Digital Techniques	4	Major	Sp	ELC 106	
8	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su	MTH 108 or Test	
9	ELC 202	Linear Electronics	4	Major	F	ELC 102 & 107, MTH 109 or 158	
10	ELC 206	Microprocessors	4	Major	F	ELC 114	
11	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163 or 164
12	PHY 155	College Physics I	4	Gen Ed	F, Sp, Su	MTH 108 or 100 or 100A and HS Physics	
13	DFT 258	AutoCAD	4	Gen Ed	F		
14	PHY 156	College Physics II	4	Other	F, Sp, Su	PHY 155	
15	ELC 213	Microprocessor Applications	4	Major	Sp	ELC 206	
16	Elective	Restricted Elective	4	Major	F, Sp, Su	Various	See List

**Total Program Credits 61**

**Total Pathway Credits 61**

**Restricted Electives:** ELC 192, 199, 200, 201, 208, 209, 221, 222, 223, EMA 140

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Engineering Technology, AAS



## School of Technology

The engineering technology program is designed to provide students with the skills and knowledge they need to function as assistants to engineers. Graduates will be prepared to practice as engineering technicians.

Successful completion of this program of study leads to the associate of applied science degree.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- demonstrate basic quantitative skills through the study of applied mathematics and the application of mathematics to engineering systems
- expand basic skills to encompass mechanical skills, such as drafting, spatial relations, and force and motion analysis
- demonstrate product design capability
- develop skills in communications and business methods
- demonstrate computer literacy
- demonstrate use of critical thinking skills to the solution of basic engineering problems
- communicate effectively, and appropriately record and report information significant to the job

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 105	Technical Drafting I	4	Other	F		
2	EGR 104	Engineering Materials	3	Major	F	Co: MTH 108	
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	Advisor
5	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III
6	DFT 106	Technical Drafting II	4	Other	Sp	DFT 105	
7	EGR 105	Manufacturing Procedures	3	Major	Sp	EGR 104 or DFT 112 or MET 105	
8	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163 or 164
9	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su	TEST	
10	PHY 155	College Physics I	4	Gen Ed	F, Sp	MTH 108 or 100 or 100A and HS Physics	
11	DFT 266	3D Solid Modeling I	4	Other	F, Sp		
12	EGR 110	Descriptive Geometry	3	Major	F, Sp		
13	MTH 172	Analytical Geometry and Calculus I	4	Other	F, Sp, Su	TEST	
14 155	PHY 156	College Physics II	4	Other	Sp, Su		PHY
15	EGR 210	Quality Control	3	Major	Sp	MTH 108	
16	EGR 220	Introduction to Statics and Strength of Materials	3	Major	F, Sp	Co: PHY 107 or 155	
17	EGR 227	Kinematics	3	Major	Sp	Co: PHY 155	
18	Elective	Computer Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column VI

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Expanded Functions Dental Assisting, Certificate

## School of Health Professions

The Expanded Functions Dental Assisting Program is designed to provide advanced training in the skills that are delegated as legal functions for the expanded functions dental assistant by the Pennsylvania State Board of Dentistry.

Candidates for the certificate must have at least three recent years experience as a dental assistant.

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.

### Special Admission and Selection Criteria

Admission to the expanded functions dental assisting program is highly competitive and enrollment is limited. Specific criteria for admission and selection are listed below.

#### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program
- (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

#### \*For selected spring Start Classes

Application Deadline May 15 prior to spring start  
Acceptance Notification Mid-August

- Applicants must be graduates of an accredited secondary school program or high school seniors enrolled in an accredited secondary school program, or those who hold a GED equivalency certificate prior to selection.
- All applicants must have a letter verifying three years recent chairside dental assisting experience including dates and hours from the employing dentist or hold certification as a CDA or RDH.
- Applicants selected for admission must submit satisfactory results from pre-entrance medical examination and immunization obtained at the candidate's expense. Specific information regarding the examination will be provided to students upon acceptance.

### School of Health Professions Final Admission Criteria

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

- Please be aware that based on ongoing changes occurring in the dental assisting profession, it may be necessary to modify courses listed in this catalog to meet changing practice competencies.

## EXPANDED FUNCTIONS DENTAL ASSISTING, CERTIFICATE (CONTINUED)

### Program Learning Outcomes

This curriculum is designed to prepare students to be competent in:

- Placing and removing rubber dams
- Placing and removing matrices and wedges
- Applying cavity liners and bases
- Placing and condensing amalgam restorations
- Carving and contouring amalgam restorations
- Placing and finishing composite resin restorations
- Placing sealants
- Coronal Polishing
- Fluoride Application

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DAE 100	Dental Anatomy	2	Major	F		
2	DAE 101	EFDA I	6	Major	F		
3	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		
4	DAE 102	EFDA II	3	Major	Sp	DAS 100 & DAE 101	
5	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		

**Total Program Credits 17**

**Total Pathway Credits 17**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.  
General education courses may be taken prior to admission to the program.

# Fire Science Technology, AAS

MUNICIPAL FIRE SERVICE OPTION

## School of Technology

Graduates of the municipal fire service option of the fire science technology program are prepared to function as leaders in the fire science team.

Successful completion of this program of study leads to the associate of applied science degree.

### Career Opportunities

Recent graduates of the fire science program have accepted jobs with the following titles: arson investigator, housing inspector, 911 dispatcher and firefighter.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- employ scientific processes, methods and computer-based research and common business computer software to solve firefighting problems
- deploy appropriate resources for the extinguishment of fires and non-emergency departmental functions by analyzing existing policies and procedures

- function as part of a management team to evaluate fire prevention and inspection policies based on new technologies and conducting organizational studies
- communicate effectively by preparing departmental reports on: incidents, budgets, training, personnel and equipment, standard operating procedures, mutual aid agreements and other operational issues
- collect and analyze information to specify mobile and portable fire suppression equipment
- analyze existing building code compliance and fire hazards and issue reports to comply with community, state and national regulations
- \* employ effective decision making while functioning within the local, state and national legal system to maintain legal immunity
- maintain personal, social and mental well being while functioning within a dynamic, yet hazardous occupational setting

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F	ENG 085 or TEST	
2	FST 101	Introduction to Fire Science	3	Major	F		
3	FST 105	Public Fire Education	3	Major	F		
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	Advisor
5	Elective	Computer Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column VI
6	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	Sp	MTH 052, 052A or TEST	
7	ENG 162 or 163	Technical or Business Comm	3	Gen Ed	F, Sp, Su	ENG 161	
8	FST 104	Fire Service Hydraulics	3	Major	Sp		
9	Elective	Fire Science Elective	3	Major	F, Sp, Su	Various	See List
10	Elective	Mathematics Elective	3	Other	F, Sp, Su	Test	Page 43 Column IV
11	FST 103	Fire Service Administration	3	Major	F		
12	FST 109	Building Codes and Standards	3	Major	F	FST 101	
13	FST 220	Firefighting Tactics and Command	3	Major	F	FST 104	
14	Elective	Fire Science Elective	3	Major	F, Sp, Su	Various	See List
15	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III
16	FST 222	Legal Aspects of the Pennsylvania Fire Service	3	Major	Sp		
17	PHY 107	Applied Physics	4	Other	Sp	MTH 108 or 100 or 100A	
18	SOC 155	Principles of Sociology	3	Gen Ed	Sp		
19	Elective	Fire Science Elective	3	Major	F, Sp, Su	Various	See List

**Total Program Credits 60**

**Total Pathway Credits 60**

Fire Science Electives: FST 107, 110, 112, 114, 115, 201, 209, 211, 215, 216 221 or 224

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Fire Science Technology, Diploma

## School of Technology

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- deliver oral presentations on fire behavior, control and prevention methods, using prepared materials, when assigned to do so
- function in a management support role in a community-based fire service organization as part of a suppression or prevention task force
- analyze fire ground water movement problems and operate pressure-producing pumps to effectively supply a variety of fire control streams
- participate as part of an organizational team to deploy human and capital resources to achieve the organization's mission, goals, and objectives
- inspect and issue written reports on the proper operation of fire detection and suppression systems
- evaluate current and potential fire and emergency situations and issue verbal, written and radio transmission reports that effectively manages personnel to mitigate the situation

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F,Sp,Su	TEST	
2	FST 101	Introduction to Fire Science	3	Major	F		
3	FST 103	Fire Service Administration	3	Major	F		
4	FST 105	Public Fire Education	3	Major	F		
5	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F,Sp,Su	TEST	Advisor
6	FST 104	Fire Service Hydraulics	3	Major	Sp		
7	FST 107	Fire Protection Suppression Systems and Alarms	3	Major	Sp		
8	FST 220	Firefighting Tactics and Command	3	Major	F	FST 104	
9	SOC 155	Principles of Sociology	3	Gen Ed	Sp		
10	Elective	Fire Science Elective	3	Major	F,Sp,Su		See List

**Total Program Credits 31**

**Total Pathway Credits 31**

Fire Science Electives: FST 107, 110, 112, 114, 115, 201, 209, 211, 215, 216 221 or 224

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Fire Science Technology, Certificate

## School of Technology

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### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify past and present building hazards that have caused catastrophic loss of life events and make oral or written recommendations to prevent future catastrophes
- complete written forms to document operating status of fire detection and suppression systems
- assist with the delivery of fire behavior and fire education programs by communicating effectively using prepared materials
- identify basic fire prevention inspection deficiencies for existing buildings and compile written reports using prepared forms
- collect organizational budget, incident and personnel data using existing forms and compile written summary reports
- interact with other fire science team members and the local community by using effective interpersonal and workplace life skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F,Sp,Su	Test	
2	FST 101	Intro to Fire Science	3	Major	F		
3	FST 103	Fire Service Administration	3	Major	F		
4	FST 105	Public Fire Education	3	Major	F		
5	FST 107	Fire Protection Suppresion Systems & Alarms	3	Major	Sp		
6	MTH 108	Math for the Technologies I	4	Major	F, Sp, Su	MTH 052, 052A or Test	

**Total Program Credits** 19

**Total Pathway Credits** 19

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

## Forensic Science, Certificate

FORENSIC SCIENCE INVESTIGATOR

School of Math, Science & Engineering

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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.

An associate degree Science Technology Forensics Lab Technician program is also available. See page 222.

### Program Learning Outcomes

This curriculum is designed to prepare students 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.)

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 110	Intro to Forensic Biology	4	Major	F, Sp, Su		
2	BIO 130	Intro to Forensic Pathology	4	Major	F		
3	BIO 160	Intro Forensic Toxicology Poisonism Drugs & Death	4	Major	Sp		
4	CRJ 160	Criminal Law I	3	Major	F		
5	CRJ 163	Criminal Procedures	3	Major	Sp		
6	CRJ 296	Intro to Criminalistics	3	Major	Sp	CRJ 155	

**Total Program Credits** 21

**Total Pathway Credits** 21

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# 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 HVACR 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. Successful completion of this program leads to the associate of applied science degree.

### Career Opportunities

Recent graduates of the HVACR 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

**This curriculum is designed to prepare students 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, salesman, 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ELC 106	Circuit Analysis I	4	Other	F		
2	HAC 101	Introduction to Refrigeration/AC	4	Major	F		
3	HAC 240	HVAC Duct Fabrication	4	Major	F		
4	HAC 175	Direct Digital Controls	2	Major	F		
5	HAC 280	Residential Wiring	3	Other	F		
6	HAC 105	Blueprint Reading for HVAC Technicians	2	Major	Sp		
7	HAC 170	HVACR Control Systems	2	Major	Sp		
8	HAC 255	Air Conditioning/Heat Pumps	4	Major	Sp		
9	HAC 150	ACCA Man J and Man D Load Est.	4	Major	Sp		
10	HAC 290	EPA Refrigerant Exam Prep.	3	Major	Sp		
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
12	HAC 250	Gas and Oil Heating Technology	4	Major	F		
13	HAC 256	Geothermal and Solar Technology	3	Major	F		
14	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	TEST	
15	Elective	Drafting (DFT Course)	3/4	Other	F, Sp, Su		Advisor
16	DFT 258	AutoCAD	4	Gen Ed	F, Sp, Su		
17	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161 ENG 163 or 164	
18	HAC 260	Hydronics	4	Other	Sp		
19	Elective	Science	3/4	Gen Ed	F, Sp, Su	Page 43 COLUMN V	
20	Elective	Social Science	3	Gen Ed	F, Sp, Su		Page 43 COLUMN III

**Total Program Credits**  
**Total Pathway Credits**

**64/66**  
**64/66**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# 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 of 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

**This curriculum is designed to prepare students 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, salesman, 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HAC 101	Introduction to Refrigeration/AC	4	Major	F		
2	HAC 175	Direct Digital Controls	2	Major	F		
3	HAC 240	HVAC Duct Fabrication	2	Major	F		
4	HAC 250	Gas and Oil Heating Technology	4	Major	F		
5	HAC 256	Geothermal and Solar Technology	3	Major	F		
6	HAC 105	Blueprint Reading for HVAC Technicians	2	Major	Sp		
7	HAC 170	HVACR Control Sys	2	Major	Sp		
8	HAC 255	Air Conditioning/Heat Pumps	4	Major	Sp		
9	HAC 260	Hydronics	4	Major	Sp		
10	HAC 290	EPA Refrigerant Exam Prep.	3	Major	Sp		

**Total Program Credits 30**

**Total Pathway Credits 30**

# Heating, Ventilation and Air-Conditioning Mechanic I, Certificate

## School of Technology

The heating ventilation and air conditioning mechanic I certificate is designed to prepare students for entry level positions in the HVACR 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

**This curriculum is designed to prepare students 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, salesman, 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HAC 101	Introduction to Refrigeration/AC	4	Major	F		
2	HAC 240	HVAC Duct Fabrication	2	Major	F		
3	HAC 250	Gas and Oil Heating Technology	4	Major	F		
4	HAC 256	Geothermal and Solar Technology	3	Major	F		
5	HAC 175	Direct Digital Controls	2	Major	F		

**Total Program Credits 15**

**Total Pathway Credits 15**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Heating, Ventilation and Air Conditioning Mechanic II, Certificate

## School of Technology

The heating ventilation and air conditioning mechanic II certificate is designed to prepare students for entry level positions in the HVAC&R 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

**This curriculum is designed to prepare students 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, salesman, 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HAC 105	Blueprint Reading for HVAC Technicians	2	Major	Sp		
2	HAC 170	HVAC&R Control Sys	2	Major	Sp		
3	HAC 255	Air Conditioning/Heat Pumps	4	Major	Sp		
4	HAC 260	Hydronics	4	Major	Sp		
5	HAC 290	EPA Refrigerant Exam Prep.	3	Major	Sp		

**Total Program Credits** 15

**Total Pathway Credits** 15

# Homeland Security, AAS

## School of Humanities, Social Sciences & Public Service



The homeland security associate of applied science degree is designed to provide students with the skills, knowledge and hands-on experiences to prepare them for entry level positions within a homeland security organization or in continuing their educational pursuits toward a bachelor's degree in homeland security from one of the cooperating schools participating in the Region 13 Homeland Security Higher Education Training Consortium.

### Career Opportunities

Students successfully completing the homeland security associate degree program may find employment opportunities in the private security industry as well as local, regional, state and federal homeland security and emergency management agencies.

### Program Learning Outcomes

**This curriculum is designed to prepare student to:**

- discuss a broad overview of the homeland security and emergency management program in the United States
- state the origins of terrorism and terrorist motivations
- identify how to assess and safeguard critical infrastructure and key resources
- demonstrate critical and analytical thinking and decision making
- demonstrate basic knowledge and processes of funding sources and grants management
- explain the basic issues of information security and cyber security in mitigating threat potential
- develop a continuity of operations plan for an existing organization
- state the elements of a fire management program
- list the basic components of the criminal justice system
- discuss pre-hospital emergency medical services, hospital capabilities and United States concerns about weapons of mass destruction
- list the key organizations involved in homeland security and emergency management

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CRJ 225	Criminology of Terrorism	3	Major	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	HSM 101	Orientation to HSM	3	Major	F		
4	HSM 103	Vulnerability Assess & Physical Security	3	Major	F		
5	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		SPC 155
6	CIS 168	Principles of Information Security	3	Major	F, Sp, Su		
7	HSM 105	Homeland Security Grant Writing	3	Major	F		
8	HSM 107	Continuity of Oper Planning with COOP Exer	3	Major	Sp		
9	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
10	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
11	CRJ 195	Intro to Private Security	3	Other	F		CRJ 262
12	CRJ 155	Intro to Criminal Justice	3	Major	F, Sp, Su		
13	CRJ 296	Criminalistics	3	Other	F, Su	CRJ 155	
14	HSM 102	Principles of Emergency Services	3	Major	Su		
15	HSM 109	Emer Med Serv & Hlth Serv Orientation	3	Major	Sp		
16	HUM 156	Critical Thinking	3	Other	F, Sp, Su		
17	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163, 164, 168
18	BUS 120	Math for Business	3	Gen Ed	F, Sp, Su	Test	MTH 161
19	CRJ 276	Community Relations	3	Other	Sp		CRJ 287
20	HSM 201	Emerg Mgmt and Planning	3	Major	Sp		

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Homeland Security, Certificate

## School of Humanities, Social Science & Public Service

The Homeland Security certificate offers the student a firm foundation in the understanding of the Department of Homeland Security (DHS). It provides them with an overview of the primary areas of focus in homeland security (law enforcement, emergency management, fire, emergency medical).

### Career Opportunities

Graduates of the homeland security certificate can expect to find entry level employment in a myriad of areas that support the DHS. These include emergency management, police, border and customs, immigration, fire, private security and numerous other support activities.

### Program Learning Outcomes

The curriculum is designed to prepare students to:

- discuss a broad overview of homeland security and emergency management in the U.S.
- state the origins of terrorism and terrorists motivation
- identify how to assess and safeguard critical infrastructures and key resources
- discuss the strengths, weaknesses and capabilities of fire, law enforcement, emergency management and emergency medical personnel
- demonstrate an understanding of cyber security
- prepare a grant for funding
- develop a incorporate Continuity of Operations Plans for an existing organization

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CRJ 225	Criminology of Terrorism	3	Major	F, Sp, Su		
2	HSM 101	Orientation to Homeland Sec & Emer Prep	3	Major	F		
3	HSM 103	Vulnerability Assmts & Physical Security	3	Major	F		
4	CIS 168	Principles of Information Security	3	Major	F, Sp, Su		
5	HSM 102	Principles of Emergency Services	3	Major	F, Su		
6	HSM 107	Cont. Of Oper. Planning	3	Major	Sp		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

This option of the horticulture degree is designed to provide students with the necessary skills to work in areas of greenhouse management, garden center management, interior plantscaping and floral shop management.

**Career Opportunities**

Graduates of this option can be self-employed or obtain jobs as greenhouse growers, garden center managers, interior plantscapers, floral shop managers or professionals in related fields.

**Program Learning Outcomes**

**This curriculum is designed to prepare students to:**

- identify and properly utilize important species of annuals and herbaceous perennials
- identify and properly utilize important species of ornamental trees and shrubs
- design, install and maintain interior landscaping
- schedule and produce common greenhouse crops
- make floral arrangements for general use and special occasions
- identify and control common pests that infest plants
- perform calculations related to fertilization and pesticide application
- communicate effectively with customers with letters or e-mails
- demonstrate basic knowledge of computer technology

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	HOR 105	Introduction to Horticulture	3	Major	F		
3	HOR 125	Ornamental Shrubs	3	Major	F		
4	BUS 120	Mathematics of Business	3	Gen Ed	F	MTH 052, 052A or TEST	
5	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	
6	HOR 107	Landscape Drawing	3	Concentration	Sp		
7	HOR 126	Ornamental Trees	3	Major	Sp		
8	HOR 155	Soils and Soil Fertility	4	Major	Sp		
9	HOR 212	Pruning	3	Major	Su		
10	HOR 250	Interior Plantscaping	4	Major	Su		
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
12	HOR 157	Insects and Diseases of Plants	4	Major	F		
13	HOR 198	Floriculture Internship	3	Concentration	F		
14	HOR 215	Annuals and Herbaceous Perennials	3	Major	F		
15	HOR 241	Greenhouse Operations Management	3	Major	F		
16	ENG 163	Business Communications	3	Gen Ed	F, Sp, Su	ENG 161	
17	HOR 170	Floral Design and Arranging	3	Major	Sp		
18	HOR 270	Greenhouse Production	3	Major	Sp	HOR 105	
19	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Horticulture, AAS

LANDSCAPE DESIGN, INSTALLATION AND MAINTENANCE OPTION

## School of Math, Science & Engineering

This option of the horticulture degree is designed to provide students with the necessary skills to work in the landscaping industry.

### Career Opportunities

Graduates of this option can be self-employed as landscapers or obtain jobs as landscape designers, managers, estimators, and technicians in landscape installation and maintenance and related fields.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify and properly utilize important species of annuals and herbaceous perennials
- identify and properly utilize important species of ornamental trees and shrubs
- design residential and non-commercial properties
- install landscapes according to blue prints
- properly maintain established landscapes
- start and maintain lawns
- perform calculations related to turf fertilization, liming, and pesticide application
- perform calculations necessary for running a landscaping business
- prepare bidding packages for residential and commercial properties
- communicate effectively with customers with letters or e-mails
- demonstrate basic knowledge of computer technology

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	HOR 105	Introduction to Horticulture	3	Major	F		
3	HOR 125	Ornamental Shrubs	3	Major	F		
4	BUS 120	Mathematics of Business	3	Gen Ed	F	MTH 052, 052A or TEST	
5	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	
6	HOR 107	Landscape Drawing	3	Concentration	Sp		
7	HOR 110	Introduction to Turfgrass Management	3	Concentration	Sp		
8	HOR 126	Ornamental Trees	3	Major	Sp		
9	HOR 155	Soils and Soil Fertility	4	Major	Sp		
10	HOR 212	Pruning	3	Major	Su		
11	HOR 275	Landscape Equipment, Installation & Maintenance	4	Concentration	Su		
12	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
13	HOR 157	Insects and Diseases of Plants	4	Major	F		
14	HOR 205	Residential Landscaping	3	Concentration	F	HOR 107	
15	HOR 215	Annuals and Herbaceous Perennials	3	Major	F		
16	ENG 163	Business Communications	3	Gen Ed	F, Sp, Su	ENG 161	
17	HOR 199	Horticulture Internship	3	Concentration	Sp	Instr Permission	
18	HOR 207	Advanced Landscaping	3	Concentration	Sp	HOR 205	
19	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 61**

**Total Pathway Credits 61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Horticulture, AAS

TURFGRASS MANAGEMENT OPTION

## School of Math, Science & Engineering

This option of the horticulture degree is designed to provide students with the necessary skills to work in the field of turfgrass management.

### Career Opportunities

Graduates of this option can be self-employed as turf care professionals or obtain jobs as golf course or athletic field superintendents, and technicians in lawn care companies and related fields.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify and characterize the cultural requirements of the important turfgrass species used in lawns, golf courses, and sports fields
- select the right turfgrass species for specific locations
- operate and maintain turf care equipment
- install and maintain different types of turf
- identify and control turfgrass insects, diseases, and weeds
- calibrate and operate spray equipment
- perform calculations related to turf fertilization, liming, and pesticide application
- identify and properly utilize important species of ornamental trees and shrubs
- communicate effectively with customers with letters or e-mails
- manage employees effectively
- demonstrate basic knowledge of computer technology

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	HOR 105	Introduction to Horticulture	3	Major	F		
3	HOR 125	Ornamental Shrubs	3	Major	F		
4	BUS 120	Mathematics of Business	3	Gen Ed	F	MTH 052, 052A or TEST	
5	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	
6	HOR 110	Introduction to Turfgrass Management	3	Concentration	Sp		
7	HOR 126	Ornamental Trees	3	Major	Sp		
8	HOR 155	Soils and Soil Fertility	4	Major	Sp		
9	HOR 212	Pruning	3	Major	Su		
10	HOR 275	Landscape Equipment, Installation & Maintenance	4	Concentration	Su		
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	TEST	
12	HOR 120	Turfgrass Equipment Mechanics	4	Concentration	F		
13	HOR 157	Insects and Diseases of Plants	4	Major	F		
14	HOR 289	Turfgrass Internship I	3	Concentration	F	Instr Permission	
15	ENG 163	Business Communications	3	Gen Ed	F, Sp, Su	ENG 161	
16	BUS 158	Principles of Management	3	Other	F, Sp, Su		
17	HOR 150	Specialized Turfgrass Management	3	Concentration	Sp	HOR 110	
18	HOR 299	Turfgrass Internship II	3	Concentration	Sp	HOR 199	
19	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Horticulture, Certificate

## School of Math, Science & Engineering

This certificate program provides students with the necessary skills for identifying and properly utilizing trees, shrubs, and annual and herbaceous perennial flowers in landscapes. It also prepares them for soil and pest management.

### Career Opportunities

Graduates of this program can obtain jobs as technicians in nurseries, garden centers or landscaping companies.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify and properly utilize trees, shrubs, and bedding plants
- identify problems related to soil and make recommendations for improvement
- identify and control important insects, diseases, and weeds
- calculate the amount of fertilizers, pesticides needed for a given area
- apply pesticides safely

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HOR 105	Introduction to Horticulture	3	Major	F		
2	HOR 125	Ornamental Shrubs	3	Major	F		
3	HOR 126	Ornamental Trees	3	Major	Sp		
4	HOR 155	Soils and Soil Fertility	4	Major	Sp		
5	HOR 157	Insects and Diseases of Plants	4	Major	F		
6	HOR 215	Annuals and Herbaceous Perennials	3	Major	F		

**Total Program Credits** 20

**Total Pathway Credits** 20

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Horticulture, Certificate

LANDSCAPE INSTALLATION AND MAINTENANCE

School of Math, Science & Engineering

This certificate program provides students with the necessary skills for installing and maintaining residential and commercial landscapes

## Career Opportunities

Graduates of this program can start their own landscaping businesses or obtain jobs as technicians and/or foremen in landscape installation and maintenance for landscaping companies.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- construct important landscape structures such as patios, retaining walls, sidewalks and so on
- plant trees and shrubs under various conditions
- start new lawns with seeds or sod
- prune trees and shrubs properly
- maintain and improve existing landscapes

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HOR 105	Introduction to Horticulture	3	Major	F		
2	HOR 125	Ornamental Shrubs	3	Major	F		
3	HOR 110	Intro to Turfgrass Management	3	Major	Sp		
4	HOR 126	Ornamental Trees	3	Major	Sp		
5	HOR 212	Pruning	3	Major	Su		
6	HOR 275	Landscape Equipment Instal and Main	4	Major	Su		
7	HOR 157	Insects and Disease of Plants	4	Major	F		

**Total Program Credits 23**

**Total Pathway Credits 23**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Hospitality Management, Certificate

## School of Culinary Arts & Hospitality

Hospitality management is one of the areas included in the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for entry 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, marketing, and management. Business attire may be required for some classes.

### Career Opportunities

Graduates of the hospitality management certificate program may accept positions as: sales representative, assistant restaurant manager, assistant food service director, dining room manager, training and development specialist or customer service representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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 to maintain systems of operation
- Research, evaluate and write menus, purchase orders, and inventories
- Supervise a hospitality team utilizing personal and interpersonal skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	PDV 101	First Year Seminar	1	Gen Ed	F,S,Su		
2	FSM 113	Customer Service	3	Major	F,Sp		
3	FSM 118	Sanitation	2	Major	F,Sp		
4	FSM 235	Supervision and Training	3	Major	F,Sp		
5	FSM 215	Purchasing & Operations	3	Major	F,Sp		
6	FSM 218	Hospitality Marketing	3	Major	F,Sp,Su		
7	CPT ISO	Microcomputer Concepts	3	Gen Ed	F,Sp,Su		

**Total Program Credits 18**

**Total Pathway Credits 18**



# Hotel and Resort Management, AAS

## School of Culinary Arts & Hospitality

Hotel and Resort Management is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for various positions with the hotel/lodging industry. Emphasis is given to the development of knowledge and skills in essential areas such as social and economic tourism, salesmanship, marketing, food and beverage, event management, lodging management, property management and recreation. This program also requires the student to arrange and participate in three credits of approved internship so that class room learning can be applied or experienced at lodging and resort facilities.

Students are expected to be well groomed in compliance with standards of sanitation. Uniforms and program tool kit are required for all lab classes. Business attire is required for various class assignments and internship experience. Students will also be required to provide medical proof of good physical health.

### Career Opportunities

Students earning an associate degree in this program may be employed in positions such as hotel/motel managers or assistant managers; food, beverage and banquet managers or assistants; convention and special event coordinators; sales managers, department managers or assistants for lodging facilities; customer service representatives; and tourism promotion representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify the importance of travel and tourism as a major industry in the local community and global environment
- recognize the impact of diversity as it relates to the host community and successful tourism
- utilize the latest computer technology to manage information as it relates to the tourism and lodging industry
- practice the technical skills needed for successful daily operation of a lodging and resort business
- recognize the role of management in controlling and supervising the functions of the various departments, properties and activities of tourism and lodging operations
- analyze and apply marketing objectives and sales strategies to the operations necessary for the management of tourism and lodging facilities
- recognize the economic and social impact of tourism and lodging to the local, regional and international economics and social structures
- utilize interpersonal and personal skills within tourism and lodging properties using acceptable procedures, practices and acquired skills
- analyze the records, financial data and systems of operation necessary for the management of lodging systems
- satisfy diverse customer expectations
- research and adhere to sound practices for sanitation and safety
- develop basic practical mathematical skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	FSM 113	Customer Service	3	Major	F, Sp		
4	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
5	FSM 118	Sanitation	2	Major	F, Sp		
6	FSM 119	Beverage Management	1	Major	F, Sp		
7	TRV 171	Travel and Tourism Principles	3	Major	F		
8	BUS 120	Business Math	3	Gen Ed	F, Sp, Su	Test	MTH 100, 100A
9	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
10	FSM 105	Foods I	4	Major	F, Sp		
11	HMT 160	Executive Housekeeping and Front Office Procedures	3	Major	Sp		
12	HMT 170	Casino/Gaming Operations	3	Major	Sp		
13	FSM 157	Catering	3	Major	F	FSM 105	
Continued on next page							



# Hotel and Resort Management, Diploma

## School of Culinary Arts & Hospitality

Hotel and Resort Management is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for positions with the hotel/lodging/resort industry. Emphasis is given to the development of knowledge and skills in essential areas such as social and economic tourism, salesmanship, event management, lodging management, property management and recreation.

Students are expected to be well groomed in compliance with standards of sanitation. Uniforms and program tool kit are required for all lab classes. Business attire is required for various class assignments and internship experience. Students will also be required to provide medical proof of good physical health.

### Career Opportunities

Students earning a diploma in this program may be employed in positions such as assistant hotel/motel managers; food, beverage and banquet assistant managers; convention and special event coordinators; sales assistants, department assistants for lodging facilities; customer service representatives; and tourism promotion representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify the importance of travel and tourism as a major industry in the local community and global environment
- recognize the impact of diversity as it relates to the host community and successful tourism
- utilize the latest computer technology to manage information as it relates to travel, tourism and lodging
- practice the technical skills needed for successful daily operation of a tourism and lodging business
- recognize the role of management in controlling and supervising the functions of the various departments, properties and activities of tourism and lodging operations
- analyze and apply marketing objectives and sales strategies to the operations necessary for the management of tourism lodging facilities
- recognize the economic and social impact of travel and tourism to the local, regional and international economics and social structures
- utilize interpersonal and personal skills within tourism and lodging properties using acceptable procedures, practices and acquired skills
- analyze the records, financial data and systems of operation necessary for the management of lodging systems
- satisfy diverse customer expectations
- research and adhere to sound practices for sanitation and safety
- develop basic practical mathematical skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	FSM 113	Customer Service	3	Major	F, Sp		
2	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
3	FSM 118	Sanitation	2	Major	F, Sp		
4	FSM 119	Beverage Management	1	Major	F, Sp		
5	HMT 161	Recreational Facilities Management	3	Major	F		
6	TRV 171	Travel and Tourism Principles	3	Major	F		
7	HMT 262	Lodging and Property Management	3	Major	F		
8	FSM 105	Foods I	4	Major	F, Sp		
9	FSM 235	Supervision/Training	3	Major	F, Sp		
10	HMT 160	Executive Housekeeping and Front Office Procedures	3	Major	Sp		
11	HMT 170	Casino/Gaming Operations	3	Major	Sp		
12	HMT 264	Convention and Meeting Management	3	Major	Sp		
13	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
14	FSM 157	Catering	3	Major	F	FSM 105 or Instructor Permission	
15	FSM 215	Purchasing and Operations	3	Major	F, Sp		
16	FSM 218	Hospitality Marketing	3	Major	F, Sp		
17	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	

**Total Program Credits 48**

**Total Pathway Credits 48**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Hotel and Resort Management, Certificate

## School of Culinary Arts & Hospitality

Hotel and Resort Management is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for entry positions with the hotel/lodging industry. Emphasis is given to the development of knowledge and skills in essential areas such as social and economic tourism, salesmanship, event management, lodging management, property management and recreation.

### Career Opportunities

Students earning a certificate in this program may be employed in positions such as front desk clerks; beverage and banquet servers and hosts; room service attendants; housekeeping supervisors; and activities coordinators.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify the importance of travel and tourism as a major industry in the local community and global environment
- recognize the impact of diversity as it relates to the host community and successful tourism
- utilize the latest computer technology to manage information as it relates to travel, tourism and lodging
- practice the technical skills needed for successful daily operation of a tourism and lodging business
- recognize the economic and social impact of travel and tourism to the local, regional and international economics and social structures
- utilize interpersonal and personal skills within tourism and lodging properties using acceptable procedures, practices and acquired skills
- satisfy diverse customer expectations
- research and adhere to sound practices for sanitation and safety
- develop basic practical mathematical skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HMT 161	Recreational Facilities Management	3	Major	F		
2	HMT 262	Lodge and Property Management	3	Major	F		
3	TRV 171	Travel/Tourism Principles	3	Major	F		
4	HMT 160	Exec Housekeeping and Front Office Procedures	3	Major	Sp		
5	HMT 170	Casino/Games Operations	3	Major	Sp		
6	HMT 264	Convention and Meeting Management	3	Major	Sp		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Human Services/Social Work, AAS

## School of Humanities, Social Sciences and Public Service

The Human Services/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 human services/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

**This curriculum is designed to prepare students to:**

- identify target populations, their needs, interactions and goals including the aging population
- use their local human services system to access services for clients
- provide basic casework services to clients
- conduct an interview and prepare written documentation and assessments
- use appropriate problem solving methods to advance the client
- organize and facilitate a support, education or task group
- identify client strengths and weaknesses and build action plans accordingly
- provide quality services to clients of various cultures and abilities while respecting the historical and societal influences on their lived experience
- utilize a basic knowledge of substance abuse issues when identifying and treating client problems
- analyze how political, community, and societal structures affect social services programs and funding
- describe developmental theories of the human life cycle and how different phases of human development influence the clients and the decisions they make
- demonstrate a knowledge of the present day social welfare system and how it has been influenced throughout history
- articulate knowledge of the values and code of ethics of the helping professions
- express self-awareness regarding personal motives for choosing this field and profession
- articulate personal values that are reflected in professional behavior, appearance, and communication
- explain attitudes about self in relation to others in the context of current social issues
- exhibit knowledge of the present day social welfare system, how it has been influenced throughout history and the history of the profession

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	HMS 155	Intro to Human Services & Social Work	3	Major	F		
3	PSY 160	General Psychology	3	Other	F, Sp, Su		
4	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		
5	MTH 161	Modern Math	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
6	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
7	HMS 157	Interviewing and Recordkeeping Skills	3	Major	Sp	HMS 155	
8	PSY 161	Human Growth and Development	3	Other	F, Sp, Su	PSY 160	
9	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su	Column VI	Page 43
10	Elective	Restricted Elective	3	Other	F, Sp, Su		See List
11	HMS 160	Group Process	3	Major	F, Su	HMS 155	
12	HMS 162	Problem Solving	3	Major	F	HMS 155, and 157	
Continued on next page.							



# Industrial Electricity Technology, Certificate

## School of Technology

The industrial electricity technology certificate is designed to provide students with the skills and knowledge required to work in an entry level position in the industrial electrical field. Students develop knowledge and skills in the installation and maintenance of electrical systems including programmable logic controllers and variable speed drives, safety and accident prevention, wiring methods, circuits and power distribution systems.

### Career Opportunities

Students who graduate with a certificate in industrial electronics technology may find jobs as industrial electrical maintenance technicians or industrial electrical repair technicians.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- install, maintain, troubleshoot and repair electrical devices and systems such as PLCs, motors controls and relay control systems
- install, maintain, troubleshoot and repair industrial enclosures, wiring, conduit and cable-tray equipment
- demonstrate safety practices on the job
- design industrial electrical currents
- install, maintain, troubleshoot and repair power distribution equipment and systems
- communicate technological ideas and information with others
- work effectively with electrical and electronic test equipment and tools

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ELC 191	Basic Principles of Indust Elec	4	Major	F, Sp, Su		
2	ELC 192	Indust Electrical Equip	4	Major	F, Sp, Su	ELC 191	
3	ELC 221	Industrial Motor Control	4	Major	F	ELC 192	
4	ELC 222	Adv. Indust Motor Control	4	Major	F, Sp	ELC 221	
<b>Total Program Credits</b>			<b>16</b>				
<b>Total Pathway Credits</b>			<b>16</b>				



# Industrial Technology, Diploma

## School of Technology

Industry in the Southwestern Pennsylvania region is dynamic and employees who have a broad educational background in industrial technology are a valuable commodity. The applied industrial technology diploma 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, science and communication. Students who complete this diploma 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.

### 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

**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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	Certificate	Computer Numerical Technology (CNC) I or Machine Tech I Certificate	16	Major	F, Sp, Su		
2	Certificate	Computer Numerical Technology (CNC) II Certificate	16	Major	F, Sp, Su		
3	Certificate	Industrial Electricity Technology Certificate	16	Major	F, Sp, Su		
4	Certificate	Machine Technology II Certificate	16	Major	F, Sp, Su		
5	Certificate	Mechatronics Systems Certificate	16	Major	F, Sp, Su		
6	Certificate	Mechatronics Systems Technician I, II Certificate	16	Major	F, Sp, Su		
7	Certificate	Natural Gas & Oil Technology	16	Major	F, Sp, Su		
8	Certificate	Occupational Health & Safety Certificate	16	Major	F, Sp, Su		
9	Certificate	Petroleum & Industrial Process Operator Technology (PIPOT)	16	Major	F, Sp, Su		
10	Certificate	Pipeline Mechanic	16	Major	F, Sp, Su		

**Total Program Credits 32**

**Total Pathway Credits 32**

Students must select two of the certificates.

Student must consult with their advisor for appropriate completion.

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Journeyman 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, metal workers, CNC programmers and CNC operators. This program can also benefit those desiring to become managers and designers.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 111	Computer Numerical Control I	4	Major	F		
2	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or TEST	Advisor
3	MTT 101	Blueprints	4	Other	F		
4	MTT 111	Machining I	4	Major	F		
5	CNC 112	Computer Numerical Control II	5	Major	Sp	CNC 111	
6	DFT 112	Introduction to Design, Materials and Processing	3	Other	Sp		
7	DFT 258	AutoCAD	4	Gen Ed	Sp		
8	MTH 109	Mathematics for the Technologies II	4	Other	F, Sp, Su	MTH 108 or Test	
9	CNC 213	Computer Numerical Control III	5	Major	F	CNC 112	
10	DFT 207	Tool Design	4	Other	F	Waived for Journeyman Program	
11	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
12	MTT 201	Inspection	4	Other	F		
13	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
14	MTT 112	Machining II	5	Major	Sp	MTT 111	
15	MTT 202	Maintenance	4	Other	Sp	MTT 111	
16	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 63**

**Total Pathway Credits 63**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Journeyman 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 setup 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 a total of 47 college level credits toward an AAS degree. The Journeyman Technology degree may be achieved by completing the necessary 16 additional credits.

### Career Opportunities

Graduates of this program can expect to increase their employability as machinists, tool and die makers, metal workers, CNC programmers and CNC operators.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MTT 101	Blueprints	4	Other	F		
2	DFT 112	Introduction to Design, Materials and Processing	3	Other	Sp		
3	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F,Sp,Su	Test	Advisor
4	MTT 111	Machining I	4	Major	F		
5	MTT 202	Maintenance	4	Other	Sp	MTT 111	
6	MTH 109	Mathematics for the Technologies II	4	Gem Ed	F,Sp,Su	MTH 108 or Test	
7	CNC 111	Computer Numerical Control I	4	Major	F		
8	CNC 112	Computer Numerical Control II	5	Major	Sp	CNC 111	
9	ENG 161	College Writing	3	Gen Ed	F,Sp,Su	Test	
10	DFT 207	Tool Design	4	Other	F	Waived for Journeyman Program	
11	MTT 201	Inspection	4	Other	Sp		
12	DFT 258	AutoCAD	4	Gen Ed	Su		

**Total Program Credits 47**

**Total Pathway Credits 47**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Journeyman Technology I, Certificate

## School of Technology

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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 Technology degree.

### Career Opportunities

Graduates of this program can expect to be employed as entry level machinists, tool and die makers, metal workers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 111	Computer Numerical Control I	4	Major	F		
2	MTH 108	Mathematics for the Technologies I	4	Major	F, Sp, Su	Test	Advisor
3	MTT 101	Blueprints	4	Major	F		
4	MTT 111	Machining I	4	Major	F		

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Journeyman Technology III, Certificate

## 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 Technology degree.

### Career Opportunities

Graduates of this program can expect to be employed as lower mid-level machinists, tool and die makers, metal workers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 213	Computer Numerical Control III	5	Major	F	CNC 112	
2	DFT 207	Tool Design	4	Major	F	Waived for Journeyman Program	
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
4	MTT 201	Inspection	4	Major	F		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Journeyman Technology IV, Certificate

## 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 Technology degree.

### Career Opportunities

Graduates of this program can expect to be employed as mid-level machinists, tool and die makers, metal workers, CNC programmers and CNC operators. These classes may also be used toward a Pennsylvania Journeyman Certification with shops associated with Westmoreland.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
2	MTT 112	Machining II	5	Major	Sp	MTT 111	
3	MTT 202	Maintenance	4	Major	Sp	MTT 111	
4	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 15**

**Total Pathway Credits 15**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Machine Technology, AAS



## School of Technology

This program prepares students for employment and advancement in the machine tool field. Machinists are skilled workers who are able to read and interpret prints, use common hand tools, set up and operate metal cutting machines, and use precision measuring instruments. This program curriculum parallels the National Institute of Metalworking Skills Standards. Advanced placement in this program is possible for experienced machinists. Apprenticeship advanced standing credit is available.

### Career Opportunities

Graduates of this program can accept jobs with the following titles: mold maker, tool maker, die maker, metal worker, machinist, and foreman.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- produce jobs, fixtures, gauges and other devices used in the manufacture of precision metal parts
- construct metal forms (dies) to shape metal in stamping and forging operations
- make metal molds for the die castings and for molding plastics
- assist in designing tools and dies
- appropriately utilize metals and alloys
- interpret prints and sketch orthographically in two and three dimension
- effectively plan and sequence work operations
- communicate effectively and appropriately; record and report information significant to the job
- utilize effective mathematics skills in the layout and production of quality parts
- apply concepts from physics, engineering and mathematics to the manufacturing of durable products

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CNC 111	Computer Numerical Control I	4	Major	F		
2	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	MT 052, 052A or Test	Advisor
3	MTT 101	Blueprints	4	Other	F		
4	MTT 111	Machining I	4	Major	F		
5	DFT 112	Introduction to Design Materials and Processing	3	Other	Sp		
6	DFT 258	AutoCAD	4	Other	Sp		
7	MTH 109	Mathematics for the Technologies II	4	Gen Ed	F, Sp, Su	MTH 108 or Test	Advisor
8	MTT 112	Machining II	5	Major	Sp	MTT 111	
9	DFT 207	Tool Design	4	Other	F	DFT 106	
10	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
11	MTT 201	Inspection	4	Other	F		
12	MTT 213	Machining III	5	Major	F	MTT 112	
13	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
14	MTT 202	Maintenance	4	Other	Sp	MTT 111	
15	MTT 214	Machining IV	6	Major	Sp	MTT 213	
16	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.









# Machine Technology IV, Certificate

## School of Technology

The machine technology certificate program provides students with the basic skills to work in an entry level position in the machining field. The class and lab experiences will help the student develop skill in the use of common hand tools, operation of metal cutting machines, and the use of precision measuring instruments.

This program is the fourth of four certificate programs for students studying manual machining. 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.

### Career Opportunities

Production machinists produce large quantities of one part, precision machinists and tool and die makers produce smaller quantities of product. Machinists typically modify mostly metal parts by the use of lathes, mills and grinders. Potential job opportunities would be tool and die makers, production machinists and precision machinists.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- produce finished parts from raw materials using shop equipment
- enumerate and follow the appropriate production steps to produce parts
- generate the tooling and fixturing needed to produce complex parts
- demonstrate the ability to analyze and correct errors in production

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
2	MTT 214	Machining IV	6	Major	Sp	MTT 213	
3	MTT 202	Maintenance	4	Major	Sp	MTT 111	
4	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Manufacturing Technology, AAS

## MANUFACTURING PROCESS TECHNOLOGY OPTION

### School of Technology

The manufacturing process technology option is designed to prepare students to gain entry level positions working with automated systems. Graduates work in positions requiring skills in product flow, quality control and problem solving.

#### Career Opportunities

Many positions are available as manufacturing technicians, automation technicians, electromechanical technicians, plant technicians, method analysis technicians, and testing and quality control technicians.

#### Program Learning Outcomes

This curriculum is designed to prepare students to:

- test, operate, program, modify and repair automated manufacturing systems
- schedule production, test materials, integrate systems
- perform quality control functions and make appropriate adjustments
- apply concepts from chemistry, engineering, electronics, mathematics and drafting to the manufacturing of durable products
- identify, analyze and troubleshoot problems using systems approach
- apply understanding of flexible manufacturing systems to practical situations
- communicate effectively and appropriately; record and report information significant to the job

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 112	Introduction to Design, Materials & Processing	3	Major	F		
2	ELC 106	Circuit Analysis I	4	Other	F		
3	ENG 161	College Writing	3	Gen Ed	F,Sp,Su	TEST	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F,Sp,Su	TEST	Advisor
5	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	F,Sp,Su	MTH 052, 052A or TEST	
6	DFT 258	AutoCAD	4	Gen Ed	Sp		
7	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	
8	ELC 100	Programmable Logic Control I	4	Major	Sp		
9	PHY 150	Energy & Society (Course Substitution Required)	3	Other	F,Sp,Su		Advisor
10	PHY 107	Applied Physics	4	Other	F,Sp	MTH 108 100 or 100A	
11	EGR 180	Principles of Industrial Hydraulics	4	Other	F		
12	ELC 200	Programmable Logic Control II	4	Major	F	ELC 100	
13	ELC 209	Instrumentation & Process Control	4	Major	F	ELC 106	
14	EGR 210	Quality Control	3	Other	Sp	MTH 108	
15	MPT 199	MPT Internship	3	Major	Sp	Instructor Permission	ELC 201
16	MPT 240	Introduction to Automated Manufacturing	3	Major	Sp		
17	MTH 160	Introduction to Statistics	3	Other	F,Sp,Su	MTH 052, 052A or TEST	
18	Elective	Social Science Elective	3	Gen Ed	F,Sp,Su		Page 43 Column III

**Total Program Credits 63**

**Total Pathway Credits 63**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

The nanofabrication manufacturing option is designed to prepare students to gain entry level positions working in the nanomanufacturing/semiconductor manufacturing industry. Students will study manufacturing at Westmoreland for three semesters and complete their degree requirements at the Nanofabrication Facility at Penn State University (PSU). Students need to apply for admission to the nanofabrication program at least one semester prior to the semester at PSU. Tuition for MPT courses completed at PSU will be Westmoreland tuition. Graduates work in positions requiring skills in product flow, quality control and problem solving.

### Career Opportunities

Many positions are available as manufacturing technicians with industries that include semiconductor manufacturing, opto electronics, biomedical applications and microelectro mechanical devices.

### Program Learning Outcomes

**This curriculum is designed to prepare student to:**

- properly operate equipment used in basic nanofabricator manufacturing
- schedule production, test materials, integrate systems
- perform quality control functions and make appropriate adjustments
- apply concepts from chemistry, engineering, electronics and mathematics to the manufacturing of durable products
- identify, analyze and troubleshoot problems using systems approach
- apply understanding of nanofabrication manufacturing systems to practical situations
- communicate effectively and appropriately; record and report information significant to the job

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 112	Introduction to Design, Materials & Processing	3	Major	F		
2	ELC 106	Circuit Analysis I	4	Major	F		
3	ENG 161	College Writing	3	Gen Ed	F,Sp, Su	TEST	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F,Sp, Su	TEST	Advisor
5	ELC 102	Electronic Devices	4	Major	Sp	ELC 106	
6	ELC 114	Digital Techniques	4	Major	Sp	ELC 106	
7	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	
8	PHY 150	Energy & Society (Course Substitution Required)	3	Other	F,Sp, Su		Advisor
9	Elective	Social Science Elective	3	Gen Ed	F,Sp, Su		Page 43 Column III
10	CHM 107	Introductory Concepts in Chemistry I	4	Gen Ed	F,Sp, Su	MTH 052, 052A or TEST	
11	CPT 150	Microcomputer Concepts	3	Gen Ed	F,Sp, Su		
12	ELC 206	Microprocessors	4	Major	F	ELC 114	
13	MTH 160	Introduction to Statistics	3	Other	F,Sp, Su	TEST	
14	PHY 107	Applied Physics	4	Other	F,Sp	MTH 108 100 or 100A	
15	MPT 211	Material Safety & Equipment Overview for Nanotech	3	Major	Sp		
16	MPT 212	Basic Nanotechnology Processes	3	Major	Sp		
17	MPT 213	Materials in Nanotechnology	3	Major	Sp		
18	MPT 214	Patterning for Nanotechnology	4	Major	Sp		
19	MPT 215	Materials Modification for Nanotechnology Applications	3	Major	Sp		
20	MPT 216	Testing of Nanotechnology Structures and Materials	3	Major	Sp		

**Total Program Credits 68**

**Total Pathway Credits 68**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Medical Assisting, Diploma

## School of Health Professions



The medical assisting program prepares the graduate to assist the physician with the care and treatment of patients in administrative and clinical procedures. The Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of 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) and the Registered Phlebotomy Technician (RPT) credentials.

### Career Opportunities

The medical assistant may be employed in physician offices, clinics, hospitals, ambulatory care centers, nursing care facilities, medical laboratories and other health care facilities. Medical Assistants may also work as phlebotomists.

### Special Admission and Selection Criteria

- Applicants must be graduates of an accredited secondary school program or hold a GED equivalency certificate prior to selection.
- Applicants must take a computerized placement test (Accuplacer) and have successfully completed any required developmental courses prior to program acceptance. All developmental courses must be completed with a minimum grade of C. Students who have attempted developmental courses three or more times will not be considered for admission.
- Applicants must demonstrate math skills at the MTH 052 level and English skills at ENG 085 level (via placement testing) or have successfully completed that course.

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

- The Medical Assisting program at Westmoreland County Community College requires a separate application from the general Westmoreland application. Students must complete all required developmental coursework before starting the program. Enrollment is limited due to clinical site placement for practicum hours. Students cannot enroll in Medical Assisting (MAS) core classes until formally accepted into the program. Applications received after January 12 will be considered based on space availability.

- Applicants must have a 2.0 GPA in the courses required for the program. If the GPA is less than 2.0, one or more of the courses can be repeated in order to meet this requirement by the deadline date. The student must maintain a 2.0 GPA in order to progress in the program.

### School of Health Professions Final Admission Criteria

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

## MEDICAL ASSISTING, DIPLOMA (CONTINUED)

### Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- perform administrative functions such as patient reception, scheduling appointments, form preparation, ordering supplies and maintaining patient records
- assist physician 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
	ENG 085	College Literacy <i>Complete course or test at college level</i>	4	Pre-Req	F, SP, Su		
	MTH 052	Foundations of Algebra <i>Complete course or test at college level</i>	3	Pre-Req	F, Sp, Su		
1	OFT 110	Document Processing I	3	Other	F, Sp, Su	OFT 100 or Test	
2	PDV 101	First-Year Seminar <i>Required for all first-time credential-seeking students</i>	1	Gen Ed	F, Sp, Su		
3	BIO 107	Human Biology	3	Gen Ed	F, Sp, Su		
4	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
5	ALH 122	Medical Terminology	3	Other	F, Sp		
6	MAS 100	Introduction to Medical Assisting	4	Major	F		
7	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
8	ALH 120	General Pharmacology	3	Other	F, Sp, Su		
9	MAS 105	Administrative Procedures	3	Major	Sp	MAS 100	
10	MAS 110	Clinical Procedures	4	Major	Sp	MAS 100	
11	MAS 120	Practicum	3	Major	Su	MAS 105 & 110	
12	OFT 235	Customer Service	3	Other	F, Sp, Su		

**Total Program Credits**

**36**

**Total Pathway Credits**

**36-43**



# Medical/Healthcare Management, AAS

## School of Health Professions

This option 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 of the Medical/Healthcare Management AAS degree 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

**This curriculum is designed to prepare students to:**

- demonstrate skill in office coordination and administration
- analyze and record billing transactions and insurance claims using a computerized medical program
- apply correct coding techniques in billing and preparing insurance claims
- demonstrate competency in accounting skills and in processing financial records
- develop skills in word processing, written communication, medical terminology, medical billing, coding and reimbursement
- transcribe written, printed and voice-recorded dictation as well as edit copy with a high degree of accuracy and speed

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 107	Human Biology	3	Other	F, Sp, Su		
2	BUS 140	Intro to Business	3	Other	F, Sp, Su		
3	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
4	CPT 248	PC Hardware	3	Major	F		
5	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
6	CPT 259	User Support Operations	3	Other	Sp		
7	HCM 130	A&P for Medical Offices	3	Major	F, Sp,	BIO107	
8	HCM 145	Medical Office Procedures	3	Major	F, Sp,		
9	HCM 155	Electronic Health Records	3	Major	F, Sp,		
10	HCM 250	Diagnostic Medical Coding	3	Major	F	BIO107	
11	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	MT 052, O52A or Test	
12	HCM 150	Medical Billing Management	3	Major	F,Sp		
13	HCM 165	Law & Ethics Healthcare	3	Major	F, Sp		
14	HCM 260	Procedural Medical Coding	3	Major	Sp	BIO107	
15	SPC 156	Interpersonl Communication	3	Gen Ed	F, Sp, Su		
16	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	
17	SOC 155	Principles of Sociology	3	Gen Ed	F, Sp, Su		
18	HCM 199	Internship	3	Major	F, Sp, Su	HCM 145, 250, or 260 QPA 2.0 in Major	
19	HCM 270	Hospital Billing Coding	3	Major	F, Sp	BIO 107 & HCM 130, 250 & 260	
20	HCM 285	Advanced Medical Coding	3	Major	F,Sp	HCM 145, 250 & 260 & 20 credit hours of HCM courses	

**Total Program Credits 60**

**Total Pathway Credits 60**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Medical/Healthcare Management, Diploma

## School of Health Professions

The medical/healthcare management diploma 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 Medical/Healthcare Management AAS.

### Career Opportunities

Graduates of the medical/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

**This curriculum is designed to prepare students to:**

- develop skills in writing, basic math and communication
- collect, prepare, file, store and retrieve information
- develop skills using practice management and electronic health record software
- produce CMS 1500 claim forms
- work independently or in teams to demonstrate effective interpersonal and problem-solving skills, attitudes and work habits

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 107	Human Biology	3	Other	F, Sp, Su		
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
4	HCM 145	Medical Office Procedures	3	Major	F, Sp		
5	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		
6	BUS 120	Math for Business	3	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	
7	CPT 259	User Support Operations	3	Other	Sp	CPT 150	
8	HCM 130	A&P for Medical Office	3	Major	F, Sp	BIO 107	
9	HCM 150	Medical Billing Management	3	Major	F, Sp		
10	HCM 155	Electronic Health Records	3	Major	F, Sp		

**Total Program Credits 30**

**Total Pathway Credits 30**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Medical/Healthcare Management, Certificate

## School of Health Professions

The medical/healthcare management certificate program 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 Medical/Healthcare Management Diploma and AAS.

### Career Opportunities

Graduates of the medical/healthcare management certificate may find employment as medical administrative assistants, medical office personnel, medical records assistants and patient access representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- collect, prepare, file, store and retrieve information
- develop skills in electronic processing and claims processing
- develop skills in medical terminology, human biology, and anatomy and physiology
- describe and implement medical insurance and electronic health regulations by using various software programs

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Major	F, Sp		
2	OFT 110	Document Processing I	3	Major	F, Sp, Su	OFT 100 or Test	
3	HCM 145	Medical Office Processing	3	Major	F, Sp		
4	HCM 150	Medical Billing Management	3	Major	F, Sp		
5	HCM 155	Electronic Health Records	3	Major	F, Sp		
6	OFT 235	Customer Service	3	Major	Sp, Su		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Medical/Healthcare Management, Certificate

MEDICAL COMPUTER SUPPORT

School of Health Professions

The medical computer support certificate is designed for those students who seek entry-level positions in the computer/medical field. Courses in this certificate may be applied toward the Medical/Healthcare Management AAS and Diploma.

## Career Opportunities

Graduates of the medical computer support certificate may find employment as computer help desk support specialists, unit clerks, medical records assistants and front office billing representatives.

## Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- setup, maintain and troubleshoot a computer workstation (hardware, devices, drivers, software) within a networked environment
- collect, prepare, file, store and retrieve electronic data
- develop skills in electronic document processing and claims processing
- describe and implement medical insurance and electronic health regulations by using various software application programs

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Major	F, Sp, Su		
2	CPT 248	PC Hardware	3	Major	F		
3	CPT 259	User Support Operations	3	Major	Sp	CPT 150	
4	HCM 145	Medical Office Procedures	3	Major	F, Sp		
5	HCM 150	Medical Billing Management	3	Major	F, Sp		
6	HCM 155	Electronic Health Records	3	Major	F, Sp		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Multimedia and Photography, AAS

MULTIMEDIA TECHNOLOGY OPTION

## School of Technology

The multimedia technology option is designed to prepare students for employment in commercial, industrial and educational settings as audiovisual technicians. Program graduates are prepared to provide for the operation of various multimedia equipment. Students will acquire production skills in the areas of instructional graphics, television, audio recording, digital photography and interactive multimedia. Under supervision, students complete an internship experience in which they apply theoretical knowledge to workplace situations.

### Career Opportunities

Career opportunities for multimedia technology graduates exist within in-house corporate audiovisual departments 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 free-lancers working on a variety of creative and technical multimedia projects.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- systematically design, produce, and analyze nonbroadcast media and messages such as computer presentation, video, multi-image, graphics/print, photography and interactive computer-based media
- apply knowledge of the theory, application, utilization and management of nonbroadcast communication technologies
- communicate effectively and appropriately using vocabulary indicative to the technology
- design and implement computer-based imagery by producing effective presentations
- apply communication principles to training and communications within organizations
- effectively function with associates as a member of a visual communications production team
- operate various types of standard as well as specialized media related equipment
- practice appropriate safety procedures inherent to the industry
- evaluate instructional media and organizational communication

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	MED 103	Podcasting and Social Media	1	Major	F,Sp		
3	MED 105	Multimedia for Web	3	Major	F,Sp		
4	MED 155	Intro to Multimedia	3	Major	F,Sp,Su		
5	MED 170	Digital Photography Photoshop	3	Major	F,Sp,Su		
6	MED 240	Audio Tech Audition	3	Major	F		
7	MED 110	Digital Presentation	3	Gen Ed	F,Sp		
8	MED 150	Editing and Video Tech/Premiere Pro	3	Major	F,Sp		
9	MED 158	History of Cinema	3	Major	F,Sp,Su		
10	MED 159	DSLR Video Prod	3	Major	F,Sp		
11	MED 255	Public Relations	3	Major	F,Sp		
12	SPC 155	Speech Communication	3	Gen Ed	F, Sp, Su		
13	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
14	MED 260	Interactive Multimedia	3	Major	F		
15	MED 256	Advertising	3	Major	F,Sp		
16	MED 257	Television Production	3	Major	Sp	MED159	
17	BUS 120	Business Math	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
18	MED 270	Adv Editing and Video Tech Premiere Pro	3	Major	Sp	MED150	
19	MED 290	Video Special Effects	3	Major	Sp	MED150	
20	MED 271	Adv Digital Photography Photoshop	3	Gen Ed	F, Sp	MED 170	
21	MED 299	Internship	3	Major	F,Sp,Su	Instr Permission and 30 cr MED major	
22	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Multimedia and Photography, AAS

PHOTOGRAPHY OPTION

## School of Technology

The photography option prepares students to function in entry level positions within commercial, industrial and educational settings. Students will acquire production skills in state-of-the-art computer-based photographic imaging. 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 and corporate in-house photographic/advertising/public relations departments. A large portion of individuals working in this field are self-employed persons working on various creative and technical projects.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- produce a portfolio which demonstrates the ability to implement theory with practical situations
- employ processes and methods to produce photo imagery significant to the job
- communicate effectively and appropriately using vocabulary indicative of the technology
- design and implement computer-based imagery by producing effective digital 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 photographically related equipment
- practice appropriate safety procedures inherent to the industry
- effectively network with art directors, designers, printers and others within the field

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	MED 103	Podcasting and Social Media	1	Major	F, Sp		
3	MED 105	Multimedia for Web	3	Major	F		
4	MED 110	Digital Presentation	3	Gen Ed	F, Sp		
5	MED 160	Basic Photography	3	Major	F, Sp, Su		
6	MED 170	Digital Photography Photoshop	3	Major	F, Sp, Su		
7	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
8	MED 159	DSLR Video Prod	3	Major	F, Sp		
9	MED 161	Portrait Photography	3	Major	F, Sp		
10	MED 255	Public Relations	3	Major	F, Sp		
11	SPC 155	Speech Communication	3	Gen Ed	F, Sp, Su		
12	MED 150	Editing and Video Tech/Premiere Pro	3	Major	F, Sp		
13	MED 256	Advertising	3	Major	F		
14	MED 260	Interactive Multimedia	3	Major	F		
15	MED 271	Adv Digital Photography Photoshop	3	Gen Ed	F, Sp	MED 170	
16	BUS 120	Business Math	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
17	MED 199	Internship	3	Major	F, Sp, Su	Instr Permission & 30 MED cr.	
18	MED 200	Portfolio Development	3	Major	F, Sp	MED 170 & 271	
19	MED 263	Photojournalism	3	Major	Sp	MED 170 & 161 or 271	
20	MED 266	Studio/Location Photography	3	Major	Sp	MED 161, 170 & 271	
21	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		

**Total Program Credits**  
**Total Pathway Credits**

**61**  
**61**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Multimedia and Photography, Certificate

ADOBE VIDEO STUDIO

## School of Technology

The Adobe Video Studio certificate option provides students with an intensive experience in Windows-based video, audio and DVD digital software. Courses included in this certificate may be applied toward the Multimedia and Photography AAS Multimedia Technology Option.

### Career Opportunities

Graduates of the Adobe Video Studio certificate program may find employment as computer support specialists in the field of multimedia as technicians and/or customer sales or service representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- organize and incorporate basic images in the creation of complex graphics
- produce motion animations and special video effects
- effectively utilize software to encode, author and burn DVDs
- identify, analyze, manipulate and fix common audio problems

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MED 103	Podcasting and Social Media	1	Major	F,Sp		
2	MED 150	Editing and Video Tech/Premiere Pro	3	Major	F,Sp		
3	MED 240	Audio/Techniques/Audition	3	Major	F		
4	MED 260	Interactive Media	3	Major	F		
5	MED 270	Adv Editing and Video Tech/Premiere Pro	3	Major	Sp	MED150	
6	MED 290	Video Special Effects	3	Major	Sp	MED150	

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Multimedia and Photography, Certificate

PHOTOGRAPHY

## School of Technology

The photography certificate option provides students with an intensive experience in traditional and digital photographic techniques and processes. Courses included in this certificate may be applied toward the Multimedia and Photography AAS Photography Option

### Career Opportunities

Graduates of the photography certificate program may find employment as photographers, photographic technicians, customer sales or service representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- incorporate basic lighting manipulation skills in the creation of complex images
- produce a portfolio demonstrating the ability to handle various photographic situations
- effectively utilize the computer as a photographic tool

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MED 103	Podcasting and Social Media	1	Major	F,Sp		
2	MED 160	Basic Photography	3	Major	F,Sp,Su		
3	MED 161	Portrait Photography	3	Major	F,Sp		
4	MED 170	Digital Photography/Photoshop	3	Major	F,Sp,Su		
5	MED 266	Studio/Location Photo	3	Major	Sp	MED161, 170 &-271	
6	MED 271	Adv. Digital Photography/Photoshop	3	Major	F,Sp	MED170	

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Multimedia and Photography, Certificate

VIDEO/TELEVISION

## School of Technology

The video/television certificate option provides students with an intensive experience in video and television production techniques and processes. Courses included in this certificate may be applied toward the Multimedia and Photography AAS Multimedia Technology Option.

### Career Opportunities

Graduates of the video/television certificate program may find employment as entry level video camera and editing technicians, customer sales or service representatives.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- utilize applicable production procedures to produce broadcast media
- effectively utilize software to produce digital audio effects
- operate linear/non-linear video related equipment
- design and implement commercial/industrial audio-video productions
- produce complex motion animations and special video effects

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MED 103	Podcasting and Social Media	1	Major	F,Sp		
2	MED 150	Editing and Video Tech/Premiere Pro	3	Major	F,Sp		
3	MED 159	DSLR Video Prod	3	Major	F,Sp		
4	MED 240	Audio/Techniques/Audition	3	Major	F		
5	MED 257	Television Production	3	Major	Sp	MED159	
6	MED 290	Video Special Effects	3	Major	Sp	MED150	

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Natural Gas and Oil Technology, Certificate

## School of Technology

The natural gas and oil technology certificate is designed to prepare students for entry level positions in the natural gas and oil industry. Students who complete this program will develop a comprehensive understanding of the activities in the natural gas and oil industry, including: exploration, drilling, production, midstream, transportation, storage, distribution and the safety aspects related to each. Students will engage in classroom and laboratory activities that will develop the basic technical skills necessary to obtain a position within the industry sectors listed above. In addition, students will be required to participate in field activities that supplement the learning process.

### Career Opportunities

Graduates of the natural gas technology program may accept positions such as: electric/electronics installer, field maintenance, heavy equipment maintenance, water management technician, measurement and regulation technician, field safety representatives, seismic crew member, hydraulic fracturing crew member, casing crew member, drilling crew member, service team member, boring team member, logging crew member, compressor operator, processing operators and well testing technicians.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify and explain the importance of the key sectors that comprise the oil and gas industry: exploration, drilling, production, midstream, transportation, storage, and distribution
- develop the key technical skills necessary to secure a job in the natural gas and oil industry
- install, maintain and troubleshoot basic mechanical, hydraulic, pneumatic and electrical systems
- implement safe work practices
- utilize technology to maintain and troubleshoot various industry systems
- apply key personal and interpersonal skills necessary work in a team environment
- implement and adhere to policies and procedures that govern the natural gas industry and recognize the agencies that regulate the industry

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ELC 191	Basic Principles of Industrial Electricity	4	Major	Sp		
2	NGT 100	Comm Teamwork and Conflict Resolution in Indust	1	Major	Sp		
3	NGT 101	Overview of Natural Gas and Oil Technology	4	Major	Sp		
4	NGT 110	Environ Protection Methods & Dev for Nat Gas Ind	2	Major	Sp		
5	WEL 209	Industrial Maintenance	3	Major	Sp		
6	WEL 210	Maintenance and Troubleshooting for Industry II	4	Major	Sp	WEL 209 Co-Req. ELC 106	

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Nursing, AAS

## School of Health Professions

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Admission to the nursing program is selective and enrollment is limited by the clinical placement necessary to complete the nursing course requirements. **All applicants must meet specific criteria before being admitted to any of the program options.**

The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; phone 404-975-5000. The ACEN is responsible for the specialized accreditation of nursing education programs: Associate Degree. The ACEN is nationally recognized as a specialized accrediting agency for both postsecondary and higher degree programs in nursing education.

The Nursing program utilizes Standardized testing to evaluate student performance.

All students must take ATI® Proctored Assessment(s) scheduled in each Nursing Course. It is required that students achieve a specified level of proficiency on the proctored assessment. Students have three (3) attempts to achieve proficiency. Failure to achieve proficiency will result in course failure.

### Admission Criteria for the Associate Degree Nursing Program Guidelines

**Purpose:** Admission to the nursing program is a selective process because enrollment is limited by the clinical placement necessary to complete the nursing course requirements. Therefore, all applicants applying for admission must meet the criteria.

**Guidelines:** Applicants to the associate degree nursing program must submit the appropriate forms to the Admissions Office.

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

#### \*For selected spring Start Classes

Application Deadline May 15 prior to spring start  
Acceptance Notification Mid-August

- Applicants must take a preadmission examination administered by Westmoreland; eligible candidates will be notified of the testing dates once all required information has been submitted.
- Students who test into developmental courses must complete them with a "C" or better prior to testing

### Admission Criteria

- Graduate of accredited secondary school program or hold a graduate equivalency degree (GED) certificate prior to selection
- High school validating the successful completion of academic work equivalent to a standard high school program with a minimum of 16 units:
  - English (4 units)
  - Social studies (3 units)
  - Mathematics (2 units, one in algebra required)
  - Science (2 units in chemistry and biology with related laboratory)
  - If high school algebra, chemistry and biology were not successfully completed with a "C" grade or better, applicants may meet these preadmission requirements by completing MTH 052, MTH 052A, CHM 107, and BIO 107 with a "C" grade or better
- Applicants must also take the computerized placement test (Accuplacer)
- Applicants who have completed credit courses must attain a 2.5 GPA
  - Only credit courses necessary to meet the requirements for the nursing program are considered when calculating GPA
  - If GPA is less than 2.5, one or more of these courses may be repeated to meet the requirements before testing
  - Students must earn a "C" or better in all nursing and corequisite courses to progress in the program and to graduate
  - Transfer courses are not calculated into the GPA

### **School of Health Professions Final Admission Criteria**

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### **Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs**

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

### **Graduate/End-of-Program Learning Outcomes**

This curriculum is designed to prepare the graduate to:

#### **Caring**

1. Deliver quality and safe professional nursing care based on knowledge and evidence from nursing, physical, biological and behavioral sciences.
2. Promote health through patient and family centered teaching and health education.
3. Use caring constructs to provide patient and family centered care that is based on respect for diversity.

#### **Competency**

4. Implement technical aspects of care safely, skillfully, effectively and efficiently.
5. Manage the care for a group of patients in a variety of settings using evidence based management concepts and skills.

#### **Communication**

6. Use therapeutic communication skills with individuals when providing professional nursing care.
7. Use effective communication skills to promote teamwork, multidisciplinary collaboration and shared decision making.

#### **Critical Thinking**

8. Use the nursing process to assess, diagnose, plan, implement and evaluate care to meet mutually identified needs of individuals and their families.
9. Apply critical thinking to decision-making and safe clinical judgments.
10. Use information technologies effectively by accessing and managing information to enhance provision, adaptation and management of care.

#### **Commitment**

11. Implement collaborative, dependent and independent nursing actions within the legal and ethical framework of professional nursing practice.
12. Demonstrate commitment to active learning to enhance self-development, professional identity and growth as a nurse.

**NURSING, AAS (CONTINUED)**

**Nursing Fall Entry/Day Program Option**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1		Apply and test for the program					
2	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry & ENG 095	
3	CPT 150	Microcomputer Concepts	3	Pre-Req	F, Sp, Su		
4	BIO 172	Anatomy & Physiology II	4	Support	F, Sp, Su	BIO 171- C grade or better	
5	NSG 112	Intro/Prof Nsg & Hlth Care Acre Lifespan	3	Core	F, Sp	BIO 171, CPT 150 Co-Req: BIO 172, NSG 114, NSG 116	
6	NSG 114	Hlth& Phys Assessment	3	Core	F, SP	BIO 171, CPT 150 Co-Req: BIO 172, NSG 112, 116	
7	NSG 116	Foundations of Nursing Care	7	Core	F, Sp	BIO 171, CPT 150, Co-Req: BIO 172, NSG 112 NSG 114	
8	ALH 120	Pharmacology	3	Support	F, Sp, Su		
9	NSG 124	Med-Surg Nursing Care/Ad.	9	Core	F, Sp	BIO 171, 172, CPT 150, NSG 112, 114, 116 Co-Req: ALH 120, PSY 160	
10	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
11	BIO 265	Microbiology	4	Support	F, Sp, Su	BIO 155, 171, CHM 107, 155, 264 or High School CHM, ENG 085 or Test	
12	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
13	NSG 225	Nursing Care/Childbrng. Fam./Infant & Child	4	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses in assigned sequence semester	
Continued on next page							

**NURSING, AAS (CONTINUED)**

**Nursing Fall Entry/Day Program Option**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
14	NSG 240	Psych/Mental Health Nursing Care	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req; Level II ADN nursing & support courses	
15	NSG 255	Adv. M/S Aging Adult Chronic	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req; Level II ADN nursing & support courses	
16	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
17	NSG 260	Adv. Care/Chronically Ill	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req; Level II ADN nursing & support courses in assigned sequence semester	
18	NSG 270	Adv. Care/Acutely Ill	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req; Level II ADN nursing & support courses	
19	NSG 280	Manager of Nursing Care	4	Core	F, Sp	Pre-Req: Level II ADN nursing & support courses	
20	MTH Elective	Mathematics Elective	3	Gen Ed	F, Sp, Su	Test	Page 51 Column IV

**Total Program Credits 65**

**Total Pathway Credits 72** (Includes Pre-requisites)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

**NURSING, AAS (CONTINUED)**

**Nursing Spring Entry/Part-time Evening Program Option**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available	
1	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry & ENG 095		
2	BIO 172	Anatomy & Physiology II	4	Pre-Req	F, Sp, Su	BIO 171 - C grade or better		
3	CPT 150	Microcomputer Concepts	3	Pre-Req	F, Sp, Su			
4	ENG 161	College Writing	3	Pre-Req	F, Sp, Su	ENG 085 or Test		
5	PSY 160	General Psychology	3	Pre-Req	F, Sp, Su			
6	Apply and test for the program							
7	NSG 112	Intro/Prof Nsg & Hlth Care Acre Lifespan	3	Core	Sp	BIO 171, BIO 172, CPT 150, ENG 161, PSY 160 Co-Req: NSG 114, NSG 116		
8	NSG 114	Hlth& Phys Assessment	3	Core	Sp	BIO 171, BIO 172, CPT 150, ENG 161, PSY 160 Co-Req: NSG 112, 116		
9	NSG 116	Foundations of Nursing Care	7	Core	Sp	BIO 171, BIO 172, CPT 150, ENG 161, PSY 160, Co-Req: Nsg 112, NSG 114		
10	BIO 265	Microbiology	4	Support	Su	BIO 155, 171, CHM 107, 155, 264 or High School CHM, ENG 085 or Test		
11	ALH 120	Pharmacology	3	Support	F			
12	NSG 124	Med-Surg Nursing Care/Ad.	9	Core	F	BIO 171, 172, PSY 160, ENG 161, CPT 150, NSG 112, 114, 116, Co-Req: ALH 120		
13	ENG 164	Advanced Composition	3	Gen Ed	SP	ENG 161		
14	NSG 225	Nursing Care/Childbrng. Fam./Infant & Child	4	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses in assigned sequence semester		
Continued on next page								

**NURSING, AAS (CONTINUED)**

**Nursing Spring Entry/Part-time Evening Program Option**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
15	NSG 240	Psych/Mental Health Nursing Care	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
16	NSG 255	Adv. M/S Aging Adult Chronic	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
17	NSG 260	Adv. Care/Chronically Ill	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses in assigned sequence semester	
18	NSG 270	Adv. Care/Acutely Ill	3	Core	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
19	NSG 280	Manager of Nursing Care	4	Core	F	Co-Req: Level II ADN nursing & support courses	
20	MTH Elective	Mathematics Elective	3	Gen Ed	F	Teat	Page 43 Column IV

**Total Program Credits**

**65**

**Total Pathway Credits**

**72** (Includes Pre-requisites)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Nursing, Advanced Standing to AAS for LPNs

## School of Health Professions

Admission to the nursing program is selective and enrollment is limited by the clinical placement necessary to complete the nursing course requirements. **All applicants must meet specific criteria before being admitted to any of the program options.**

The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; phone 404-975-5000. The ACEN is responsible for the specialized accreditation of nursing education programs: Associate Degree. The ACEN is nationally recognized as a specialized accrediting agency for both postsecondary and higher degree programs in nursing education.

The Nursing program utilizes Standardized testing to evaluate student performance.

All students must take ATI® Proctored Assessment(s) scheduled in each Nursing Course. It is required that students achieve a specified level of proficiency on the proctored assessment. Students have three (3) attempts to achieve proficiency. Failure to achieve proficiency will result in course failure.

### Advanced Placement for Licensed Practical Nurses (LPNs) into the Associate Degree Nursing (ADN) Program Guidelines

**Purpose:** Admission to the nursing program is a selective process because enrollment is limited by the clinical placement necessary to complete the nursing course requirements. Therefore, all applicants applying for advanced placement admission must meet the criteria.

**Guidelines:** Graduate and licensed practical nurses may apply for advanced placement admission into the second year of the associate degree nursing program if they meet the following criteria before being fully accepted:

#### Application Criteria:

- Must hold a current Pennsylvania Practical Nursing license
- LPNs must also take the Accuplacer, which is a computerized placement test, and complete any required developmental courses
  - Students who test into developmental courses must complete all courses with a C grade or above
- LPN applicants must submit an Application for Admission Form and Allied Health Programs Application to the Admissions Office by:

#### LEVEL 2 (LPNs)

Day Program Option	
Application Deadline	January 12 prior to fall start
LPN Transition Course: NSG 200/ NSG 114	Summer semester prior to fall start
Start Nursing Classes	Fall Semester

#### Evening/Weekend Program

Application Deadline	May 15 prior to spring start
LPN Transition Course: NSG 200/ NSG 114	Fall semester prior to spring start
Start Nursing Classes	Spring Semester

- Applicants must take the *LPN-RN Foundations of Nursing* examination administered by Westmoreland; eligible applicants will be notified of the testing date and fee

#### Criteria for Advanced Placement for LPNs:

- Graduate of accredited secondary school program or hold a graduate equivalency degree (GED) certificate
- High school validating the successful completion of academic work equivalent to a standard high school program with a minimum of 16 units:
  - English (4 units)
  - Social studies (3 units)
  - Mathematics (2 units, one in algebra required)
  - Science (2 units in chemistry and biology with related laboratory)
    - A "C" grade or better must be attained in high school algebra, chemistry, and biology; if a "C" grade or better is not attained, applicants may meet these preadmission requirements by completing MTH 052 or 052A, CHM 107, and BIO 107 and must attain a "C" grade or better
- Applicants who have completed credit courses must attain a 2.5 GPA
  - Only credit courses necessary to meet the requirements for the nursing program are considered when calculating GPA
  - If GPA is less than 2.5, one or more of these courses may be repeated to meet the requirements before testing
  - Students must earn a "C" grade or better in all nursing and corequisite courses to progress in the program and to graduate
  - Transfer courses are not calculated into GPA

#### Pre-testing Criteria and Required Documents

- Proof of completion of required courses or enrollment in equivalent courses via high school and or college transcripts. It is the students responsibility to provide transcripts to admissions office.
- Westmoreland transcript must include the following courses and GPA must be at least 2.5 and a C or better in the following courses:
  - BIO 171 - Anatomy and Physiology I
  - BIO 172 - Anatomy and Physiology II
  - PSY 160 - General Psychology
  - ENG 161 - College Writing
  - ALH 120 - Pharmacology
  - CPT 150 - Microcomputer Concepts
- Only science credits completed within the past 10 years will be accepted for transfer
- Additional required documents:
  - LPN program transcript
  - Copy of current LPN license

### **School of Health Professions Final Admission Criteria**

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### **Graduate/End-of-Program Learning Outcomes**

This curriculum is designed to prepare the graduate to:

#### **Caring**

1. Deliver quality and safe professional nursing care based on knowledge and evidence from nursing, physical, biological and behavioral sciences.
2. Promote health and prevent disease through patient and family center teaching and health education.
3. Use caring constructs to provide patient and family centered care that is based on respect for diversity.

#### **Competency**

4. Implement technical aspects of care safely, skillfully, effectively and efficiently.
5. Manage the care for a group of patients in a variety of settings using evidence based management concepts and skills.

#### **Communication**

6. Use therapeutic communication skills with individuals when providing professional nursing care
7. Utilize effective communication skills to promote teamwork, multidisciplinary collaboration and shared decision making.

#### **Critical Thinking**

8. Use the nursing process to assess, diagnose, plan, implement and evaluate care to meet mutually identified needs of individuals and their families.
9. Apply critical thinking to decision making and safe clinical judgments
10. Use information technologies effectively be accessing and managing information to enhance provision, adaptation and management of care.

#### **Commitment**

11. Implement collaborative, dependent and independent nursing actions within the legal and ethical framework of professional nursing practice
12. Demonstrate commitment to active learning to enhance self-development, professional identity and growth as a nurse.

### **Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs**

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

**NURSING, ADVANCED STANDING TO AAS FOR LPNS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available	
1	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry & ENG 095		
2	BIO 172	Anatomy & Physiology II	4	Pre-Req	F, Sp, Su	BIO 171 - C grade or better		
3	PSY 160	General Psychology	3	Pre-Req	F, Sp, Su			
4	ENG 161	College Writing	3	Pre-Req	F, Sp, Su	ENG 085 or Test		
5	ALH 120	Pharmacology	3	Pre-Req	F, Sp, Su			
6	CPT 150	Microcomputer Concepts	3	Pre-Req	F, Sp, Su			
	Apply and test for the program							
7	NSG 112	Intro/Prof Nsg & Hlth Care Acre Lifespan	CR	Major	F, Sp	BIO 171, CPT 150 Co-Req: BIO 172, NSG 114		
8	NSG 116	Foundations of Nursing Care	CR	Major	F, Sp	BIO 171, CPT 150, NSG 112 Co-Req: BIO 172, NSG 114		
9	NSG 124	Med-Surg Nursing Care/Ad.	CR	Major	F, Sp	BIO 171, 172, CPT 150, NSG 112, 114, 116, Co-Req: ALH 120, PSY 160		
10	NSG 114	Hlth& Phys Assessment	3	Major	F, Su Prior to Level II Nursing Courses	BIO 171, CPT 150 Co-Req: BIO 172, NSG 112, 116		
11	NSG 200	LPN Transition into Associate Degree Nursing	3		F, Su Prior to Level II Nursing Courses			
12	BIO 265	Microbiology	4	Other	F, Sp, Su	BIO 155, 171, CHM 107, 155, 264 or High School CHM, ENG 085 or Test		
Continued on next page								

**NURSING, ADVANCED STANDING TO AAS FOR LPNS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
13	NSG 225	Nursing Care/Childbrng. Fam./Infant & Child	4	Major	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses in assigned sequence semester	
14	NSG 240	Psych/Mental Health Nursing Care	3	Major	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
15	NSG 255	Adv. M/S Aging Adult Chronic	3	Major	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
16	ENG 164	Advanced Composition	3	Gen Ed	F, Sp, Su	ENG 161	
17	NSG 260	Adv. Care/Chronically Ill	3	Major	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses in assigned sequence semester	
18	NSG 270	Adv. Care/Acutely Ill	3	Major	F, Sp	All Level I ADN nursing and support courses Co-Req: Level II ADN nursing & support courses	
19	NSG 280	Manager of Nursing Care	4	Major	F, Sp	Co-Req: Level II ADN nursing & support courses	
20	MTH Elective	Mathematics Elective	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV

**Total Program Credits**

**55**

**Total Pathway Credits**

**75** (Includes Pre-requisites)

# Office Technology, AAS

OFFICE ADMINISTRATION OPTION

## School of Technology



This option 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 option of the Office Technology AAS degree program may find employment as administrative assistants, executive office managers, office managers, executive secretaries, receptionists and personnel clerks. Opportunities are available in large corporations, small business offices, insurance offices, nonprofit organizations, legal offices and government offices.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- develop advanced keyboarding, document processing and information management skills

- achieve proficiency using Microsoft Office in word processing, spreadsheets, database applications, personal information manager software, 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
- demonstrate academic knowledge required of all graduates including competency in critical thinking, writing, information literacy, oral communication and quantitative reasoning
- provide ethical service to a diverse customer base

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	Test	
2	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
3	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
4	OFT 110	Document Processing I	3	Major	F, Sp, Su	Test	
5	OFT 190	Word for Windows	3	Major	F, Sp		
6	BUS 140	Intro to Business	3	Other	F, Sp, Su		
7	CPT 195	Excel for Windows	3	Major	F, Sp		
8	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 162
9	OFT 120	Document Processing II	3	Major	Sp, Su	OFT 110	
10	OFT 185	PowerPoint	1	Major	F, Sp		
11	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		SPC 155
12	CPT 196	Access for Windows	3	Major	F, Sp		
13	OFT 140	Office Procedures	3	Major	F, Su		
14	OFT 210	Office Technologies	3	Major	F		
15	OFT 220	Transcription	3	Major	F	OFT 110	
16	WEB 102	Acrobat Essentials	1	Other	F, Sp, Su		
17	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		Page 43 Column III
18	CPT 278	Integrated Office Applications	3	Major	Sp	CPT 195, CPT 196, OFT 185 & OFT 190	
19	OFT 225	Proofreading	3	Major	Sp		
20	OFT 235	Customer Service	3	Major	F, Sp, Su		
21	WEB 188	Social Media	3	Major	F, Sp, Su		
22	OFT 280 or OFT 299	Office Management or Internship	3	Major	F, Sp, Su	OFT 110, OFT 140, and 20 hours of OFT courses	

**Total Program Credits 62**

**Total Pathway Credits 62**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Office Technology, Diploma

OFFICE ADMINISTRATION

## School of Technology

The office administration diploma program offers course work in office administration, office procedures and computer applications. Courses in this diploma may be applied toward the Office Technology AAS Office Administration Option.

### Career Opportunities

Graduates of the office administration diploma program 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

**This curriculum is designed to prepare students 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, presentation software applications
- compose and edit business correspondence, reports and forms
- provide ethical service to a diverse customer base

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	OFT 110	Document Processing I	3	Major	F, Sp, Su	Test	
4	OFT 140	Office Procedures	3	Major	F, Su		
5	OFT 190	Word for Windows	3	Major	F, Sp		
6	BUS 120	Math of Business	3	Gen Ed	F, Sp, Su	Test	
7	OFT 120	Document Processing II	3	Major	Sp, Su	OFT 110	
8	CPT 195	Excel for Windows	3	Major	F, Sp		
9	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	
10	OFT 185	PowerPoint	1	Major	F, Sp		
11	OFT 235	Customer Service	3	Major	F, Sp, Su		

**Total Program Credits 31**

**Total Pathway Credits 31**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Office Technology, Certificate

CUSTOMER SERVICE

## School of Technology

The customer service certificate program 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. 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 Technology AAS Office Administration Option.

### Career Opportunities

Graduates of this program may find employment as customer service assistants, customer service representatives, office managers, technical support clerks, customer service clerks and administrative assistants. The job category of customer service representative has been defined as a high-priority occupation for the Westmoreland-Fayette Workforce Investment Area with an estimated average salary of \$30,930 and an annual job growth rate of 14%. The Pennsylvania Department of Labor anticipates 134 job openings per year in our region.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- professionally communicate non-verbally and in writing
- 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BUS 120	Math of Business	3	Major	F, Sp, Su	Test	
2	BUS 140	Intro to Business	3	Major	F, Sp, Su		
3	CPT 150	Microcomputer Concepts	3	Major	F, Sp, Su		
4	OFT 110	Document Processing I	3	Major	F, Sp, Su	Test	
5	OFT 235	Customer Service	3	Major	F, Sp, Su		
6	SPC 156	Interpersonal Communication	3	Major	F, Sp, Su		

**Total Program Credits 18**

**Total Pathway Credits 18**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Office Technology, Certificate

OFFICE ADMINISTRATION

## School of Technology

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 Technology AAS Office Administration Option.

### Career Opportunities

Graduates of the office administration certificate program may find employment as administrative office support, receptionists and personnel clerks.

### Program Learning Outcomes

**This curriculum is designed to prepare students 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, travel arrangements and financial matters

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 195	Excel for Windows	3	Major	F, Sp		
2	OFT 110	Document Processing I	3	Major	F, Sp, Su	Test	
3	OFT 120	Document Processing II	3	Major	Sp, Su	OFT 110	
4	OFT 140	Office Procedures	3	Major	F, Su		
5	OFT 185	PowerPoint	1	Major	F, Sp		
6	OFT 190	Word for Windows	3	Major	F, Sp		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Paralegal, AAS

## School of Humanities, Social Sciences & Public Service

The paralegal associate degree program 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

**This curriculum is designed to prepare students 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	LAS 101	The Legal Assistant	3	Major	F		
3	LAS 111	Legal Analysis	3	Major	F		
4	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		Page 43 Column VI
5	BUS 120	Business Math	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
6	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
7	HUM 156	Critical Thinking	3	Gen Ed	F, Sp, Su		Page 43 Column II
8	LAS 115	Torts	3	Major	Sp	LAS 101 & LAS 111	
9	LAS 125	Litigation I	3	Major	Sp	LAS 101 & LAS 111	
10	LAS 210	Legal Writing	3	Major	Sp	ENG 161 & LAS 111	
11	LAS 120	Estates and Trusts	3	Major	F	LAS 101 & LAS 111	
12	LAS 215	Legal Research	3	Major	F	LAS 210	
Continued on next page.							



# Paralegal, Diploma

## School of Humanities, Social Sciences & Public Service

The paralegal diploma program 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

This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
2	LAS 101	The Legal Assistant	3	Major	F		
3	LAS 111	Legal Analysis	3	Major	F		
4	RLS 210	Laws of Real Estate	3	Major	F		
5	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		Page 43 Column VI
6	LAS 125	Litigation I	3	Major	Sp	LAS 101 & LAS 111	
7	LAS 210	Legal Writing	3	Major	Sp	ENG 161 & LAS 111	
8	BUS 120	Business Math	3	Gen Ed	F, Sp, Su	Test	Page 43 Column IV
9	Elective	Restricted Electives	3	Major	F, Sp, Su		See List
10	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III
11	LAS 215	Legal Research	3	Major	F	LAS 210	

**Total Program Credits 33**

**Total Pathway Credits 33**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

**Restricted Electives:** ACC 155 Accounting I  
BUS 205 Business Law I  
BUS 249 Labor Relations  
CRJ 163 Criminal Procedure  
CRJ 261 Criminal Law II  
CRJ 263 Investigative Concepts  
LAS 200 Const. Power & Civ Lib

# Petroleum Technology, AAS

## School of Technology

The petroleum technology degree is designed to prepare students for entry-level positions in the upstream, midstream and downstream phases of the natural gas and oil sector, particularly in the field of gas plant processing, refining, power generation, pipeline technology and other various plant processes. Through classroom and laboratory exercises and field activities, this degree will provide the skill set essential for entry-level industrial plant operations and pipeline technologies with emphasis on safety, efficiency and productivity. Students will acquire skills required to ensure maximum production and quality through the knowledge of hydraulics/pneumatics, PLC controls, compression and flow dynamics, circuits, corrosion, metallurgy, pipeline code and regulations, mechanical drives and industrial management. These concepts will enable the student to ensure maximum production and quality while improving performance and cost efficiency.

### Career Opportunities

Graduates of the petroleum technology program, depending upon existing education and qualifications, may accept positions such as: gas plant operators; petroleum pump system operators; refinery and chemical plant operators, including industrial machinery mechanics, maintenance and repair workers; and general maintenance workers.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- demonstrate the skills, professional values, and ethics necessary to be employed in the field of natural gas and oil operations
- demonstrate effective oral and written communication skills with corporate officers, supervisors, government officials, front line workers, and other petroleum operations employees
- describe the principles of petroleum extraction and related geology
- describe the general principles and terminology of natural gas and oil field operations
- describe the general principles and terminology of gas plant operations
- identify and interpret occupational health and safety standards
- perform gas and oil measurements within a pipeline and/or gas plant
- read, record and adjust petroleum instrumentation
- describe relevant gas law calculations with a special emphasis on relationships between variables
- describe the transportation, processing, storage and distribution processes of natural gas and oil
- test equipment operation and maintenance
- identify common safety hazards associated with exploration, production, transportation, storage, and distribution
- identify, complete and submit required record-keeping documentation for various occupational industries including petroleum plants, chemical plants and pipelines
- use troubleshooting skills to identify, foresee and prevent possible problems, conflicts and failures, and to systematically and intelligently make repairs

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	DFT 258	AutoCAD	4	Gen Ed	F		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su	Test	Advisor
5	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
6	ELC 191	Basic Principles of Industrial Electricity	4	Other	Sp		
7	NGT 100	Comm Teamwork & Conflict Resolution in Industry	1	Major	Sp		
8	NGT 101	Overview of the Natural Gas & Oil Technology	4	Major	Sp		
9	NGT 110	Env Prot - Methods and Devices for Nat Gas & Oil Ind	2	Major	Sp		
10	WEL 209	Industrial Maintenance	3	Other	Sp		
11	WEL 210	Maintenance & Troubleshooting for Industry II	4	Other	Sp	WEL 209	
12	EMA 120	Mechanical Components & Electrical Motors	4	Other	F		
Continued on next page							



# Petroleum and Industrial Process Operation Technology, Certificate

## School of Technology

The petroleum and industrial process operation technology certificate is designed to prepare students for entry-level positions in the midstream and downstream phases of the natural gas and oil sector, particularly in the field of gas plant processing, refining, power generation and other various plant processes. Through classroom and laboratory exercises and field activities, this certificate will provide the skill set essential for entry-level industrial plant operations with emphasis on safety, efficiency and productivity. Students will acquire skills required to ensure maximum production and quality through the knowledge of gas processing, compression and flow dynamics, circuits, mechanical drives and basic instrumentation and control. These concepts will enable the student to ensure maximum production and quality while improving performance and cost efficiency.

### Career Opportunities

Graduates of the petroleum and industrial process operation technology program, depending upon existing education and qualifications, may accept positions such as: gas plant operators, petroleum pump system operators, refinery and chemical plant operators, including industrial machinery mechanics, maintenance and repair workers and general maintenance workers.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- demonstrate the skills, professional values and ethics necessary to be employed in the field of industrial and gas plant processing
- demonstrate effective oral and written communication skills with corporate officers, supervisors, government officials, front line workers, and other industrial and gas plant processing employees
- describe the general principles and terminology of gas plant operations
- identify and interpret occupational health and safety standards
- perform gas and oil measurements
- describe relevant gas law calculations with a special emphasis on relationships between variables
- describe the transportation, processing, storage and distribution processes of natural gas and oil
- identify common safety hazards associated with exploration, production, transportation, storage and distribution
- identify, complete and submit required record-keeping documentation for various occupational industries

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	EMA 120	Mechanical Components and Electrical Motors	4	Major	F		
2	NGT 140	Gas Processing I	4	Major	F		
3	NGT 150	Gas Compression and Flow Dynamics	4	Major	F		
4	NGT 160	Petroleum Instrumentation	4	Major	F		

**Total Program Credits** 16

**Total Pathway Credits** 16

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Phlebotomy/Specimen Processing, Certificate

WITH PHLEBOTOMY ONLY OPTION

## School of Health Professions

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.

### Career Opportunities

As a phlebotomist, the graduate may draw blood in physicians offices, blood banks, hospitals, ambulatory care centers, nursing care centers and other healthcare facilities. In addition to phlebotomy, a specimen processor will collect, evaluate and process various laboratory samples.

### Special Admission and Selection Criteria for Phlebotomy/Specimen Processing Certificate Program

- Applicants must be graduates of an accredited secondary school program or hold a GED equivalency certificate prior to selection.

### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline May 1 prior to fall start

Acceptance Notification May 30

#### \*For selected spring Start Classes

Application Deadline October 1 prior to spring start

Acceptance Notification October 30

Enrollment is limited due to clinical site placement for practicum hours. Students cannot enroll in Phlebotomy (PHB) core classes until formally accepted into the program.

- Courses must be completed with a C grade or better (at least 2.0 GPA).

### School of Health Professions Final Admission Criteria

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

## Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- collect, transport, handle, and process laboratory specimens for analysis
- demonstrate professional conduct, stress management, and interpersonal and communication skills with patients, 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

### Phlebotomy/Specimen Processing Certificate Program

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	ALH 122	Medical Terminology	3	Other	F, Sp, Su	Co: PHB 101	
2	PDV 101	First-Year Seminar <i>Required for all first-time credential-seeking applicants</i>	1	Gen Ed	F, Sp, Su		
3	PHB 101	Clinical Phlebotomy	4	Major	F, Sp	Co: ALH 122	
4	PHB 105	Specimen Processing	4	Major	F, Sp	Co: PHB 101 and ALH 122	
5	PHB 110	Spec Processing Practicum	4	Major	F, Sp	PHB 101 & 105	
<b>Total Program Credits</b>			<b>16</b>				
<b>Total Pathway Credits</b>			<b>16</b>				

### Phlebotomy ONLY Processing Certificate Program

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	PDV 101	First-year Seminar <i>Required for all first-time credential-seeking applicants</i>	1	Gen Ed	F, Sp, Su		
2	ALH 122	Medical Terminology	3	Other	F, Sp, Su	Co: PHB 101	
3	PHB 101	Clinical Phlebotomy	4	Major	F, Sp	Co: ALH 122	
4	PHB 111	Phlebotomy Practicum	4	Major	F, Sp		
<b>Total Program Credits</b>			<b>12</b>				
<b>Total Pathway Credits</b>			<b>12</b>				



# Pipeline Mechanic, Certificate

## School of Technology

The pipeline mechanic certificate is designed to prepare students for positions in the midstream and downstream phases of the natural gas and oil sector, particularly in the field of pipeline operations. The pipeline mechanic certificate is designed to prepare students for entry-level positions in natural gas, pipeline operations, compression, refining, power generation and various plant processes. This certificate will provide the skill set essential for pipeline operations with emphasis on safety, efficiency and productivity. Students will acquire skills required to ensure maximum production and quality through the knowledge of corrosion, metallurgy, pipeline code and regulations, hydraulics/pneumatics, PLC controls, compression and flow dynamics, circuits, mechanical drives and industrial management. These concepts will enable the student to ensure maximum production and quality while improving performance and cost efficiency.

### Career Opportunities

Graduates of the pipeline mechanic certificate, depending upon existing education and qualifications, may accept positions such as pipeline technicians, field service technicians, compressor operators, gas plant operators, petroleum pump system operators, refinery and chemical plant operators, pipeline maintenance and repair workers, and general maintenance workers.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- demonstrate the skills, professional values and ethics necessary to be employed in the field of industrial and gas pipeline operations
- demonstrate effective oral and written communication skills with corporate officers, supervisors, government officials, front line workers and other petroleum operations employees
- describe the general principles and terminology of pipeline operations
- identify and interpret occupational health and safety standards
- perform gas and oil measurements
- read, record and adjust petroleum instrumentation
- describe relevant gas law calculations with a special emphasis on relationships between variables
- describe the transportation, processing, storage and distribution processes of natural gas and oil
- identify common safety hazards associated with exploration, production, transportation, storage and distribution
- identify, complete and submit required record-keeping documentation for various occupational industries

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	NGT 105	Emergency Response for Natural Gas and Oil	1	Major	Sp		
2	NGT 150	Gas Compression and Flow Dynamics	4	Major	F		
3	NGT 170	Corrosion Basics	4	Major	Sp		
4	MET 105	Welding Metallurgy I	4	Major	Sp		
5	WEL 220	Inspection of Code Welding	3	Major	Sp		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Radiology Technology, AAS

## School of Health Professions

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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 most other specialized imaging modalities. With additional education through either employer based training or formal education, radiographers can progress to careers in Computed Tomograph (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.

### Career Opportunities

Students completing this program will be qualified to enter the work force as an entry level radiographer. Radiographers may find employment opportunities with hospitals, stand-alone medical imaging centers, mobile imaging providers and private practice physicians.

### Special Admission and Selection Criteria

Since this program requires a clinical placement, enrollment is selective and enrollment is limited by the clinical placement necessary to complete the radiology technology course requirements. Students may be required to interview at one or more clinical sites on their own time and expense. Clinical sites are assigned by the clinical coordinator. Specific criteria for admission and selection are listed below.

#### Application Process for Health Profession Programs

- Complete and submit an Application for Admission to Westmoreland County Community College
- Complete and submit an application for the specific Health Profession Program (Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Expanded Functions Dental Assisting, Medical Assisting, Nursing\*, Phlebotomy/Specimen Processing\* or Radiology)
- Submit all required documents to the Admissions Office by the deadline.
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs and any other formal educational program beyond high school.

#### For Fall Start Classes:

Application Deadline January 12 prior to fall start  
Acceptance Notification Mid-March

#### \*For selected spring Start Classes

Application Deadline May 15 prior to spring start  
Acceptance Notification Mid-August

- Applicants must be graduates of an accredited secondary school program, or high school seniors enrolled in an accredited secondary school program, or those who hold a GED equivalency certificate prior to selection.
- High school preparation should include one year each of biology, physics, chemistry, and algebra. If these courses were not taken in high school, BIO 107, PHY 110, CHM 107 and MTH

100 must be completed prior to the application deadline for the radiology technology program with a minimum "C" grade or better (C minus grade not accepted.)

- College prerequisite coursework includes completion of BIO 171-Anatomy and Physiology I, with a minimum grade of C (C minus grade not accepted.)
- BIO 171 must be successfully completed by the end of the spring semester prior to starting the RAD program. Students accepted into the RAD program and not completing BIO 171 with a "C" or better will be withdrawn from the program.
- Applicants must take the computerized placement test (Accuplacer) and have successfully completed any required developmental courses and/or high school course work with a minimum grade of C (C minus grade not accepted.) Also, applicants who have completed credit courses must have a 2.5 or better GPA. Only courses necessary to meet the radiology technology program requirements are considered when calculating the GPA. If the GPA is less than 2.5, one or more of these courses can be repeated in order to meet this requirement before testing.
- Students who have attempted developmental courses in math or science three or more times will not be considered for admission.
- Applicants to the radiology program should review the ARRT rules and regulations and the ARRT standard of ethics prior to submitting their application. Information can be found on the ARRT website <http://www.arrt.org>.

**NOTE: Admission decisions are based on two factors which contribute to the overall admission score: GPA and evidence of success in courses already taken. Admission to the radiology program is competitive and there are a limited number of seats.**

### **School of Health Professions Final Admission Criteria**

Students accepted into the School of Health Professions including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing are required to have a criminal background check, child abuse history and drug screening at the student's expense.

The Program Director of each Health Profession Program gives the accepted student directions for setting up a password-secure Castle Branch Account.

Castle Branch is the background screening and compliance tracking company, which provides Westmoreland County Community College Health Profession Programs with student background screening services.

Castle Branch background screening and compliance management includes:

- Background Checks (FBI Fingerprint Check, Criminal Background Check and Child Abuse Clearances)
- Urine Drug Screen
- Immunization and Record Tracking
- Houses PPD (TB screening)
- CPR Training Documentation
- Liability Insurance (if applicable for program)
- Houses the results of the Required Health Physical

Final admission is conditional pending receipt of Urine Drug Screen and receipt and evaluation of Criminal Background Check to determine if there is any conviction that may bar the applicant from entering the Health Profession Programs.

- Positive Urine Drug Screen will result in denial of admission.
- Any record of child abuse will result in denial of admission.
- According to federal sentencing guidelines, any punishment over one year indicates a felony.
- Any felony conviction within the past 10 years will result in denial of admission to any Health Profession Program.
- Any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense and explanatory letter/material submitted by the applicant.

### **Essential Cognitive, Physical and Behavioral Functions for the Health Professions Programs**

The Westmoreland County Community College Health Profession Programs including Nursing, Dental Programs, Radiology, Sonography, Medical Assisting, Phlebotomy and Specimen Processing require that students meet certain functional abilities essential to each program. A detailed list is available in each program's handbook.

### **Readmission Policy**

Students returning to the program after removal must successfully complete laboratory remediation from a tutor and a laboratory exam commensurate with the knowledge level when the student left the program.

### **Program Learning Outcomes**

**This curriculum is designed to prepare students to:**

- provide radiographic imaging services within a healthcare setting for a diverse patient population with an awareness of cultural diversity within the community
- use the principle of ALARA to minimize radiation exposure to the patient, one's self and the general population
- operate all radiologic imaging equipment safely, effectively and efficiently
- expose, process and evaluate all types of radiologic images
- apply computation skills to provide safe X-ray exposure to patients
- develop competency in assessing patients and devising ways to image compromised patients
- use computers and computerized equipment in the process of imaging and caring for patients
- provide imaging procedure patient education
- respect patient confidentiality and follow HIPPA guidelines
- practice radiography in a manner consistent with the ARRT ethical guidelines
- use effective communication skills when collaborating with multidisciplinary health team members
- develop interpersonal and communication skills to effectively interact with diverse population groups
- provide appropriate life-support measures for medical emergencies that may be encountered in a radiologic imaging setting
- use resources to enhance self-development and professional growth

### **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.

## RADIOLOGY TECHNOLOGY, AAS (CONTINUED)

### 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 Goals

- to produce graduates prepared for entry into the health care 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 171	Anatomy & Physiology I	4	Pre-Req	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry	
2	ALH 122	Medical Terminology	3	Other	F, Sp, Su	Co: RAD 111, BIO 172, RAD 121	
3	BIO 172	Anatomy & Physiology II	4	Other	F, Sp, Su	BIO 171	
4	RAD 111	Intro to Radiographic Procedures and Patient Care I ALH 122,	4	Major	F	Co: BIO 172, RAD 121	
5	RAD 121	Prin of Radiology Image Capture & Display	3	Major	F	Co: ALH 122, BIO 172, RAD 111	
6	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	
7	PHY 125	Physics for Radiology	3	Major	F, Sp, Su	Co: RAD 141,146	
8	RAD 131	Prin of Digital Imaging	3	Major	Sp	Co: MTH 157, PHY 125, RAD 141,146	
9	RAD 141	Radiographic Procedures & Patient Care II	4	Major	Sp	Co: PHY 125 RAD 131,146	
10	RAD 146	Clinical Education I	4	Major	Sp	Co: MTH 157, PHY 125, RAD 141,131	
11	RAD 215	Clinical Education II	3	Major	Su	Pre: RAD 156	
12	RAD 255	Clinical Education III	3	Major	Su	Pre: RAD 215	
13	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
14	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
15	PSY 160	General Psychology	3	Gen Ed	F, Sp, Su		
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**RADIOLOGY TECHNOLOGY, AAS (CONTINUED)**

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
16	RAD 211	Radiographic Procedures & Patient Care III	4	Major	F	Pre: RAD 215, 255 Co: RAD 216	
17	RAD 216	Clinical Education IV	4	Major	F	Pre: RAD 255 Co: 211	
18	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
19	RAD 221	Radiographic Pathology & Job Search Preparation	3	Major	Sp	Pre: RAD 211, 216 Co: RAD 226, 231	
20	RAD 226	Clinical Education V	5	Major	Sp	Pre: RAD 216 Co: RAD 221, 231	
21	RAD 231	Radiology Technology Capstone	1	Major	Sp	Pre: RAD 211, 216 Co: RAD 221, 226	
22	SPC 156	Interpersonal Communication	3	Gen Ed	F, Sp, Su		Page 43 Column II

**Total Program Credits 69**

**Total Pathway Credits 73** (Include Pre-requisites)

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Restaurant/Culinary Management, AAS

## School of Culinary Arts & Hospitality

Restaurant/culinary management is one of the majors comprising the college's School of Culinary Arts/Hospitality. This curriculum is designed to prepare students for various levels of management positions in the food service industry. In addition to classroom and food laboratory experience, students are required to complete an internship. Students are expected to be well groomed in compliance with standards of sanitation. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some classes. Students will also be required to provide medical proof of good physical health. This program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC).

### Career Opportunities

Graduates of the restaurant/culinary management program may accept positions as: general operations manager, catering manager, restaurant sales representative, restaurant manager, assistant restaurant manager, food service director, assistant food service director, food purchasing agent, party planner, dining room manager, sales and marketing manager, training and development specialist or customer service manager.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify the procedures and responsibilities of departmental teams within a foodservice operation
- identify and satisfy diverse customer expectations
- identify, prepare, season and cook according to recipe soups, sauces, salads, meats, fish, poultry, game, vegetables and desserts
- prepare quantity foods with emphasis on food cost controls as part of a production team
- research, evaluate, write and maintain menus; purchase orders; local, regional and international recipes; production schedules and inventories
- research and adhere to sound practices for sanitation and safety
- utilize the high-tech approach to maintain acceptable systems of operation
- research, analyze and apply marketing objectives and strategies to food service operations
- supervise a food service operation team utilizing personal and interpersonal skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
2	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	Test	
3	FSM 103	Introduction to Hospitality Industry	3	Major	F, Sp		
4	FSM 105	Foods I	4	Major	F, Sp		
5	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
6	FSM 118	Sanitation	2	Major	F, Sp		
7	FSM 119	Beverage Management	1	Major	F, Sp		
8	BKP 141	Baking I	4	Major	F, Sp		
9	CUL 135	Speed Scraftch Cooking	3	Major	Sp	FSM 105	
10	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
11	FSM 113	Customer Service	3	Major	F, Sp		
12	BUS 120	Mathematics of Business	3	Gen Ed	F, Sp, Su	MTH 052, MTH 100, 100A, 052A or Test	
13	ENG 163	Business Communication	3	Gen Ed	F, Sp, Su	ENG 161	ENG 164
14	FSM 159	Nutrition	3/4	Major	F, Sp, Su		BKP 243 PRE-REQ FSM 105
15	FSM 213	A La Carte Kitchen	4	Major	F, Sp	FSM 105 & 112	
16	FSM 215	Purchasing and Operations	3	Major	F, Sp		
17	Elective	Humanities Elective	3	Gen Ed	F, Sp, Su		FSM 170
18	FSM 157	Catering	3	Major	F	FSM 105	
19	FSM 218	Hospitality Marketing	3	Major	F, Sp		
20	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	
21	FSM 235	Supervision/Training	3	Major	F, Sp		
22	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits**  
**Total Pathway Credits**

**65/66**  
**65/66**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Restaurant/Culinary Management, Diploma

## School of Culinary Arts & Hospitality

Restaurant/culinary management is one of the majors comprising the college's School of Culinary Arts/Hospitality. The curriculum is designed to prepare students for mid-level of management positions in the food service industry. In addition to classroom and food laboratory experience, students are required to complete an internship. Students are expected to be well groomed in accordance with industry sanitation standards. Uniforms and program tool kit are required for all lab classes. Business attire may be required for some classes. Students will also be required to provide medical proof of good physical health.

### Career Opportunities

Graduates of the restaurant culinary management program may accept positions as: general operations manager, catering manager, restaurant sales representative, restaurant manager, assistant restaurant manager, food service director, assistant food service director, food purchasing agent, party planner, dining room manager, sales and marketing manager, training and development specialist or customer service manager.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- identify the procedures and responsibilities of departmental teams within a foodservice operation
- identify and satisfy diverse customer expectations
- 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
- prepare quantity foods with emphasis on food cost controls
- research, evaluate and write menus, purchase orders, production schedules and inventories
- demonstrate sanitation and safety
- utilize technology to maintain systems of operation
- analyze and apply marketing objectives and strategies to food service operations
- supervise a food service operation team utilizing personal and interpersonal skills

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	FSM 113	Customer Service	3	Major	F, Sp		
2	FSM 117	Wait Staff/Dining Room Training	1	Major	F, Sp		
3	FSM 118	Sanitation	2	Major	F, Sp		
4	FSM 235	Supervision/Training	3	Major	F, Sp		
5	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
6	FSM 105	Foods I	4	Major	F, Sp		
7	FSM 219	Hospitality Internship	3	Major	F, Sp, Su	Instructor Permission	
8	FSM 215	Purchasing and Operations	3	Major	F, Sp		
9	FSM 112	Quantity Foods	4	Major	F, Sp	FSM 105	
10	FSM 159	Nutrition	3	Major	F, Sp, Su	BKP 243 PRE-REQ FSM 105	
11	FSM 218	Hospitality Marketing	3	Major	F, Sp		

**Total Program Credits 32**

**Total Pathway Credits 32**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.







**Science Technology, AAS**  
**FORENSICS LAB TECHNICIAN OPTION**  
**School of Math, Science & Engineering**

This option of the Science Technology degree is designed to provide students with the skills, knowledge and hands-on experiences to prepare them for work as a forensic sciences technician.

A Forensic Science-Forensic Science Investigator certificate program is also available. See page 143.

**Career Opportunities**

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

**Program Learning Outcomes**

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	BIO 110	Intro to Forensic Biology	4	Major	F, Sp, Su		
2	CHM 102	Career Lab Tech	1	Major	F		
3	CHM 120	Chemical and Lab Safety	2	Major	F		
4	CPT 150	Microcomputer Concepts	3	Gen Ed	F, Sp, Su		
5	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or Test	
6	MTH 157	College Algebra	3	Gen Ed	F, Sp, Su	Test	
7	ALH 120	Pharmacology	3	Other	F, Sp, Su		
8	BIO 130	Intro to Pathology	4	Major	F		
9	BIO 171	Anatomy & Physiology I	4	Major	F, Sp, Su	CHM 107, 155 or 264 or HS Chemistry & ENG 095	
10	ENG 162	Technical Communication	3	Gen Ed	F, Sp, Su	ENG 161	
11	MTH 160	Statistics	3	Other	F, Sp, Su	Test	
12	BIO 160	Intro to Forensic Toxic.	4	Major	Sp		
13	BIO 172	Anatomy & Physiology II	4	Major	F, Sp, Su	BIO 171	
14	CRJ 155	Intro to Criminal Justice	3	Major	F, Sp, Su		
15	CRJ 220	Research Methods	3	Major	F		
16	BIO 265	Microbiology	4	Major	F, Sp, Su	BIO 155 or 171 & CHM 107, 155 or 264 or HS Chemistry & ENG 095	
17	CHM 199	Chemistry Internship I	3	Major	Sp		
18	CHM 264	Chemistry for Health Science	4	Major	Sp	CHM 107, 155 or HS CHM	
19	CRJ 296	Introduction to Criminalistics	3	Major	Sp		
20	PHL 161	Intro to Ethics	3	Gen Ed	F, Sp, Su		

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Welding Engineering Technology, AAS

## School of Technology

The Welding Engineering Technology AAS program 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	WEL 125	Welding I	4	Major	F, Sp, Su		
2	WEL 209	Industrial Maintenance	3	Major	F		
3	DFT 110	Blueprint Reading	2	Other	F		
4	WEL 220	Welding Codes	3	Major	F		
5	DFT 258	AutoCAD	4	Gen Ed	F		
6	MET 105	Welding Metallurgy I	3	Major	Sp		
7	WEL 221	Metal Fabrication	4	Major	F,Sp, Su	WEL 125, DFT 110	
8	WEL 228	SMAW	4	Major	Sp	WEL 125	
9	WEL 226	GMAW	4	Major	Sp	WEL 125	
10	MET 205	Welding Metallurgy II	3	Major	F	MET 105	
11	WEL 227	GTAW	4	Major	F		WEL 125
12	WEL 222	Fundamentals of Aluminum	4	Major	F	WEL 228	
13	MTH 108	Mathematics for Technologies I	4	Gen Ed	F, Sp, Su	MTH 052, 052A or Test	Advisor
14	ENG 161	College Writing	3	Gen Ed	F, Sp, Su	ENG 085 or TEST	
15	WEL 224	NDT and DT	3	Major	Sp	MET 105, MTH 108	
16	WEL 225	Advanced Fabrication	3	Major	Sp	WEL 221	
17	WEL 230	Pipe Welding	3	Major	Sp	WEL 227	
18	ENG 162	Technical Communications	3	Gen Ed	F, Sp, Su	ENG 161	ENG 163 or 164
19	Elective	Social Science Elective	3	Gen Ed	F, Sp, Su		Page 43 Column III

**Total Program Credits 64**

**Total Pathway Credits 64**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# 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

**This curriculum is designed to prepare students 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

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	WEL 125	Introduction to Welding	4	Major	F,Sp,Su		
2	WEL 209	Industrial Maintenance	3	Major	F		
3	DFT 110	Blueprint Reading	2	Major	F		
4	WEL 220	Welding Codes	3	Major	F		
5	DFT 258	AutoCAD	4	Gen Ed	F		
6	MET 105	Welding Metallurgy I	3	Major	Sp		
7	WEL 221	Metal Fabrication	4	Major	F,Sp,Su	WEL 125, DFT 110	
8	WEL 228	SMAW	4	Major	Sp	WEL 125	
9	WEL 226	GMAW	4	Major	SP	WEL 125	

**Total Program Credits 31**

**Total Pathway Credits 31**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Welding Engineering Technology I, Certificate

## School of Technology

The Welding Engineering Technology Certificate I program 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. Successful completion of this program of study leads to the associate of applied science degree.

### 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

**This curriculum is designed to prepare students 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	WEL 125	Introduction to Welding	4	Major	F, Sp, Su		
2	WEL 209	Industrial Maintenance	3	Major	F		
3	DFT 110	Blueprint Reading	2	Major	F		
4	WEL 220	Welding Codes	3	Major	F		
5	DFT 258	AutoCad	4	Gen Ed	F		

**Total Program Credits 16**

**Total Pathway Credits 16**

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.



# Welding Engineering Technology III, Certificate

## School of Technology

The Welding Engineering Technology III Certificate program 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. Successful completion of this program of study leads to the associate of applied science degree.

### 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

**This curriculum is designed to prepare students 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.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	MET 205	Metallurgy II	3	Major	F	MET 105	
2	WEL 227	GTAW	4	Major	F	WEL 125	
3	WEL 222	Fundamentals of Aluminum	4	Major	F	WEL 228	
4	MTH 108	Mathematics for the Technologies I	4	Gen Ed	F, Sp, Su		
5	ENG 161	College Writing	3	Gen Ed	F, Sp, Su		
<b>Total Program Credits</b>			<b>18</b>				
<b>Total Pathway Credits</b>			<b>18</b>				

PDV 101 - First-Year Seminar is required for all first-time credential-seeking students.

# Course Descriptions

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# Course Descriptions

## Index of Courses

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 052, 052A or satisfactory placement test score

### 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): BUS 120

### ACC 199—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.

### 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 system. 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. Prerequisite(s): ACC 155

### 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

## **ALH—ALLIED HEALTH**

**ALH 110—BASIC LIFE SUPPORT FOR THE HEALTH CARE PROVIDER** **1-0-1**

This course in Basic Life Support for the Health Care Providers provides the student with core materials for one- and two-rescuer adult cardiopulmonary resuscitation (CPR), foreign body airway obstruction management, pediatric resuscitation and automated external defibrillator. The targeted audience for this program is the healthcare provider, students entering the healthcare field, also EMS personnel, physician assistants, doctors, dentists, nurses and respiratory therapists who are required a credential (card) documenting successful completion of a CPR course. A written exam and skills testing is required for successful course completion. Tuition does not include textbook. Students receive certification from the American Heart Association. This course also includes background information about heart disease, risk factors, heart and lung function, current prevention advice and healthy living principles.

**ALH 120—PHARMACOLOGY** **3-0-3**  
Introduces the student to current concepts in pharmacology, including basic drug actions, indications and contraindications for drug therapy, toxicity, side effects and safe therapeutic ranges.

**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.

## **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. Bench mark 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 108

**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, Xreferences and paper space applications are covered. (Most current version 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 version 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 140—ILLUSTRATION** **1-4-3**  
Introduction to contemporary illustration techniques and the techniques of noted illustrators. Enables students to develop a sense of illustrative image creation so that formal and technical elements such as composition, color and background, can work together to create editorial or narrative impact. Focuses on trends and styles of advertising, with emphasis on working with an art director, deadlines, reproduction requirements and professional attitudes. Technical concerns as well as aesthetic and legal aspects are covered.

**ART 142—TYPOGRAPHY** **1-4-3**  
Introduction to and exploration of signage design, principles and layouts. Develops and promotes creative problem-solving techniques for corporate and retail identity. Students incorporate design ideas, conceptual thinking, typographic elements, color usage and various imaging techniques. Assignments demonstrate visual solutions for realistic design problems, with emphasis on traditional as well as computer-based solutions. Technical concerns and compatibility across Macintosh and Windows platforms as well as aesthetic and legal aspects are covered.

**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 will explore the potential with the variant and edition print as discovered through relief, intaglio, lithography and screen printing processes. It will introduce an analysis of paper, print matrix, inks and the related field of paper and bookmaking. Students will examine the role of the hand-printed image, the digital reproduction and the rich hybrid between these methodologies.

**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 exams the function, form, construction and context of objects created in the non-western cultures of Africa, Western and Central Asia, India and Southeast Asia, China, Japan and Korea, the Pacific and the Americas, and establish 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 1960s to the present. It examines the fundamental framework and critical ideas that have been documented in recent art history. It explores the major changes in the perception and function in art as it is made, where it is presented, the role of the audience and how the work is historically recorded. Rather than a chronological approach, history will be unraveled. This is achieved by examining works to discover information from external observation and basic art language. Links will then be drawn between what has been observed and what has preceded the work to reveal how ideas have been reinforced or challenged.

**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 Pennsylvania artists have played in the history 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**

Two-dimensional visual art principles will be discovered through the components of problem-solving art applications, lectures and critiques. An important aspect of this course investigates the history and theory of basic design principles as the primary language of visual thinking.

**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 free-standing 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**

Students will learn to render more complex forms and conceive more dynamic responses to a range of drawing issues. Through rendering the skeletal structure, as well as exploration of materials and techniques, students will learn the basic foundation of figure drawing, enriched by lectures on art historical depictions, and the role of drawing in traditional and contemporary art. 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 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 some of the legal issues which may affect the visual artist as well as other 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 the questions "What is art?" and explain various rights of the artist to protect his/her art through copyright and moral rights. Additionally, we will spend time examining the work of artists who have pushed the boundaries of what is acceptable in society and will discuss the attempts to censor work which may be deemed offensive by certain groups. Students will learn the basics of contract law, review different types of contracts which they may encounter in their professional life, and learn what might be a "red flag" when negotiating contract language. Finally, the course will cover forms of business entities from self-employment to the incorporation of a business, including nonprofit arts organizations. The course will draw on current issues and cases in the art world and students will be expected to access online resources and to share their thoughts and opinions in online discussion groups.

**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 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 185—CLAY I-FOUNDATION CERAMICS****1-4-3**

This course introduces students to ideas and methods used in the contemporary field of ceramic object-making and provides the basic skills required to creatively express his or her ideas in clay. Projects are designed to have students consider clay for both its fine art and design potential. Students will be introduced to traditional methods of hand-building and throwing on the potter's wheel and address idea development. Projects will cover different approaches to clay forming, wheel throwing and finishing techniques. Pinching, coil building and slab construction will be included. Students will become familiar with the firing process and basic glaze and slip surface treatments. Issues in historical and contemporary ceramics will be discussed. (Touchstone location only)

**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, batik, 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 presentations. The student will be provided with a fundamental set of skills that will be used throughout their developing careers. Self-promotional tools will include: assessing and defining goals, writing an artist statement and/or career philosophy, documentation, presentation and organization of original studio work, 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 task to execute the exhibition, design promotional materials and coordinate with appropriate offices through cultural programming to execute the show, work with the gallery manager to professionally calculate and hang work, design lighting and exhibition cohesion, present a public artist statement and document work.

**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—INTRODUCTON 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 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.

## **ATT-ART TECHNOLOGY**

### **ATT 150—ART TECHNOLOGY SYSTEMS I 3-2-4**

This course is a study of basic electronics circuits, devices and mechanisms associated with animatronic systems. Topics covered will include an introduction to basic circuits, elementary mechanics, sensors and wiring techniques. Essential circuit troubleshooting, soldering and test equipment will be investigated and utilized. Through project-based learning, students will interface simple mechanisms, sensors and actuators with creative explorations and projects.

### **ATT 151—ART TECHNOLOGY SYSTEMS II 3-2-4**

This course is a study of programmable microcontroller systems associated with animatronic systems. Topics covered will include an introduction to microcontrollers, microcontroller programming, and interfacing techniques. Basic system construction and troubleshooting procedures for these systems will be investigated and utilized. Students will learn to program and interface basic mechanisms, sensors and actuators to microcontroller-based creative projects.

## **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 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.

### **BIO 120—ENVIRONMENTAL ISSUES 3-0-3**

Assesses man's 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 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.

### **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 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 toxicologic-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.

### **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 155, CHM 264 or high school chemistry and ENG 095 or a satisfactory Placement Test score.

### **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 nonscience majors alike.

### **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 155, CHM 264 or high school chemistry, ENG 085 or satisfactory Placement Test score

### **BIO 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 or CHM 250 or CHM 264



<b>BIO 285—MOLECULAR GENETICS</b>	<b>3-3-4</b>	<b>BKP 249—ADVANCED DECORATING TECHNIQUES</b>	<b>1-4-3</b>
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): BIO 110, BIO 155, BIO 171 or BIO 210		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	
<b>BKP—BAKING AND PASTRY</b>		<b>BUS—BUSINESS</b>	
<b>BKP 141—BAKING I</b>	<b>2-4-4</b>	<b>BUS 120—MATHEMATICS OF BUSINESS</b>	<b>3-0-3</b>
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 bake shop equipment, and storage and sanitation of baked products are studied. Uniforms and program tool kit are required.		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 052, 052A or satisfactory placement test score	
<b>BKP 142—BAKING II</b>	<b>1-4-3</b>	<b>BUS 140—INTRODUCTION TO BUSINESS</b>	<b>3-0-3</b>
A second-level course focusing on the study and preparation of advanced breads, pastries, cakes and desserts. Laboratory preparation is coordinated with related studies in the classroom. Uniforms and program tool kit are required. Prerequisite(s): BKP 141		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.	
<b>BKP 144—BAKING III</b>	<b>1-4-3</b>	<b>BUS 158—PRINCIPLES OF MANAGEMENT</b>	<b>3-0-3</b>
Provides the student with experience in the study and preparation of advanced pastries, cakes, pies and tortes. Students are also introduced to Artisan and decorative breads. Emphasis is placed on introducing the student to the most up-to-date products and technologies available. Uniforms and program tool kit are required. Prerequisite(s): BKP 142		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.	
<b>BKP 242—BAKERY/DELI MERCHANDISING TECHNIQUES</b>	<b>1-4-3</b>	<b>BUS 188—SOCIAL MEDIA IN BUSINESS</b>	<b>3-0-3</b>
Study of baking techniques involving merchandising, salesmanship, product presentation, maintenance of product, product evaluation, labeling requirements and product identification. Uniforms and program tool kit are required. Prerequisite(s): BKP 141		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 organization.	
<b>BKP 243—HEALTHY COOKING TRENDS</b>	<b>2-4-4</b>	<b>BUS 205—BUSINESS LAW</b>	<b>3-0-3</b>
Allows students to research current nutritional recommendations and produce recipes which reflect sodium reduction, sugar substitution, fat replacement and other nutritional concerns. Nutritional labeling requirements are also investigated. Uniforms and program tool kit are required. Prerequisite(s): FSM 105		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.	
<b>BKP 245—DECORATING TECHNIQUES</b>	<b>1-4-3</b>	<b>BUS 240—TECHNIQUES OF SELLING</b>	<b>3-0-3</b>
Emphasizes the application of design principles to the art of decorating cakes, petit fours, centerpieces, confectionery and specialty pastry items. Uniforms and program tool kit are required.		Retail, wholesale and specialty selling with emphasis on mastering and applying the fundamentals of selling. Sales presentations are required.	
<b>BKP 247—SPECIALTY/ARTISTIC TECHNIQUES</b>	<b>2-4-4</b>	<b>BUS 241—HUMAN RESOURCE MANAGEMENT</b>	<b>3-0-3</b>
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 142		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.	
		<b>BUS 244—BUSINESS STATISTICS</b>	<b>3-0-3</b>
		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 satisfactory Placement Test score	
		<b>BUS 245—PRINCIPLES OF MARKETING</b>	<b>3-0-3</b>
		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 the 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 258—SUPERVISORY MANAGEMENT****3-0-3**

Investigates techniques of leadership including the motivation and the creation of incentives for others to follow. The focus will be to improve decision making at work through increased knowledge pertaining to internal and external environmental forces. A new philosophy regarding the supervisor's role regarding work assignments and control of employees is developed in this course.

**BUS 260—SMALL BUSINESS MANAGEMENT****3-0-3**

Pertains to the organization and operation of small enterprises in all types of business: merchandising (both retailing and wholesaling), manufacturing and contract construction and the service trades. Topics include: organizational structure and staffing, equipment leasing, capital budgeting, financial leverage and taxation for the small business enterprise. Designed to aid individuals who are seriously considering going into their own business, as well as owners/managers who desire to increase their knowledge of modern small business operation.

**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 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): ACC 156 or ACC 165 and 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 Development and Placement 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 Development and Placement Center.

**CHM—CHEMISTRY****CHM 102—CAREERS IN LABORATORY TECHNOLOGY****1-0-1**

This is a survey course about the career and educational aspects of laboratory technology in the areas of biology, chemistry, forensics and medical applications. Topics included, but not limited to, are employment opportunities, job functions, and case studies of workplace activities. Course will include guest speakers from the various industries using laboratory technicians when available.

**CHM 107—INTRODUCTORY CONCEPTS IN CHEMISTRY I****3-2-4**

A study of the basic concepts in chemistry is presented without the emphasis on the mathematical models that are found in the general chemistry courses. Basic atomic and molecular structure are explored with stress on periodic properties and chemical reactions. Stoichiometry, states of matter and solution chemistry are presented while applications of chemistry are emphasized. Prerequisite(s): MTH 052, 052A or satisfactory placement test score

**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 155—GENERAL CHEMISTRY I 3-2-4**

CHM 155 is the first semester of a two-semester general chemistry 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 155 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 gases, the structure of solids and liquids and chemical periodicity are also studied. Prerequisite(s): High school chemistry or CHM 107, MTH 052 or 052A

**CHM 156—GENERAL CHEMISTRY II 3-2-4**

CHM 156 is the second semester of a two-semester general chemistry sequence following CHM 155. CHM 156 uses the same text as CHM 155 and continues to build upon that material. CHM 156 focuses on the following topics: bonding in molecules, ionic compounds, metals and semi-metals, chemical kinetics, equilibrium and thermodynamics. Acid/base equilibria, pH, titrations and electrochemistry are also explored along with an introduction band gap theory and real-world applications. A brief introduction to organic chemistry and appropriate applications are presented. Prerequisite(s): CHM 155

**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 250—ORGANIC CHEMISTRY I 3-4-4**

CHM 250 is the first semester of a two-semester Organic Chemistry course. CHM 250 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 156

**CHM 251—ORGANIC CHEMISTRY II 3-4-4**

CHM 251 is the second semester of the 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 250

**CHM 264—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, CHM 107 or CHM 155

**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—COMPUTER INFORMATION 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—LAN SECURITY 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.

**CIS 210—INTERNET SECURITY 3-0-3**

This course will focus on the theories, ethics, terminologies, and principles of information and protection within a wide area network environment. Specific topics will include shopping cart transactions, third-party transactions, Web-hosting security breaches and principles of data transfer. Students will gain an invaluable understanding of how data moves through the Internet and some measures to protect this data.

**CIS 212—COMPUTER FORENSICS 3-0-3**

This course will examine the technical aspects of digital computer evidence: collection, identification, authentication, classification and presentation. Specific methods for collecting computer related evidence will be covered. The dynamic process of conducting a successful forensics investigation using information as computer evidence is also addressed. Students will investigate software common to the forensics profession.

**CNC—COMPUTER NUMERICAL CONTROL****CNC 111—COMPUTER NUMERICAL CONTROL I 2-4-4**

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 108

**CNC 112—COMPUTER NUMERICAL CONTROL II 2-6-5**

This course will introduce students to software programming of CNC equipment. Students will use MasterCAM to develop part geometry, create tooling paths, verify machining operations and post-process machining G-code. Students will create parts using CNC mills and lathes. Prerequisite(s): CNC 111; Corequisite(s): MTH 109

**CNC 213—COMPUTER NUMERICAL CONTROL III 2-6-5**

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 2-8-6**

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 survey course provides students with an overview of computer technology topics—hardware, software, networking, Internet, data management, system design, ethical issues, mobile computing, programming and careers in computer technology. 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 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 162—VISUAL BASIC I 3-0-3**

Students will create Windows applications using Visual Basic. Topics include: good program design, event-based programming, control structures, subroutines and functions. Prerequisite(s): CPT 160

**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 180—C++ PROGRAMMING 3-0-3**

This course introduces the student to programming using the C and C++ languages. Basic programming techniques, data types, flow of execution, functions and data structures are topics that are covered. Adherence to the ANSI Standards of C and C++ are emphasized. 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 or CPT 150

**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, 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.

**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 DBMS terminology to the creation of database applications. Material covered will include: creating tables, forms, queries, reports, macros and modules to handle common business applications.

**CPT 198—FIBER-OPTIC TECHNOLOGIES 3-0-3**

This course is designed to provide the fundamentals of fiber optics and the light-generating process used to transport digital information as used in data communications and network environments. Topics covered will include single-mode fiber, multi-mode fiber, fiber-optic communications, fiber-optic terminations, polishing, testing, trouble-shooting and measuring signal quality.

**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 171 or CPT 183

**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 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, upgrading, configuration and troubleshooting of various commercial Linux distributions. Popular Linux utilities and applications will be used. 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 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 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 flow chart 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. Prerequisite(s): CRJ 155

**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 the 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 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 evaluating 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 261—CRIMINAL LAW II 3-0-3**  
 This course will introduce students to a case law approach to criminal justice. The topics to be discussed will include homicides, sexual assaults, property and personal crimes along with various violent and non violent offenses. Students will examine contemporary issues of relating to such topics as child predatory offenses, domestic violence and hate crimes. Students will analyze the American court system and the functionality of both state and federal levels. Prerequisite(s): CRJ 160
- 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. Prerequisite(s): CRJ 155
- 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. Prerequisite(s): CRJ 155

## **CUL—CULINARY ARTS**

### **CUL 121—APPRENTICESHIP I 2-40-2**

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 2-40-2**

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 2-40-2**

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 130—BASIC CULINARY SKILLS 1-4-3**

This course is designed to prepare the student for entry level cook positions. Equipment usage, care and safety will be demonstrated and practiced by the students. Basic preparation skills such as dicing, chopping, mincing, breading etc., will be demonstrated and practiced by the student. Uniforms and program tool kit required.

### **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. Prerequisite(s): FSM 105

### **CUL 135—SPEED SCRATCH COOKING 1-4-3**

The student will study and prepare convenience foods used in commercial operations. Emphasis is placed on researching and analyzing the most up-to-date convenience products available. Menus will be evaluated for food and labor costs and as to where convenience products can be introduced without changing quality of product. Uniforms and program tool kit required. Prerequisite(s): FSM 105

### **CUL 224—APPRENTICESHIP IV 2-40-2**

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): FSM 105

## **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. Prerequisite(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 264, 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 264, PSY 160, SOC 155; Corequisite(s): BIO 172, DAH 101, DAH 104

### **DAH 103—MEDICAL EMERGENCIES 1-0-1**

Prepares student 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 264, 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): DAE 104; Corequisite(s): DAE 103, DAE 111, DAE 112, DAE 113, DAE 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. Prerequisite(s): DAE 103, DAE 105, DAE 111, DAE 112, DAE 113, DAE 114; Corequisite(s): DAE 109, DAE 115, DAE 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): DAE 103, DAE 105, DAE 111, DAE 112, DAE 113, DAE 114; Corequisite(s): DAE 106, DAE 115, DAE 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. 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.
- 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** **1.5-3-3**  
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, DAH 109, DAH 114, DAH 115, DAH 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, DAS 105, 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 a 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** 1-1-2

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 AND 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 207—TOOL DESIGN** 2-4-4

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): DFT 106 (except in Journeyman Technology)

**DFT 208—PRODUCT DESIGN** 2-2-3

Introduces methods of designing a finished product or a simple machine. Student applies the basic design fundamentals and computations needed to produce a product. Prerequisite(s): EGR 105 or DFT 112, DFT 207

**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

**DMS—DIAGNOSTIC MEDICAL SONOGRAPHY****DMS 103—CROSS SECTIONAL ANATOMY FOR ULTRASOUND** 2-0-2

This course covers the human anatomy through the evaluation of transverse, sagittal, coronal and oblique planes. Organs and structures also in the head, neck, thorax, abdomen, pelvis and extremities are addressed. Student will be able to visualize any portion of the anatomy of the body as a three-dimensional whole and to ultrasound images. Prerequisite(s): ALH 122, BIO 171, BIO 172

Corequisite(s): DMS 105, DMS 204

**DMS 105—ABDOMINAL I** 3-3-4

This course presents normal anatomy and physiology and anatomical variations of the liver, gallbladder, pancreas, biliary system, spleen, urinary system, adrenal, peritoneal cavity, retroperitoneum and abdominal vasculature, uterus and ovaries. The laboratory component of this course presents abdominal Doppler principles and applications in the clinical setting. Prerequisite(s): ALH 122, BIO 171, BIO 172; Corequisite(s): DMS 103, DMS 204

**DMS 106—OBSTETRICS I** 3-0-3

This course presents the normal anatomy and physiology of the first, second and third trimesters of pregnancy. Also discussed are anatomical variation and baseliners. In addition normal fetal development and structure, placental development, amniotic fluid, fetal testing and other gestational issues are presented.

Prerequisite(s): DMS 103, DMS 105, DMS 204

Corequisite(s): DMS 201, DMS 205

<b>DMS 201—PATIENT CARE/LEGAL/ ETHICAL ISSUES</b>	<b>2-0-2</b>	<b>DMS 211—CLINICAL II</b>	<b>0-24-3</b>
This course is designed to offer the student with common patient care issues, legal and ethical issues, and professional issues that specifically relate to ultrasound imaging. Medical and legal issues will be presented along with ethical challenges that may take place in the clinical setting. Also included will be information related to certification and governing bodies related to practice. Prerequisite(s): DMS 103, DMS 105, DMS 204 Corequisite(s): DMS 106, DMS 205		This course serves as the second clinical component of the Diagnostic Medical Sonography program. The clinical will consist of three, eight-hour days per week at clinical site(s) approved by the WCCC Program Director. An interview process may be required by the clinical site as a part of the approval process. Prerequisite(s): DMS 207, DMS 210 Corequisite(s): DMS 206, DMS 208, DMS 213	
<b>DMS 204—GYNECOLOGY</b>	<b>3-0-3</b>	<b>DMS 212—CLINICAL III</b>	<b>0-24-3</b>
This course introduces the student to the anatomy and physiology of the pelvic organs which includes the cervix, vagina, uterus, ovaries, pelvic musculature and vasculature. The laboratory component of the course presents transabdominal and transvaginal techniques which correlate to classroom theory. Application to the clinical settings is discussed. Prerequisite(s): ALH 122, BIO 171, BIO 172 Corequisite(s): DMS 103, DMS 105		This course serves as the third clinical component of the Diagnostic Medical Sonography program. The clinical will consist of three, eight-hour days per week at clinical site(s) approved by the WCCC Program Director. An interview process may be required by the clinical site as a part of the approval process. Prerequisite(s): DMS 206, DMS 208, DMS 211, DMS 213 Corequisite(s): DMS 207, DMS 214	
<b>DMS 205—ABDOMINAL II</b>	<b>3-3-4</b>	<b>DMS 213—ACOUSTICAL PRINCIPLES &amp; INSTRUMENTATION</b>	<b>3-3-4</b>
This course introduces students to the abnormal or pathologic principles of the liver, gallbladder, pancreas, biliary system, spleen, urinary system, adrenal, peritoneal cavity, retroperitoneum and abdominal vasculature. There will be correlation between the Doppler findings and pathology. The laboratory component of this course presents abdominal Doppler principles and applications correlated with disease process. Pediatric abdominal pathology and Doppler use is included. Prerequisite(s): DMS 103, DMS 105, DMS 204 Corequisite(s): DMS 106, DMS 201		This course combines theory and practice in acoustical principles, instrumentation and quality control. Topics included, but are not limited to, the application and uses of the ultrasound unit, modes of operation, propagation of ultrasound, transducers, scan converter displays, pulse echo imaging and instrumentation, storage, display, Doppler, artifacts, film and methods of permanent image recording, equipment calibration, resolution, gray scale, film critique, bioeffects quality assurance and safety. Prerequisite(s): DMS 207, DMS 210, PHY 130 Corequisite(s): DMS 206, DMS 208, DMS 211	
<b>DMS 206—OBSTETRICS II</b>	<b>3-0-3</b>	<b>DMS 214—ACOUSTICAL PRINCIPLES/ INSTRUMENTATION</b>	<b>3-0-3</b>
This course presents the pathological and morphologic process of the second and third trimesters. This includes both maternal diseases and complications and fetal abnormalities. Prerequisite(s): DMS 106, DMS 201, DMS 205 Corequisite(s): DMS 208, DMS 211, DMS 213		This course is a continuation of DMS 213 and the inclusion of advanced topics significant to medical ultrasound imaging, instrumentation and quality control. Prerequisite(s): DMS 206, DMS 208, DMS 211, DMS 213 Corequisite(s): DMS 212	
<b>DMS 207—SMALL PARTS, BREAST &amp; NEURO</b>	<b>2-0-2</b>	<b>DTT—DIETETIC TECHNOLOGY</b>	
This course presents the student with the anatomy and physiology of breast, thyroid, prostate, scrotum, neuro implications, and superficial structures. The laboratory component will correlate the normal and abnormal appearance of organs as presented in the classroom segment of the course. Prerequisite(s): DMS 106, DMS 201, DMS 205 Corequisite(s): DMS 210		<b>DTT 111—INTRODUCTION TO DIETARY MANAGEMENT</b>	<b>3-0-3</b>
<b>DMS 208—INTRO TO VASCULAR</b>	<b>2-3-3</b>	Orientation to the field of dietetics, and dietary management, including related medical terminology. Explores the partnership between the dietetic professionals and other related professionals. Transportation to off-campus locations is the responsibility of the student. All new dietetic technology students are required to take this course in their first semester. Prerequisite(s) or corequisite(s): FSM 159	
This course introduces the student to the normal and abnormal anatomical and physiological structure and processes of the vascular system. The laboratory component of the course presents ultrasound imaging and Doppler techniques utilized in the normal and disease related vascular structures. Prerequisite(s): DMS 106, DMS 201, DMS 205 Corequisite(s): DMS 206, DMS 211, DMS 213		<b>DTT 114—MEDICAL NUTRITION THERAPY</b>	<b>3-0-3</b>
<b>DMS 210—CLINICAL I</b>	<b>0-24-3</b>	Modification of the diet to meet the physiological, psychological, social and economic needs of individuals. The changes in physiological processes will be discussed along with the need for altering nutrient intakes that affect this change. Current diet related concerns are discussed. Prerequisite(s): FSM 159	
This course serves as the first clinical component of the Diagnostic Medical Sonography program. The clinical will consist of three, eight-hour days per week at clinical site(s) approved by the WCCC Program Director. An interview process may be required by the clinical site as a part of the approval process. Prerequisite(s): DMS 106, DMS 201, DMS 205 Corequisite(s): DMS 207		<b>DTT 199—NUTRITIONAL SERVICES MANAGEMENT PRACTICUM</b>	<b>1-12-3</b>
		This is the capstone practicum required for completion of the nutritional services management option of the dietetic technology program. Under the supervision of a qualified nutritional services manager, students will gain the practical experience needed to fulfill the minimum requirements for entry level clinical and supervisory positions as a nutritional services manager or dietetic assistant. The importance of professional behavior and working with the health care team are emphasized. Prerequisite(s): DTT 114, FSM 112, ACC 165, FSM 235 (or concurrent), and permission of instructor	

## **ECE-EDUCATION/PRE-K-GRADE 4**

### **ECE 179—INFANT & TODDLER DEVELOPMENT 3-0-3**

This course provides a developmental perspective on the earliest period of human life. It serves as an introduction to the study of the prenatal, perinatal, neonatal, infancy and toddler development. In addition, the course deals with specific issues related to infancy, including infant programs and curriculum, working parents and public policy.

### **ECE 180—CHILD GROWTH AND DEVELOPMENT 3-0-3**

This course is designed to provide a comprehensive study of child developmental from ages three to eight. Theories of child development will be examined including: psychoanalytic, psychosocial, cognitive development, behavioral and social learning theory. The areas of development to be studied are: motor, cognitive, language literacy, social ecological, multiple intelligence, emotional, personality, and moral development. The child will be viewed within the context of her social world including family and school. This is a required course for all Early Childhood Education majors.

### **ECE 182—EARLY CHILDHOOD EDUCATION CURRICULUM 3-0-3**

This course is designed to provide a comprehensive study of how to plan developmentally appropriate activities for all children ages 3 to 8 years in the areas of science, social studies, math, antibias and multicultural curriculum. PA standards will be applied to lesson plans. Observations are a requirement of this class. This is a required course for all ECE majors.

### **ECE 183—CREATIVE EXPERIENCES 3-0-3**

This course focuses on the important role of creativity in Early Childhood Education. The content of the course addresses the importance and development of art, fine art, play, technology, music, creative dramatics, and early literacy curriculum in a developmentally appropriate 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 is a required class for all Early Childhood Education Majors.

### **ECE 185—INTRO TO EARLY CHILDHOOD EDUCATION 3-0-3**

This course examines the history and models of the field. The role of the professional early childhood practitioner is explored. Discussion of best practices in early childhood education is included. Observations in early childhood classrooms are required. This is a required class for all ECE students.

### **ECE 186—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, child care and school, and stress. This is a required class for all Early Childhood majors.

### **ECE 187—CHILD CARE MANAGEMENT 3-0-3**

This course provides an orientation in 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 188—INTRODUCTION TO EXCEPTIONAL DEVELOPMENT 3-0-3**

This course examines the growth and development of exceptional persons, concentrating on the years from birth to early adulthood. Exceptionalities studied are: 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 is a required course for all Early Childhood Education majors.

### **ECE 189—EARLY CHILDHOOD LANGUAGE AND LITERACY 3-0-3**

This course examines theories, research, and developmentally appropriate practices in language and literacy. Developing strategies to promote speaking, listening, reading, and writing is a major focus. Exploring materials to foster language and literacy development for children birth to age 8 is featured. This is a required course for all ECE majors.

### **ECE 190—CHILD HEALTH, SAFETY, AND NUTRITION 3-0-3**

Designed for early childhood educators and parents. Describes the components of child health, safety and nutrition. Identifies risks to health and safety. Health promotion, disease prevention, and basic care of the child at each developmental stage are examined.

### **ECE 191—ASSESSMENT AND OBSERVATION-YOUNG CHILDREN 3-0-3**

This course highlights principles and techniques of observing children ages 0 to 9 years to document their development and to link observation to program planning. Various assessment tools used by teachers will be explored. Observations of infants, toddlers, preschoolers, and school-age children will be required. This course is a prerequisite to ECE 284.

### **ECE 194—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. Attention is given to legal aspects and inclusion. Family-based practices and Division for Early Childhood recommended base practices for early intervention will be addressed. Prerequisite(s): ECE 188

### **ECE 284—EARLY CHILDHOOD EDUCATION PRACTICUM 2-10-4**

This course offers an in-depth examination of an early childhood classroom that builds upon ECE 191's basic principles and methods. Professional development is emphasized. Special attention is placed on authentic assessment, curriculum development and unit design. The course requires the completion of 150 hours of practicum experience. Prerequisite(s): GPA of 2.0 or above, successful completion of ECE 191 Assessment & Observation, Observation Verification Logs that document at least 40 hours of observation assignment from courses throughout the program. Students will meet with a faculty advisor in order to verify the prerequisites and 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 macroeconomy, 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 satisfactory placement test scores

## **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 satisfactory placement test scores

## **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 156—INTRODUCTION TO MIDDLE AND SECONDARY EDUCATION**

**3-0-3**

This is an overview course introducing many topics that will be examined in depth in the future, more specialized courses for middle and secondary education. Course objectives and performance assessments reflect the 10 standards for beginning teachers' licensing and development produced by the Interstate New Teacher Assessment and Support Consortium. Also, there will be a focus on the National Middle School Standards as well as the Pennsylvania Department of Education state standards for both the middle and secondary schools. Students will begin preparing for the praxis I exam and will also complete 40 hours of field experience/observations. Prerequisite(s): Current Act 34, Act 151 and Act 114 clearances

### **EDU 188—INTRO TO EXCEPTIONAL DEVELOPMENT**

**3-0-3**

This course examines the growth and development of exceptional persons, concentrating on the years from birth to early adulthood. Exceptionalities studied are: 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 is a required course for all Early Childhood Education majors.

### **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.

### **EDU 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.

## **EGR-ENGINEERING TECHNOLOGY**

### **EGR 104—ENGINEERING MATERIALS**

**3-0-3**

Surveys the metallic, polymeric and ceramic materials used in industry. The course will familiarize the student with the components of modern manufacturing materials from a standpoint of durability, serviceability and appearance. It focuses on material properties of alloys, iron and steel, nonferrous and ferrous alloys, nonmetallic materials, plastics, ceramics, glass, concrete and wood. Corequisite(s): MTH 108

### **EGR 105—MANUFACTURING PROCEDURES**

**3-0-3**

Surveys the methods used to convert engineering materials into useful items. Methods surveyed include casting, powder metallurgy, hot and cold working, machining and surface finishing. Measurement, quality control and corrosion protection are additional topics. Prerequisite(s): EGR 104 or DFT 112 or MET 105

### **EGR 110—DESCRIPTIVE GEOMETRY**

**2-2-3**

Basic introduction designed to illustrate the graphic solution of engineering problems that can be analyzed in the three-dimensional space relationships and delineated according to the principles of orthographic projection.

### **EGR 180—PRINCIPLES OF INDUSTRIAL HYDRAULICS**

**2-4-4**

Incorporates the theory and practical application of hydraulics in the nuclear, robotics and engineering fields. Includes the study of industrial/hydraulic principles; actuators, pumps, air compressors, hoists; servo control valves; timers; switches; relays; flow and pressure control valve; relief valves; spool valves and distribution systems. Troubleshooting, analysis and experiment exercises are conducted on a hydraulic trainer.

### **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 industrial quality control including necessary probability and statistics basics, control charts, process capability, sampling, reliability and product liability considerations. Prerequisite(s): MTH 108

### **EGR 220—INTRODUCTION TO STATICS AND STRENGTH OF MATERIALS**

**3-0-3**

Study of principles and analysis of stresses which occur in structural elements subjected to static loads. Methods of calculation of reactions, stresses, resultants, shear and moment diagrams and their application in various structural problems. Includes study of force systems. Stresses calculated for tension compression and shear in welded, bolted and riveted joints and safety requirements pertaining to type. Corequisite(s): PHY 107 or PHY 155

### **EGR 227—KINEMATICS**

**2-2-3**

Includes the study of the principles of the kinematics of machines, graphical analysis of motion in terms of position, displacement, velocity and acceleration of machine parts including the concepts of transferring or altering motion through proper design of cams and linkages. Corequisite(s): PHY 155

## **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 052 or 052A
- 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, MTH 108
- 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 or EMA 110
- 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 201—PROGRAMMABLE LOGIC CONTROL III** **2-2-3**  
Introduces students to automated-manufacturing system troubleshooting. This course is designed to give students practical experience in problem-solving and applications. Prerequisite(s): ELC 200
- 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, MTH 109 or MTH 158
- 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 208—INDUSTRIAL ROBOTICS** **3-2-4**  
Investigates the field of industrial robotics with particular attention given to the role of electronics. Includes instruction in the principles of which the industrial robot operates. Because of the widespread use of hydraulics and pneumatics as power sources for industrial robots, these subjects are introduced with particular attention to interfacing with electrical and electronics systems used for control. Electricity as a power source will be covered with emphasis on control devices, systems and circuitry. The electronics technician can be expected to maintain and repair the command and control function of industrial robots, so much of the course will be devoted to this subject. Some specific industrial applications are investigated and future trends are explored. 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 221—INDUSTRIAL MOTOR CONTROLS 3-2-4**

This course will review up-to-date information on basic relay control systems and solid state devices commonly found in an industrial setting. Essential information for controlling industrial motors, along with commonly used devices in contemporary industrial settings will be reviewed. Students will gain a fundamental understanding of the operation of non-reversing motor starters, reduced voltage starters, reversing motor starters, and other applications that employ electrical devices. The essential information for controlling industrial motors and other commonly used devices in contemporary industrial settings are covered. Students will learn the concepts and applications of motor and motor control design, application, installation and maintenance, protection and control logic. Motor maintenance practices and smart motor control centers will be discussed. Prerequisite(s): ELC 192

**ELC 222—ADVANCED INDUSTRIAL MOTOR CONTROLS 3-2-4**

Students will learn the proper application of maintenance practices to eliminate unplanned motor failure. AC and DC drives will be reviewed. PLCs will be discussed in detail. The trouble shooting techniques will be discussed as they relate to preventative maintenance and motor operations. The essential information for controlling industrial motors and other commonly used devices in contemporary industrial settings are covered. Students will learn the concepts and applications of motor and motor control design, application, installation and maintenance, protection and control logic. Motor maintenance practices and smart motor control centers will be discussed. A final lab project will be developed as a capstone experience. Prerequisite(s): ELC 221

**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

**EMA—ELECTRICAL MECHANICAL AUTOMATION****EMA 110—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.

**EMA 120—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.

**EMA 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. Corequisite(s)/Prerequisite(s): EMA 110 or EMA 120

**EMA 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 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): EMA 110

**EMA 210—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): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 220—INTEGRATED AUTOMATION WITH ROBOTICS 3-2-4**

This course is an introduction to Integrated Automaton. Topics covered will include industrial robotics and advanced programmable logic controller functions. System maintenance and troubleshooting are emphasized. Prerequisite(s): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 225 - INDUSTRIAL ELECTONICS IN ADVANCED MANUFACTURING 3-2-4**

Industrial Electronics in Advanced Manufacturing is concerned with devices, applications, instruments and control techniques use 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): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 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): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 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): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 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): EMA 110, EMA 120, EMA 130, EMA 140

**EMA 260—MANUFACTURING PROCESSES****3-2-4**

This course is a study of manufacturing improvement processes in a manufacturing system using the automation system for real world application. Topics covered will include basic statistics for improvement, manufacturing teams, process waste, OEE, process capability, continual improvement, fish bone diagrams, kaizen activities, TPM and basic time study methods. Emphasis is using a team project with final presentation to apply improvement methods in real world application. Prerequisite(s): EMA 110, EMA 120, EMA 130, EMA 140

**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 4-0-4**

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 095 is taken in conjunction with ENG 161.

**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 one's 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 satisfactory Placement Test score. Corequisite(s): ENG 095

**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 on 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 166—HUMAN SERVICES WRITING****3-0-3**

Course stresses skills necessary for human services writing. In addition to stressing writing skills, course provides direction and practice in the generation of specific documents student is likely to produce in his/her field. Special attention is given to writing characterized by accuracy, objectivity and clarity. Course includes training in job-related forms and human services reports such as social histories, case notes, court reports, summary reports, records, interviewing and observations, social histories, memos and letters. Students will learn elements of content and the structure of records used in the human services field. Special emphasis is placed on separating factual information and interpretive analysis.

**ENG 168—POLICE REPORT WRITING****3-0-3**

Course stresses skills necessary for criminal justice writing. In addition to stressing writing skills, 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 233—CHILDREN'S LITERATURE****3-0-3**

This course familiarizes students with a wide variety of literary genres ranging from traditional folk tales and nursery rhymes to modern fiction. Attention will be given to the history and the critical study of children's literature and practical application of methodology in the classroom.

**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 245—CREATIVE WRITING II****3-0-3**

This course is designed to give the student an additional opportunity to develop creative writing abilities. An array of exercises and examples from fiction and poetry will allow students to explore different options in creatively expressing themselves in writing and in presenting work publicly. Using techniques of poetry and fiction established in ENG 165, students will compose longer works: small collections of poetry, longer short stories, themed collections or chapters from a novel. Imagination, creativity and discipline in creating a writing life will be stressed. Prerequisite(s): ENG 165 (ENG 256 is also recommended)

**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—SURVEY OF WORLD LITERATURE****3-0-3**

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 264—INTRODUCTION TO JOURNALISM****3-0-3**

Introduces journalistic principles and practices with an emphasis on the tools and skills used by contemporary reporters in collecting information and writing news articles. The course also includes a study of the news media and their influence on society. Prerequisite(s): ENG 161

**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.

**ENG 290—SHAKESPEARE****3-0-3**

This course combines an in-depth study of Shakespeare's plays using traditional text, staging/directing techniques and the medium of film.

**EPS-EARTH AND PLANETARY SCIENCE****EPS 150 - ASTRONOMY****3-2-4**

This is 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. The goal of this course is to cover most of the areas of modern astronomy at a level which requires only basic algebra and mathematics. Prerequisite(s): Successful completion of MTH 052, 052A or satisfactory placement test scores

**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, land forms 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 rockbeds; 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. Pre-requisite: First language other than English



## **EUT-ELECTRIC UTILITY TECHNOLOGY**

### **EUT 101—OVERHEAD LINE TECHNOLOGY I 1-16-5**

This course provides the student with the basic essentials for powerline workers, including but not limited to personal safety and accident prevention; managing risk factors and hazards in the field; selecting the proper climbing apparatus; working with poles, towers and vaults; and working with conductors and cable, both overhead and underground. A review of electrical power systems, electrical units, alternating current, series and parallel circuits and three phase circuits will also be addressed.

### **EUT 102—OVERHEAD LINE TECHNOLOGY II 1-16-5**

This course emphasizes the skills required to perform work on secondary voltage circuits. Emphasis will be given to the installation of services, street lighting and secondary circuits, bucket truck familiarization and bucket rescue. Overview of distribution electrical systems and Occupational Safety and Health Administration (OSHA) rules are also included. Based on the Commercial Driver's License (CDL) training schedule in EUT-101, students may elect to complete training and obtain a Class "S" CDL as part of EUT-102. Safety topics also presented include: work zone traffic control; minimum approach distances; rubber protective equipment; and knowledge of UD excavation/trenching/shoring. Prerequisite(s): EUT 101

### **EUT 201—OVERHEAD LINE TECHNOLOGY III 1-16-5**

This course emphasizes the skills required to identify, install and maintain primary underground residential distribution (URD) equipment, including various methods of troubleshooting URD primary and secondary circuits. Grounding distribution circuits will also be presented in detail. Students will develop the knowledge and skill to safely perform rubber gloving assignments utilizing the "insulate and isolate" techniques, and will perform various task while working on an energized three-phase circuit under controlled conditions. Safety topics include: fire extinguisher safety, temporary protective grounds, stored energy devices and utilities protective services. Prerequisite(s): EUT 102

### **EUT 202—OVERHEAD LINE TECHNOLOGY IV 1-16-5**

Supervised practical applications of electrical overhead line worker job duties in a setting under direct supervision of FirstEnergy personnel. Emphasis on line equipment, hot line tools, power industrial trucks and transmission (including wood pole, steel pole, ladder and tower climbing). Bucket, pole top and self rescue will also be reviewed. Safety topics include: spill response, live line tools, hazardous communications and accident prevention handbook review. Prerequisite(s): EUT 201

## **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 246—PRINCIPLES OF INSURANCE 3-0-3**

Portrays an overview of the field of insurance as an institution applying to business, society and government. Presents fundamentals of insurance contracts, such as property and casualty, life and health, and government.

### **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 dividend policy. Prerequisite(s): FIN 220

## **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 the 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. Student 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 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.

- FSM 112—QUANTITY FOODS** **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. Student assumes various positions such as manager, cook, baker, etc. in lab periods and operating student-run cafe. Uniforms and program tool kit required. Prerequisite(s): FSM 105
- 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 waitstaff 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 waitstaff 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 75% 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 157—CATERING** **1-4-3**  
Introduces the principles, operations and different organizational structures of service catering. Emphasis will be on menu planning, costing, business records, insurance, government regulatory information, garnishing for merchandising, equipment and personnel training for this type of operation. Lab experience will involve recipe testing and production for a selected number of class catering experiences. Transportation to off-campus locations is the responsibility of the student. Uniforms and program tool kit required. Prerequisite(s): FSM 105 or permission of instructor
- 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—DEFINING CUISINE THROUGH RELIGION AND CULTURE** **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): FSM 105 and FSM 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 218—HOSPITALITY MARKETING** **3-0-3**  
The Hospitality Marketing course introduces students to marketing techniques associated with hotel, restaurant and travel fields with an emphasis on identifying and satisfying needs of customers. Topics include target marketing, and marketing segmentation, marketing research, marketing strategies, marketing plans, promotion, public relations, advertising and menu planning.
- FSM 219—HOSPITALITY INTERNSHIP** **1-20-3**  
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 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 226—HOSPITALITY STUDY TOUR II** **3-0-3**  
Provides students with a second experience of 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 and FSM 225
- 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.
- FST—FIRE SCIENCE**
- FST 101—INTRODUCTION TO FIRE SCIENCE** **3-0-3**  
A survey of various fields of study in the fire science curriculum, exploring the two major components: suppression and prevention. Topics include: the fire problem and fire protection organizations; codes and fire-safe building design; fire behavior and hazards of materials; extinguishing agents and systems; fire detection devices and municipal fire department organization and administration.

<b>FST 103—FIRE SERVICE ADMINISTRATION</b>	<b>3-0-3</b>	<b>FST 201—HAZARDOUS MATERIALS</b>	<b>3-0-3</b>
Trains the prospective officer in proper management techniques and methods by reviewing classical management theories, records, reports, and evaluations; personnel management; leadership and control; fireground management and the management cycle.		Teaches principles for the control of hazardous material incidents in the manufacturing, shipping, storage, use and disposal cycle are taught. Topics include: the hazardous material incident; basic chemistry and health hazards; explosives, oxidizers and radioactive materials, cryogenics, compressed gases and flammables; the identification planning, command and decision-making processes and the various transportation modes and hazards.	
<b>FST 104—FIRE SERVICE HYDRAULICS</b>	<b>3-0-3</b>	<b>FST 209—BUILDING CONSTRUCTION FOR THE FIRE SERVICE</b>	<b>3-0-3</b>
Prepares the firefighter to effectively move and apply water in various fireground situations. The principles and rules of hydrostatics and hydrokinetics are taught by instruction in: flow-through orifices, water systems and testing; pump theory and operation; fire streams and delivery equipment; fireground hydraulics and calculations; and firefighting foams and equipment		Acquaints the fire science student with the various types of existing building construction and fire's effect upon each type of material used. This includes wooden construction, ordinary construction, mill construction, 19th century "fireproof" buildings, and steel and concrete construction.	
<b>FST 105—PUBLIC FIRE EDUCATION</b>	<b>3-0-3</b>	<b>FST 211—SURVEY OF FIRE INSURANCE RATING AND LOSS CONTROL</b>	<b>3-0-3</b>
Introduces the concepts of fire prevention, with emphasis on public fire education. Inspections, code violations, and record keeping are reviewed as part of the six functions of fire prevention.		An overview is given of the insurance industry as it relates to fire insurance rating and loss control. Topics include: the insurance industry and how rates are developed; insurance company divisions; the insurance service office and municipal grading; public water supplies and suppression systems; the public fire department and loss control surveys.	
<b>FST 107—FIRE PROTECTION SUPPRESSION SYSTEMS AND ALARMS</b>	<b>3-0-3</b>	<b>FST 215—FIRE TRAINING OFFICER DEVELOPMENT</b>	<b>3-0-3</b>
Prepares the fire science student in the use, application and testing of suppression and detection systems. Water sprinkler systems; CO <sub>2</sub> , dry chemical, Halon, foam and explosion suppression systems and flame, heat and smoke detection devices are reviewed.		Instructs fire training officers in the standards and procedures for the training of firefighters and recognized by national standards and agencies with instruction in: the communications process and learning principles; instructional methods; training aids and recordkeeping. Prerequisite(s): FST 103	
<b>FST 109—BUILDING CODES AND STANDARDS</b>	<b>3-0-3</b>	<b>FST 216—INDUSTRIAL FIRE BRIGADES</b>	<b>3-0-3</b>
Emphasizes the usage of the BOCA Basic Building Code to attain firesafe building designs through the use of nationally recognized standards and regulations. Surveys code enforcement and administration responsibilities, use-group classifications and construction types, building limitations and special usages, egress design and materials and testing, structural loads and fire protection systems, construction terminology and architectural functions and plans. Prerequisite(s): FST 101		A course designed to assist local industrial firms in initiating, developing and implementing the brigades which will be involved with the extinguishment or control of fires until the fire department arrives at the scene. Requirements of the OSHA regulations are reviewed as are recordkeeping, suppression systems and fire prevention activities.	
<b>FST 110—FIRE APPARATUS AND EQUIPMENT</b>	<b>3-0-3</b>	<b>FST 220—FIREFIGHTING TACTICS AND COMMAND</b>	<b>3-0-3</b>
Acquaints fire service personnel with basic apparatus requirements, design, procurement and testing. Code requirements for portable equipment and apparatus are also discussed. Pump theory chassis design and large-diameter hose are reviewed.		Trains command personnel in the priority of operations, fire spread and behavior and decision making during emergency operations. Topics discussed include the size-up process, rescue and protection of exposures; confining and extinguishing the fire, overhauling the fire, and the procedures of salvage and ventilation. Prerequisite(s): FST 104	
<b>FST 112—ARSON INVESTIGATION</b>	<b>3-0-3</b>	<b>FST 221—FIREFIGHTING TACTICS AND COMMAND II</b>	<b>3-0-3</b>
Instructs fire, police, insurance and private sector personnel about the mushrooming arson and related problems confronting and impacting the entire nation today. Provides instruction in arson awareness and recognition to accomplish early detection of possible crimes and appropriate follow-up investigations. Prerequisite(s) FST 101, FST 222		Continuation of fire ground tactics and command with emphasis on large area structures, flammable liquid storage in bulk plants, high rise structures, windowless buildings and buildings under construction. Sectoring, resource management and command at large incidents are covered. Prerequisite(s): FST 220	
<b>FST 114—LIFE SAFETY AND REGULATORY REQUIREMENTS FOR SPECIAL OCCUPANCIES</b>	<b>3-0-3</b>	<b>FST 222—LEGAL ASPECTS OF THE PENNSYLVANIA FIRE SERVICE</b>	<b>3-0-3</b>
Study of the current National Fire Protection Association Life Safety Code 101 and fire protection requirements in special occupancies such as health care, detention and corrections, educational, dormitories, hotels, apartments, board and care homes, mercantile, business, industrial and storage occupancies. The student learns specific requirements for fire alarms, sprinkler systems, fire drills, test and maintenance of equipment and emergency lighting for these occupancy types. A study of the fire protection regulatory requirements of the various Pennsylvania departments and bureaus are also covered.		Acquaints advanced fire science technology students with legal problems and situations encountered with the Pennsylvania fire service. Case studies on breaking and entering, criminal trespass, assault, negligence, contracts and product liability are covered.	
<b>FST 115—FIRE SERVICE OCCUPATIONAL SAFETY</b>	<b>3-0-3</b>	<b>FST 224—PLANS REVIEW FOR FIREFIGHTERS</b>	<b>3-0-3</b>
Presents the requirements and procedures to effectively develop a fire department safety program. Qualifications, responsibilities, and roles of the department and incident safety officer will be reviewed. Physical fitness, training, apparatus, equipment, personal protective equipment, operations and special hazards are covered. Techniques for risk management and program auditing are presented.		Study of engineering drawing principles using blueprint symbols, projections, cross-section and assembly drawings, scaling and dimensioning and use of the BOCA plan review form. Prerequisite(s): FST 109	



## **GCT—COMMUNICATION DESIGN**

### **GCT 100—DESIGN TECHNOLOGY 1-0-1**

This fundamental course explores the essential concepts of the iOS mobile platform, creating, editing, presenting layouts, and vector and pixel-based graphics, while managing content across devices, the desktop and the web. Students explore communicating and sharing resources with peers/team members and printing directly from devices.

### **GCT 115—DESIGN & LAYOUT I 3-0-3**

This fundamental course in two-dimensional communication design exposes students to Adobe design software and scanning techniques, explores layout and design principles, color decisions, typography choices and working with vector and pixel-based imagery. Students explore the influence of modern/contemporary and postmodern movements and associated cultural tendencies.

### **GCT 125—EMERGING TECHNOLOGY I 3-0-3**

An introductory course exploring Adobe's cutting-edge applications for creating expressive animation and interactive content based on WEB standards like HTML5, CSS and JavaScript. That enables exploring/publishing multiple resolutions to multiple platforms: HTML5 Canvas, WebGL, Flash (SWF), Apple iOS, Google Android, Windows, OAM packaging and 4K video to reach viewers on virtually any desktop or mobile device. Basic experience with Adobe Illustrator is recommended.

### **GCT 131—TYPE & PUBLISHING I 3-0-3**

Introduction to typography, core features and tools of page layout design using Adobe InDesign, master pages, fundamental typographic theories, process and spot color, integrating vector graphics and raster imagery into a series of compositions, and how to package, print and export your finished project.

### **GCT 151—ART & ILLUSTRATION I 3-0-3**

An introductory course exploring Adobe Illustrator's art and illustration environment for creating and delivering visually compelling, scalable vector artwork for use in projects for both print and the web. Students will apply their art and design skills to create attention-getting images for creative entertainment, advertising and branding, and design elements for web and mobile content.

### **GCT 155—GRAPHICS & LETTERING I 3-0-3**

Continued study of Adobe Illustrator, layout and design, spot color and environmental typography as the primary design form for producing basic custom apparel imagery, auto restyling artwork, indoor/outdoor graphics, and label and signage solutions incorporating commercial art techniques and vinyl print/cut technologies. Corequisite(s): GCT 151

### **GCT 161—DIGITAL IMAGING & EDITING I 3-0-3**

An introductory course exploring how to use Adobe Photoshop efficiently and effectively. The course covers nondestructive editing techniques using layers, masking, adjustment layers, blend modes and Smart Objects, as well as how to achieve creative effects with filters, layer effects and illustrative type for creating panoramas and composites.

### **GCT 163—EMERGING TECHNOLOGY II 3-0-3**

An introductory course exploring the constantly changing web design landscape of design and typography; planning and usability; and the business aspects of web design. Students create UI elements, web graphics, wire frames and a functional mockup including responsive templates, color and font theme, and a UI kit of elements using Adobe Photoshop, Illustrator and Fireworks. The course web design workflow also includes optimizing web graphics and creating image sprites and integration with other web apps. Prerequisite(s): Basic experience with Adobe Photoshop is recommended.

### **GCT 185—PRINT & PREPRESS I 3-0-3**

This print production essentials course introduces the printing process, from choosing the correct paper, inks, colors and fonts and correctly laying out the project in Illustrator and InDesign, adding spot colors and varnishes, to getting the final professionally finished print job from the printing press floor. Corequisite(s): GCT 151, GCT 161

### **GCT 215—DESIGN & LAYOUT II 3-0-3**

Continued study in two-dimensional communication design and the influence of modern and contemporary/postmodern art. Students explore the iconic logo design process and the visual approaches and various creative techniques employed to develop a well-crafted visual identity utilizing scanning techniques and Adobe design software. Prerequisite(s): GCT 115, GCT 151

### **GCT 231—TYPE & PUBLISHING II 3-0-3**

Continued study of typography, page layout and design for preparing files for print and commercial printing press checks, exploring basic package design and converting InDesign files into EPUBs for reading on multiple devices. Prerequisite(s): GCT 131

### **GCT 251—ART & ILLUSTRATION II 3-0-3**

Advanced study of Adobe Illustrator and exploration of information graphics: charts, graphs and diagrams; surface design: patterns for products, interiors and architecture; and user experience (UX): wireframes, mock-ups and user interface. Prerequisite(s): GCT 151

### **GCT 255—GRAPHICS & LETTERING II 3-0-3**

Intermediate study of Adobe Illustrator, layout and design, environmental typography, spot and process color, as well as vector graphics and pixel-based images for designing and producing effective signage, identity graphics, and a basic wayfinding/environmental graphics system incorporating graphic arts techniques and vinyl print/cut technologies. Prerequisite(s): GCT 155

### **GCT 261—DIGITAL IMAGING & EDITING II 3-0-3**

Advanced study of Adobe Photoshop, alpha channels and refine mask, painting tools and techniques, color adjustment and correction, and creating 3D type and graphics for entertainment, advertising and marketing design usage. This is a capstone course, satisfactory demonstration of outcomes for competency profile of the Graphic Design AFA degree is required, as well as, a showcase portfolio of student's best, most recent work for professional gallery exhibition. Prerequisite(s): GCT 161

### **GCT 285—PRINT & PREPRESS II 3-0-3**

Advanced study of print production essentials that introduces color adjustment and correction, embossing, foil stamping and die cutting that add visual impact. Students also explore the basics of practical, visually appealing package design utilizing Adobe Illustrator, InDesign and Photoshop. Prerequisite(s): GCT 185

### **GCT 287—EMERGING TECHNOLOGY III 3-0-3**

An intermediate study of page design and layout for planning and creating standards-based responsive HTML5 websites without writing code. Students use familiar Adobe InDesign features and shortcuts in Adobe Muse to incorporate web fonts, vector graphics (Illustrator) and photographic images (Photoshop) into free-form websites that work across platforms on an variety of browsers and devices. Prerequisite(s): GCT 131

### **GCT 290—SEMINAR IN GRAPHICS 3-0-3**

Under faculty supervision, students prepare materials such as cover letters, leave-behinds, resumes, applications for employment and prepare a showcase portfolio with emphasis on organization and presentation utilizing Adobe design software. Under an Occupational Advisory Committee member's supervision, students are involved in on-campus internship-experience to develop appropriate attitudes, soft skills, and work habits in preparation for interviewing for an off-campus internship in graphic communications.

Prerequisite(s): Completion of 24 credits within GCT program

**GCT 299—GRAPHICS INTERNSHIP****0-12-3**

Students gain experience involving production art techniques, technical support, customer service or sales responsibilities that broaden their understanding of the graphic communications profession through supervised and evaluated on-the-job experience in design studios, marketing and advertising agencies, and print 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 land forms. 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.

**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. The student will read residential and commercial prints used in the industry. 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****2-2-4**

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.

**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 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 multi-media training software, lecture and lab experiences to accompany geothermal trainers and geothermal heat pumps.

**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 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-MEDICAL/HEALTHCARE MANAGEMENT**

### **HCM 130—A&P FOR MEDICAL OFFICE 3-0-3**

Designed for students enrolled in medical administration, 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 the most often occur within the body system (pathophysiology). Prerequisite(s): BIO 107

### **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 using up-to-date medical coding.

### **HCM 150—MEDICAL BILLING MANAGEMENT 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—INTRODUCTON 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 health care 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 health care 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

### **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

### **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 exercise 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 office technology courses

## **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 U.S. 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 U.S. 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.

## **HMS—HUMAN SERVICES/SOCIAL WORK**

### **HMS 155—INTRODUCTION TO HUMAN SERVICES AND 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.

### **HMS 157—INTERVIEWING AND RECORDKEEPING SKILLS 3-0-3**

As the follow-up course to HMS 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): HMS 155

### **HMS 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): HMS 155, HMS 157

### **HMS 162—PROBLEM SOLVING AND COUNSELING SKILLS 3-0-3**

This course is a follow-up to Interviewing and Recordkeeping Skills course. Its purpose is for the student to learn basic counseling skills that help clients discover and use their strengths and past experiences to help them identify solutions to their problems. Prerequisite(s): HMS 155, HMS 157

### **HMS 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.

### **HMS 170—RACE & DIVERSITY IN THE U.S. 3-0-3**

This is an introductory course for the study 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.

### **HMS 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.

### **HMS 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.

### **HMS 258—HUMAN SERVICES 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): HMS 155, HMS 157 and permission of instructor

### **HMS 259—HUMAN SERVICES PRACTICUM II 2-8-4**

Building on the experience acquired in HMS 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): HMS 258 with a grade of C or better, 2.0 QPA, permission of instructor.

## **HMT—HOTEL/MOTEL MANAGEMENT**

### **HMT 160—EXECUTIVE HOUSEKEEPING AND FRONT OFFICE PROCEDURES 3-0-3**

Covers interoperations of the front office desk and the executive housekeeping departments. Duties and responsibilities of each department and the correlation of these areas to assure management control are presented. Additional topics include such areas as booking reservations, room maintenance and costs, and training of personnel for these areas.

### **HMT 161—RECREATIONAL FACILITIES MANAGEMENT 3-0-3**

Designed to serve as a study of the needs and management of recreational and entertainment facilities common to lodging operations. Maintenance, staffing, marketing and principles of cost controls as they apply to recreation will receive emphasis. Transportation to off-campus locations is the responsibility of the student.

### **HMT 170—CASINO/GAMING OPERATIONS 3-0-3**

Identifies the current and future trends affecting the industry. This course also investigates regulations, social and economic impact, and actual operations of casino/gaming facilities. Transportation to off-campus locations is the responsibility of the student.

### **HMT 172—CASINO MARKETING 2-0-2**

This course offers an introduction to the marketing practices utilized in casino/gaming operations. The student will review the basic principles of marketing and specific marketing strategies and programs aimed at attracting and retaining customers within the industry.

### **HMT 174—INTRODUCTION TO CASINO SURVEILLANCE AND SECURITY 1-0-1**

This course is designed to introduce students to security and surveillance procedures necessary to operate a safe, crime-free casino environment. Emphasis will be given to laws and regulations specific to these areas.

### **HMT 176—INTRODUCTION TO CASINO FINANCIAL CONTROLS 2-0-2**

This course covers how funds are distributed and tracked throughout the casino/gaming facility. Regulatory requirements are also reviewed. Computer applications, forms and documents which may be used in this setting will be reviewed.

### **HMT 262—LODGING AND PROPERTY MANAGEMENT 3-0-3**

Presents management of hospitality property in the physical aspect, its incumbent problems and utilization of staff and methodology to maintain facilities operation at peak efficiency. Physical maintenance, staffing patterns, training, capital investments, cost analysis, building and equipment renovation and replacement, and job/task analysis are additional areas of concern. Transportation to off-campus locations is the responsibility of the student.



**HMT 264—CONVENTION AND MEETING MANAGEMENT** 3-0-3

Designed to provide the students with the information essential for planning meetings, conventions and other such functions in today's hospitality industry. Discussions include meeting rationale, planning, directing, controlling and evaluating. Students are acquainted with major convention bureaus, cities, hotels and resorts.

**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. Honor's Seminar enriches not only the student's academic experience, but their personal sense of accomplishment and autonomy as well.

**HOR-HORTICULTURE**

**HOR 105—INTRODUCTION TO HORTICULTURE** 3-0-3

Surveys the broad area of horticulture and gives general treatment to vegetable and fruit production while treating ornamental horticulture and plant growth and development in more depth.

**HOR 107—LANDSCAPE DRAWING** 2-2-3

Introduces the proper use of drafting equipment, printing techniques, and scale drawing. This course prepares students for designing landscapes and landscape structures.

**HOR 110—INTRODUCTION TO TURFGRASS MANAGEMENT** 2-2-3

This course is an introduction to basic turfgrass principles. It covers the basic theory of plant growth and development. It also covers the major factor in turfgrass needed to produce quality grass.

**HOR 120—TURFGRASS EQUIPMENT MECHANICS** 3-2-4

This courses deals with the mechanics, operation, maintenance, trouble shooting and repairing of turf care equipment including rotary mowers, reel mowers, spray equipment, aerifiers, spreaders, etc.

**HOR 125—ORNAMENTAL SHRUBS** 2-2-3

Covers the characteristics, identification, utilization and care of commonly used ornamental shrubs.

**HOR 126—ORNAMENTAL TREES** 2-2-3

Covers the characteristics, identification, utilization and care of commonly used ornamental trees.

**HOR 150—SPECIALIZED TURFGRASS MANAGEMENT** 2-2-3

This course is designed to build on the basic principles of turfgrass science and apply those principles to golf course turfgrass management principles. This course also covers the proper management techniques used in turf areas on recreational and athletic fields. Prerequisite(s): HOR 110

**HOR 155—SOILS AND SOIL FERTILITY** 3-2-4

Stresses soil improvement and maintenance. Consideration is given to soil modification, improving and maintaining fertility, fertilizers and amendments.

**HOR 157—INSECTS AND DISEASES OF PLANTS** 3-2-4

Covers the identification, prevention, and control of significant diseases, insects, and other pests of landscape and turfgrass plants. Consideration is given to pest control through variety and type selection and their environmental adaptation.

**HOR 170—FLORAL DESIGN AND ARRANGING** 1-4-3

Students learn theories about flower arranging and practical skills for designing and making different types of flower arrangements including wedding bouquets, funeral flower baskets, etc.

**HOR 198—FLORICULTURE INTERNSHIP** 1-12-3

A supervised work experience in a horticulture enterprise where students apply their landscaping skills. Prerequisite(s): Permission of instructor

**HOR 199—HORTICULTURE INTERNSHIP** 1-12-3

A supervised work experience in a horticulture enterprise where students apply their landscaping skills. Prerequisite(s): Permission of instructor

**HOR 205—RESIDENTIAL LANDSCAPING** 2-2-3

Designed to allow students to combine their landscape drawing and plant materials knowledge in developing small properties and residential plans. Prerequisite(s): HOR 107

**HOR 207—ADVANCED LANDSCAPING** 2-2-3

A continuation of HOR 205. Requires students to extend their skills in designing larger properties such as malls, parks, institutional grounds and courtyards. Corequisite(s): HOR 205

**HOR 210—PLANT PROPAGATION** 2-2-3

Discusses various plant propagation methods including seed propagation, grafting, budding, layering, cutting, division, topping, and tissue culture, etc. Class will focus on the propagation of plants widely used in landscaping.

**HOR 212—PRUNING** 2-2-3

Deals with the functions, principles and techniques of pruning. Emphasis will be given to pruning ornamental trees and shrubs as well as fruit trees and vines.

**HOR 215—ANNUALS AND HERBACEOUS PERENNIALS** 2-2-3

Introduces students to selection, identification, utilization, and care of significant annuals and herbaceous perennials used in the landscape.

**HOR 235—VEGETABLE GARDENING** 2-2-3

Includes coverage of popular vegetables grown in the home garden as well as garden site preparation and location in the landscape.

**HOR 241—GREENHOUSE OPERATIONS AND MANAGEMENT** 2-2-3

Designed for students to learn about the different types of greenhouses, heating, cooling, environmental control, energy conservation and the use of plant growth regulators in green-house production.

**HOR 250—INTERIOR PLANTS AND PLANTSCAPING** 3-2-4

This course deals with the plants that are commonly used in interior plantscaping and the principles for interior plantscaping. Also covered in the class are cost estimating and maintenance procedures for interior plantscaping. Over 80 plants will be discussed in detail about their identification characteristic, cultural requirements and maintenance requirements.

**HOR 270—GREENHOUSE PRODUCTION** 2-2-3

This course deals with the production of the most important greenhouse crops. Emphasis will be given to the productions of chrysanthemums, Easter lilies, poinsettias and bedding plants although many other plants will also be discussed. This course introduces students to the concept of interior plantscaping. The principles of design, installation and maintenance in interior plantscaping will be discussed. Prerequisite(s): HOR 105

**HOR 275—LANDSCAPE EQUIPMENT, INSTALLATION AND MAINTENANCE** **3-2-4**

This course covers some common equipment used in landscaping, building of common landscape structures, process of installing a landscape based on a design and practices that are important in landscape maintenance. Students learn through hands-on operation of equipment, installation and maintenance.

**HOR 289—TURFGRASS MANAGEMENT INTERNSHIP I** **1-12-3**

This course gives students an opportunity to use the knowledge and skills learned in other classes in a career setting. Students gain real-life work experiences and practical knowledge through working as an employee of a turf-related business such as a golf course, a lawn care company or a sports facility. Prerequisite(s): Permission of instructor

**HOR 299—TURFGRASS INTERNSHIP II** **1-12-3**

This course gives a student the ability to apply advanced knowledge in a real-world working environment. Students will gain valuable knowledge working under the direction of turfgrass specialists. Prerequisite(s): HOR 199

**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.

**HPE 176—AEROBICS/WEIGHT TRAINING** **0-2-1**

Teaches the correct approach to physiological conditioning of the cardiovascular and muscular systems. Examines proper frequency, intensity and duration of these activities. Nutritional concepts are discussed while students improve cardiovascular, strength and flexibility fitness levels. Percentage of body fat should also respond to the course.

**HSM—HOMELAND SECURITY**

**HSM 101—ORIENTATION TO HSM/EMERGENCY PREPAREDNESS, PLANNING AND RESPONSE** **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 student 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.

**HSM 102—PRINCIPALS OF EMERGENCY SERVICES** **3-0-3**

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protections; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; and life safety initiatives.

**HSM 103—VULNERABILITY ASSESSMENTS AND PHYSICAL SECURITY** **3-0-3**

This course will concentrate primarily on the development and implementation of a Vulnerability Assessment program. Students will look at the Vulnerability Assessment (VA) role in the Risk Assessment process, and learn how it supports the development of the Hazard Mitigation Plan and the Site Physical Security Program. Students will also learn the CARVER System, a step-by-step approach VA and identify the application of the program. In addition the student will learn to apply a research methodology for gathering information, conducting investigations, conducting interviews and briefings with the clients. The course explores the various idiosyncrasies that occur with the different types of facilities. Sessions take a critical look at the various aspects of physical and cyber security to be considered and learn how to apply credibility and nuisance tests. Personnel access, traffic control and other mitigation measures will be covered.

**HSM 105—INTRO TO HOMELAND SECURITY GRANT WRITING AND GRANTS MANAGEMENT** **3-0-3**

This course will concentrate primarily on the development and implementation of a Homeland Security Grants Program. Students will learn of the wide array of funding sources, filing deadlines and of the wide variety of formats that may be required when seeking health and safety, critical infrastructure protection and public safety grants. Specific PEMA, FEMA and DHS homeland security-related guidelines will be reviewed and studied. Website links will be explored and information will be provided to identify grant sources appropriate for the agency needs. Tips on writing successful grants will be provided and actual successful grant proposals will be reviewed. The student will draft at least one grant proposal for evaluation. The need for careful management, accountability and quality control of grants received will be reinforced and a review of audit and best practice methodology will be reviewed.

**HSM 107—CONTINUITY OF OPERATION PLANNING WITH COOP EXERCISE** **3-0-3**

This course is designed for a broad audience - from senior managers to those directly involved in the continuity of operations (COOP) planning effort. The class incorporates the FEMA Online Class - IS 547 Introduction to Continuity of Operations - and provides a working knowledge of the COOP. Topics include an overview of the following areas: essential functions, delegation of authority, succession planning, alternate facilities, interoperable communications, vital records, tools, directives and databases, and human capital. Students will also receive training in existing templates and models that may be used in developing and maintaining a COOP. Students will prepare a COOP for a local business or government entity, certification exam required through FEMA website.

**HSM 109—EMERGENCY MEDICAL SERVICES AND HEALTH SERVICES ORIENTATION** **3-0-3**

EMS and HSO is designed to give a student interested in a certificate or degree in Homeland Security a comprehensive knowledge of Emergency Medical Services systems, hospital disaster response and supplemental resources including the National Disaster Medical System (NDMS) and Disaster Medical Assistance Teams (DMAT). This program includes EMS development, training and educational requirements, medical care advances, WMD medical response priorities and an introduction to disaster medical operations.

## **HSM 201—EMERGENCY MANAGEMENT AND PLANNING** **3-0-3**

This in-depth course is to provide the student with a management perspective and understanding of organizations, mitigation, prevention, planning, preparedness, readiness, response and recovery relating to homeland security events. An act of terrorism can occur anywhere, at any minute, and when you would least expect it. No jurisdiction, urban, suburban, or rural is totally immune. Despite our security consciousness, if terrorists intend to wreak havoc it will be difficult to stop them. The focus is on U.S. policies and programs to address the hazard posed by international and domestic terrorism, particularly the risks posed by "weapons of mass destruction," since the attacks on the World Trade Center and the Pentagon on September 11, 2001.

## **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.

## **ITA—ITALIAN**

### **ITA 155—BEGINNING ITALIAN I** **4-0-4**

Beginning Italian I introduces the Italian language with an emphasis on basic grammar and communication. Students will build vocabulary through practical exercises that stress problem-solving for travel and/or living in Italy. They will also spend a minimum of two hours a week involved in an interactive language lab that provides written, oral, and visual exercises. Students will also be exposed to the Italian culture in areas such as art, literature and social customs. Supplemental materials will be used to deepen the students' understanding of the Italian language and Italian life.

### **ITA 156—BEGINNING ITALIAN II** **4-0-4**

The second semester of Beginning Italian will continue exploring the Italian language with an emphasis on speaking, comprehending and writing the Italian language. Students will further build vocabulary through practical exercises that stress problem-solving for travel and/or living in Italy. They will also spend a minimum of two hours a week involved in an interactive language lab that provides written, oral and visual exercises. Students will also be exposed to the Italian culture in area such as art, literature and social customs. Supplemental materials will be used to deepen the students' understanding of the Italian language and life.

## **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 inestate 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 200—CONSTITUTIONAL POWERS AND CIVIL LIBERTIES** **3-0-3**

A study of the development of our 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.

### **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

**MED—MULTIMEDIA & PHOTOGRAPHY****MED 103—PODCASTING & SOCIAL MEDIA****1-0-1**

This introductory course covers the basics of Internet podcasting. Students will learn how to manage audio and video for online and mobile platforms. Students will learn how to set up a small studio for audio and video podcasting to be published online for desktop, mobile and social media sharing.

**MED 105—MULTIMEDIA BASICS FOR WEB****3-0-3**

An introductory level course exploring various software packages. Students will produce basic video, audio and photographs for personal and web use. Students studying web design and multimedia will find this class of value.

**MED 110—DIGITAL PRESENTATION****3-0-3**

Introduces the planning and production of visual presentation programs. Emphasis is placed on digital audio/video projected methods of presentation. Input/output devices such as DVD, audio recording and flatbed scanners are employed in the design and development of presentations.

**MED 150—EDITING AND VIDEO TECHNIQUES/ PREMIERE PRO****3-0-3**

This is an introductory level course using the computer as an editing tool. Students utilize Adobe Premiere Pro nonlinear editing software to produce digital video for use in non-broadcast and DVD. Basic editing procedures encompassing video, audio, and still imagery will be employed. Students must have a DV digital video or DSLR camera and external hard drive. Emerging technology will also be explored.

**MED 155—INTRODUCTION 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.

**MED 158—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 and an analysis of various film genre.

**MED 159—DSLR VIDEO PRODUCTION****2-2-3**

Introduces digital, single-camera video production using the Digital Single Lens Reflex Camera. Students will learn basic camera operation and use of nonlinear 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 DSLR camera and removable hard drive.

**MED 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.

**MED 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 of an environmental nature.

**MED 170—DIGITAL PHOTOGRAPHY/ PHOTOSHOP****3-0-3**

This course covers the basic operation of digital camera systems, including computer-based image editing, retouching and enhancement. Adobe Photoshop software is used to produce state-of-the-art images. Basic studio lighting as it applies to digital photography is also explored. Emerging technology will also be explored. Students must have a DSLR camera.

**MED 199—INTERNSHIP****1-12-3**

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

**MED 200—PORTFOLIO DEVELOPMENT****1-2-3**

Review of existing student work and development of additional pieces into a viable self-sales tool for seeking employment. Elements will include: digital prints, computer-based presentation and DVD. 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): MED 170, MED 271

- MED 240—AUDIO TECHNIQUES/AUDITION** **3-0-3**  
This introductory level course introduces students to Adobe Audition software. It incorporates the fundamental use of basic digital sound creation for use in DVD's digital presentations and nonlinear video.
- MED 255—PUBLIC RELATIONS** **3-0-3**  
Covers corporate and nonprofit public relations, its development, definitions, practice and tools. Utilization of the electronic and print media as a means of enhancing corporate image will be addressed through individual and collaborative assignments.
- MED 256—ADVERTISING** **3-0-3**  
A fundamental overview of advertising with an emphasis on researching, developing and implementing advertising campaigns. Class projects use electronic and print media to explore the many different facets of advertising.
- MED 257—TELEVISION PRODUCTION** **2-2-3**  
This course introduces multi-camera studio digital video production. Students will learn basic camera operation and principles of studio-based, live-switched productions. Studio lighting procedures along with editing, scripting and storyboarding will be presented. Emerging technology will also be explored. Prerequisite(s): MED 159
- MED 260—INTERACTIVE MULTIMEDIA** **3-0-3**  
Introductory course using Adobe Encore to author DVDs. Elements of audio, video and special effects are incorporated into DVD projects. This course incorporates screen design, interactive navigation, sound, text, graphics and video to produce interactive DVDs for training, weddings, education, kiosks and corporate use. Prerequisite(s): MED 150 recommended but not required.
- MED 263—PHOTOJOURNALISM** **3-0-3**  
Photojournalism is an intermediate study in technique and production of images for newspapers magazines and the Internet. A continuation of MED 170 and MED 205, incorporating digital images used for publication. Prerequisite(s): MED 170 and MED 161 or MED 271
- MED 265—COLOR PHOTOGRAPHY** **3-0-3**  
Covers the technical aspects of camera RAW and digital darkroom procedures essential to working with color digital materials. Digital darkroom technique and inkjet processing of various color print materials is utilized extensively in the course. Emerging technology will also be explored. Prerequisite(s): MED 160
- MED 266—STUDIO/LOCATION PHOTOGRAPHY** **3-0-3**  
Instructs students in studio and location situations as they apply to commercial digital photography. Studies encompass elements of lighting techniques and examination of the medium and large format camera to create images while working from a layout. Portfolio assignments develop skills in illustrative, industrial, architectural and fashion areas of photography. Prerequisite(s): MED 161, MED 170, MED 271
- MED 270—ADVANCED EDITING AND VIDEO TECHNIQUES/PREMIERE PRO** **3-0-3**  
A continuation of MED 150, emphasis is on nonlinear Adobe Premiere Pro video editing software. Advanced effect techniques are used to animate, change speeds, green screen and apply color corrections. Compositing and advanced camera techniques are also explored. Emerging technology will also be explored. Student must have a DV Digital Video or DSLR camera and external hard drive. Prerequisite(s): MED 150
- MED 271—ADVANCED DIGITAL PHOTOGRAPHY/PHOTOSHOP** **3-0-3**  
This is a continued exploration of digital camera systems. Advanced computer-based image manipulation and retouching will be covered using Adobe Photoshop software to produce creative, state-of-the-art portfolio intended images. Studio set-up and lighting instruction will allow students to develop personal digital pieces. Emerging technology will also be explored. Prerequisite(s): MED 170
- MED 290—VIDEO SPECIAL EFFECTS** **3-0-3**  
Students will learn the basic creation of animating shapes, motion and text effects utilized in video and DVD authoring for use in software such as Premiere Pro and Encore. They should have basic nonlinear editing experience prior to attempting this course. Prerequisite(s): MED 150
- MED 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.
- 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 242—RETAILING** **3-0-3**  
Principles of retailing as applied to the retailing activities of location, organization, human resources, buying, inventory control, selling, services, expenses and profits.
- 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 253—GLOBAL MARKETING** **3-0-3**  
This course introduces the student to the principles of global marketing. Emphasis will be placed on the strategic use of the Internet to successfully interact socially, culturally and environmentally in global markets. A strategic environmental approach is employed to outline the major dimensions of the social foundation and financial environment needed to apply basic marketing principles to global business practices.
- 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 109—INTRODUCTION TO SCADA**

**1-1-1**

A study of Supervisory Control and Data Acquisition Systems (SCADA). This course is an introduction to basic automation with focus on SCADA and Remote Terminal Units (RTUs). Students will learn the basics of analog and digital output modules and will discuss system availability and reliability. The components and configuration of SCADA control systems will be explored. Applications of SCADA in the industry will be identified. Students will program a basic SCADA by installing parameters to simulate this type of automation in industry.

### **MPT 199—MANUFACTURING PROCESS TECHNOLOGY INTERNSHIP**

**1-12-3**

Students will obtain experience in the manufacturing process technology 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

### **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.

### **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.

### **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 dielectrics (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. Student 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.

### **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.

### **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.

### **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.

**MPT 240—INTRODUCTION TO AUTOMATED MANUFACTURING****2-2-3**

Provides students with an overview of the hardware and functions of industrial robotics, and hands-on training with a state-of-the-art industrial robot. Lecture topics include robot configuration, tooling, application information, safety considerations and future trends. Laboratory work allows students to create, edit and execute programs on a 5-axis, industrial robot.

**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 both to motivate and reinforce learning. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): Satisfactory Placement Test score

**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 or Satisfactory Placement Test score

**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 Test

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 100—INTERMEDIATE ALGEBRA****3-0-3**

Designed for students with some previous algebra background. Further enhances these algebraic skills and develops others necessary for achievement in College Algebra. Content materials include solving first and second degree equations, polynomial functions, rational functions, exponents, radicals and topics related to them, and word problems. Prerequisite(s): MTH 052, MTH 052A or Satisfactory Placement Test score

**MTH 100A—INTERMEDIATE ALGEBRA EMPORIUM****3-0-3**

Designed for students with some previous algebra background. Further enhances these algebraic skills and develops others necessary for achievement in College Algebra. Content materials include solving first and second degree equations, polynomial functions, rational functions, exponents, radicals and topics related to them, scientific notation 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 108—MATHEMATICS FOR THE TECHNOLOGIES I****4-0-4**

A course for technologies majors emphasizing application and problem solving. Topics include: review of fundamental algebra; formula transformation; dimensions and units; basic geometry; radicals; systems of linear equations, graphing of data, equations and functions; basic geometry; right triangle trigonometry; and quadratic equations and functions. Prerequisite(s): MTH 052, MTH 052A or Satisfactory Placement Test score

**MTH 109—MATHEMATICS FOR THE TECHNOLOGIES II****4-0-4**

A course for technologies 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 or Satisfactory Placement Test score

**MTH 157—COLLEGE ALGEBRA****3-0-3**

Topics include an overview of basic skills learned in intermediate algebra with additional emphasis on equation solving; inequalities; systems of equations; complex numbers; graphing techniques for linear, polynomial, and rational functions; circles; absolute value; polynomial division and synthetic division; and piece-wise functions. Prerequisite(s): MTH 100, MTH 100A or Satisfactory Placement Test score

**MTH 158—PRECALCULUS MATHEMATICS****3-0-3**

Designed to prepare students for calculus. Topics covered include: exponential, logarithmic, and trigonometric functions and their graphs; identities, applications, calculator usage, logarithmic, exponential and trigonometric equation and problem solving. Prerequisite(s): MTH 157 or Satisfactory Placement Test score

**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, 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 or Satisfactory Placement Test score

**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 or Satisfactory Placement Test score



<b>MTH 172—ANALYTICAL GEOMETRY AND CALCULUS I</b>	<b>4-0-4</b>	<b>MTT 201—INSPECTION</b>	<b>3-2-4</b>
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): MTH 109, MTH 158 or Satisfactory Placement Test score		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.	
<b>MTH 173—ANALYTICAL GEOMETRY AND CALCULUS II</b>	<b>4-0-4</b>	<b>MTT 202— MAINTENANCE</b>	<b>2-4-4</b>
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		This course will introduce students to the basic principles and procedures used to maintain machine shop equipment. Both preventative maintenance and machinery repair will covered. The students will spend time disassembling, repairing, and reassembling machine shop equipment. Prerequisite(s): MTT 111	
<b>MTH 180—ELEMENTS OF MATHEMATICS I</b>	<b>3-0-3</b>	<b>MTT 213—MACHINING III</b>	<b>2-6-5</b>
A presentation of the 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, percent, ratio and proportion, and algebra basics. Prerequisite(s): MTH 052 or Satisfactory Placement Test score		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	
<b>MTH 185—ELEMENTS OF MATHEMATICS II</b>	<b>3-0-3</b>	<b>MTT 214—MACHINING IV</b>	<b>2-8-6</b>
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		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	
<b>MTH 271—ANALYTICAL GEOMETRY AND CALCULUS III</b>	<b>4-0-4</b>	<b>MUS—MUSIC</b>	
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		<b>MUS 111—FUNDAMENTALS OF MUSIC THEORY</b>	<b>3-0-3</b>
<b>MTH 272—DIFFERENTIAL EQUATIONS</b>	<b>3-0-3</b>	This course is designed for all students regardless of their musical background, who want to learn the basics of music theory. The course will provide students the ability to read music and understand how to write music at a basic level. Fundamentals of Music is an introduction to the primary skills of music practice emphasizing the reading and writing of musical notation. Students will learn basic theory, ear training, and sight-singing skills.	
First order ordinary differential equations. Linear differential equations with constant coefficients. Solutions of differential equations by use of series. Laplace transforms. Prerequisite(s): MTH 271		<b>MUS 115—THEORY SKILLS I</b>	<b>1-0-1</b>
<b>MTT—MACHINE TECHNOLOGY</b>		This course develops aural skills through dictation and interpretation of written music using sight singing, ear training, and music dictation. Corequisite(s): MUS 165	
<b>MTT 101—BLUEPRINTS</b>	<b>3-2-4</b>	<b>MUS 116—MUSIC AURAL THEORY SKILLS II</b>	<b>1-0-1</b>
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.		Develops aural skills through dictation and interpretation of written music by sight singing. Prerequisite(s) MUS 115; Corequisite(s): MUS 166	
<b>MTT 102—GEOMETRIC DIMENSIONING AND TOLERANCING</b>	<b>2-2-3</b>	<b>MUS 117—FUNDAMENTALS OF APPLIED MUSIC LESSONS I</b>	<b>1-0-1 OR 2-0-2</b>
This course is structured to increase one's ability to accurately interpret machine drawings. Classroom activities include GD&T theory, fits and clearance, surface finishes, advanced technologies, datum relations, true positioning and complex drawings.		This course is designed for all students, regardless of their musical background, who want to learn the basics of applied music. The course will provide the opportunity to learn to play music on one of the following: woodwinds, brass, strings, piano, organ or voice. The course is designed for students who (1) want to become music majors for admission into the music program or (2) for those who want to increase their knowledge in music performance but not in a degree program. Fundamentals of Applied Music Lessons are an introduction to the skills of performance emphasizing the reading and playing of music. Students will learn scales, entry level literature, embouchure development, basic theory and sight-reading skills. Except for large percussion instruments, students must own the instruments for which they are taking lessons. This course satisfies no requirement of the music program. Private lessons take place 30 minutes per week per semester for one (1) credit. Cost of credit plus private lesson fee apply. Prerequisite: Departmental approval.	
<b>MTT 111—MACHINING I</b>	<b>2-4-4</b>		
This course will introduce students to manual shop machining. Topics will include safety, measurement, benchwork, layout, hand tools, cutoff machines, offhand grinding, holmaking, workholding, drill press, mills, lathes, grinders, and feeds and speeds. Corequisite(s): MTH 108			
<b>MTT 112—MACHINING II</b>	<b>2-6-5</b>		
This course will introduce students to basic milling, lathe and grinding operations. Topics include machine parts, machine operations, toolholding, holmaking, chucks, cutting tools, facing, turning, knurling, threading, endmills, cutters, abrasives and surface grinding. Prerequisite(s): MTT 111; Corequisite(s): MTH 109			

**MUS 118—FUNDAMENTALS OF APPLIED MUSIC LESSONS II** **1-0-1 OR 2-0-2**

This course is designed for all students, regardless of their musical background, who want to learn the basics of applied music. The course will provide the opportunity to learn to play music on one of the following: woodwinds, brass, strings, piano, organ, or voice. The course is designed for students who (1) want to become music majors for admission into the music program or (2) for those who want to increase their knowledge in music performance but not in a degree program. Fundamentals of Applied Music Lessons are an introduction to the skills of performance emphasizing the reading and playing of music. Students will learn scales, entry level literature, embouchure development, basic theory and sight-reading skills. Except for large percussion instruments, students must own the instruments for which they are taking lessons. This course satisfies no requirement of the music program. Private lessons take place 30 minutes per week per semester for one (1) credit. Cost of credit plus private lesson fee apply. Prerequisite: MUS 117 and departmental approval.

**MUS 119—FUNDAMENTALS OF APPLIED MUSIC LESSONS III** **1-0-1 OR 2-0-2**

This course is designed for all students, regardless of their musical background, who want to learn the basics of applied music. The course will provide the opportunity to learn to play music on one of the following: woodwinds, brass, strings, piano, organ or voice. The course is designed for students who (1) want to become music majors for admission into the music program or (2) for those who want to increase their knowledge in music performance but not in a degree program. Fundamentals of Applied Music Lessons are an introduction to the skills of performance emphasizing the reading and playing of music. Students will learn scales, entry level literature, embouchure development, basic theory and sight-reading skills. Except for large percussion instruments, students must own the instruments for which they are taking lessons. This course satisfies no requirement of the music program. Private lessons take place 30 minutes per week per semester for one (1) credit. Cost of credit plus private lesson fee apply. Prerequisite: MUS 118 and departmental approval.

**MUS 120—FUNDAMENTALS OF APPLIED MUSIC LESSONS IV** **1-0-1 OR 2-0-2**

This course is designed for all students, regardless of their musical background, who want to learn the basics of applied music. The course will provide the opportunity to learn to play music on one of the following: woodwinds, brass, strings, piano, organ or voice. The course is designed for students who (1) want to become music majors for admission into the music program or (2) for those who want to increase their knowledge in music performance but not in a degree program. Fundamentals of Applied Music Lessons are an introduction to the skills of performance emphasizing the reading and playing of music. Students will learn scales, entry level literature, embouchure development, basic theory and sight-reading skills. Except for large percussion instruments, students must own the instruments for which they are taking lessons. This course satisfies no requirement of the music program. Private lessons take place 30 minutes per week per semester for one (1) credit. Cost of credit plus private lesson fee apply. Prerequisite: MUS 119 and departmental approval.

**MUS 121—APPLIED MUSIC I** **1-0-1 OR 2-0-2**

Students receive one hour of private instruction per week in performance techniques. Assists students in developing skills in voice or in any of a variety of musical instruments. Students are encouraged to perform to the highest artistic level of capability.

**MUS 122—APPLIED MUSIC II** **1-0-1 OR 2-0-2**

Students receive one hour of private instruction per week in performance techniques. Assists students in developing skills in voice or in any of a variety of musical instruments. Students are encouraged to perform to the highest artistic level of capability.

**MUS 131—CLASS VOICE I** **2-0-2**

An introduction to proper vocal technique. Students develop skills in proper breathing, diction, and posture, performing for other students in the class. Subsequent to two semesters, students are encouraged to take applied voice lessons.

**MUS 132—CLASS VOICE II** **2-0-2**

Students develop skills in proper breathing, diction and posture performing for other student in the class.

**MUS 141—COLLEGE SYMPHONIC BAND I** **2-0-2**

The Westmoreland Symphonic Band is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized band literature to the less explored. Rehearsals are once a week for three hours. The inclusion of semi-professional musicians from the community greatly enhances the artistic and educational experiences of student participation in a symphonic band. This course is designed for all students who play flute, clarinet, oboe, bassoon, alto, tenor, baritone saxophone, French horn, trombone, baritone tuba, string bass, and percussion (snare, bass drums, marimba, bells, timpani and cymbals). This ensemble provides students the opportunity to rehearse and perform band music appropriate for performance. The repertoire will include music literature from all band music periods. There will be no auditions to become a member. Students will sit in their section based on playing ability. Prerequisite(s): Instrumental experience

**MUS 142—COLLEGE SYMPHONIC BAND II** **2-0-2**

The Westmoreland College Symphonic Band II is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized band literature to the less explored. Rehearsals are once a week for three hours. The inclusion of semi-professional musicians from the community greatly enhances the artistic and educational experiences of student participation in a symphonic band. This course is designed for all students who play flute, clarinet, oboe, bassoon, alto, tenor, baritone saxophone, French horn, trumpet, trombone, baritone tuba, string bass, and percussion (snare, bass drums, marimba, bells, timpani and cymbals). This ensemble provides students the opportunity to rehearse and perform band music appropriate for performance. The repertoire will include music literature from all band music periods. There will be no auditions to become a member. Students will sit in their section based on playing ability. Prerequisite(s): Instrumental experience and Band I

**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 160—MUSIC HISTORY I** **3-0-3**

Presents the historical unfolding of the major achievements of music in Western culture from Medieval music through the end of the Baroque period. Emphasis will be on the evolution of form, harmonic technique, and style from ancient times to 1750. The student will study and research composers, compositions and styles of the Medieval, Renaissance and Baroque periods. Prerequisite(s): MUS 155

**MUS 165—MUSIC THEORY I** **3-0-3**

This course is designed for all students who want to become music majors or have a strong interest in music. These students will study harmonic, melodic, and formal devices of common practice period, from simple diatonic chords through seventh chords, Students will learn ear training, and sight-singing skills in conjunction with their course at the same time. Prerequisite(s): MUS 111, AP Music Theory test or permission of instructor

- MUS 166—MUSIC THEORY II** **3-0-3**  
 This course is designed for music majors and non-music majors with adequate musical background. Musical compositions will be studied and analyzed. Emphasis is on sight-singing and dictation of diatonic harmonies and exercises. This will prepare the music student for further advanced studies in the music field.
- MUS 175—COLLEGE CHOIR I** **2-0-2**  
 This course is designed for all students. This ensemble provides students the opportunity to rehearse and perform choral music appropriate for all voices. The repertoire includes literature from all music periods and styles. There are no auditions to become a member. Students may audition for solos, duets, or when needed, instrumental selections. Prerequisite(s): Each level requires completion of previous level
- MUS 176—COLLEGE CHOIR II** **2-0-2**  
 This course is designed for all students. This ensemble provides students the opportunity to rehearse and perform choral music appropriate for all voices. The repertoire will include literature from all music periods and styles. There are no auditions to become a member. Students may audition for solos, duets, or when needed, instrumental selections.
- MUS 177—COLLEGE ORCHESTRA I** **2-0-2**  
 The Westmoreland Orchestra is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized orchestral monuments to the less explored. Rehearsals are once a week for two and one half hours. Prerequisite(s): Each level requires completion of previous level
- MUS 178—COLLEGE ORCHESTRA II** **2-0-2**  
 The Westmoreland Orchestra is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized orchestral monuments to the less explored. Rehearsals are once a week for two and one half hours. The inclusion of semi professional musicians from the community greatly enhances the artistic and educational experiences of student participation in an orchestra. This course is designed for all students who play orchestral instruments. This ensemble provides students the opportunity to rehearse and perform orchestra music appropriate for all instrumentalists. The repertoire will include music literature from all music periods and styles. There are no auditions to become a member. Students will sit in their section on playing ability. There are no auditions except for solos or duets when needed.
- MUS 180—CLASS PIANO I** **2-0-2**  
 This course is designed for music majors, but open to non-music majors who want to acquire basic knowledge and skills in playing the piano. Classes are for students who have no piano background or more experienced performers. The students are able to progress at their own speed. The teacher monitors each student from the monitors stations and is able to instruct individually as well as collectively.
- MUS 215—MUSIC AURAL THEORY SKILLS III** **1-0-1**  
 This course offers further development of sight-singing and ear training skills. Chromatic melodies are introduced, as are more difficult rhythms and meters; modal melodies are explored as well as melodies that modulate. In dictation, secondary-dominant harmonies of II and of V are introduced, as well as all intervals played harmonically, all seventh chords are utilized. Prerequisite(s): MUS 116, MUS 166; Corequisite(s): MUS 265
- MUS 216—MUSIC AURAL THEORY SKILLS IV** **1-0-1**  
 This course will further development of sight-singing and ear training skills. Chromatic melodies are introduced, as are more difficult rhythms and meters; modal melodies are explored as well as melodies that modulate. In dictation, secondary-dominant harmonies of II and IV are introduced, as well as all intervals played harmonically; all seventh chords are utilized. Prerequisite(s): MUS 215, MUS 265; Corequisite(s): MUS 266
- MUS 221—APPLIED MUSIC III** **1-0-1 OR 2-0-2**  
 A continuation of MUS 122. Students receive one hour of private instruction per week in performance techniques. Assists students in developing skills in voice or in any of a variety of musical instruments. Students are encouraged to perform to the highest artistic level of capability.
- MUS 222—APPLIED MUSIC IV** **1-0-1 OR 2-0-2**  
 A continuation of Music 221. Students receive one hour of private instruction per week in performance techniques. Assists students in developing skills in voice or in any variety of musical instruments. Students are encouraged to perform to the highest artist level of capability.
- MUS 241—COLLEGE SYMPHONIC BAND III** **2-0-2**  
 The Westmoreland Symphonic Band III is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized band literature to the less explored. Rehearsals are once a week for three hours. The inclusion of semi-professional musicians from the community greatly enhances the artistic and educational experiences of student participation in a symphonic band. This course is designed for all students who play flute, clarinet, oboe, bassoon, alto, tenor, baritone saxophone, French horn, trumpet, trombone, baritone tuba, string bass, and percussion (snare, bass drums, marimba, bells, timpani and cymbals). This ensemble provides students the opportunity to rehearse and perform band music appropriate for performance. The repertoire will include music literature from all band music periods. There will be no auditions to become a member. Students will sit in their section based on playing ability. Prerequisite(s): Instrumental experience and Band II
- MUS 242—COLLEGE SYMPHONIC BAND IV** **2-0-2**  
 The Westmoreland College Symphonic Band IV is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized band literature to the less explored. Rehearsals are once a week for three hours. The inclusion of semi-professional musicians from the community greatly enhances the artistic and educational experiences of student participation in a symphonic band. This course is designed for all students who play flute, clarinet, oboe, bassoon, alto, tenor, baritone saxophone, French horn, trumpet, trombone, baritone tuba, string bass, and percussion (snare, bass drums, marimba, bells, timpani and cymbals). This ensemble provides students the opportunity to rehearse and perform band music appropriate for performance. The repertoire will include music literature from all band music periods. There will be no auditions to become a member. Students will sit in their section based on playing ability. Prerequisite(s): Instrumental experience and Band II
- 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.
- MUS 265—MUSIC THEORY III** **3-0-3**  
 This course is an extension of the techniques of the 18th and 19th centuries to include chromatic harmonies, advanced modulation and extended chords. Also this course introduces standard contrapuntal procedures. This course is designed for student who want to become music major and transfer to a four-year institution or have a strong interest in music. These students will continue to study harmonic, melodic and formal devices of common practice periods. Students will learn ear training and sight-singing skills in conjunction with this course at the same time in MUS 215. Prerequisite(s): MUS 116, MUS 166; Corequisite(s): MUS 215



**MUS 266—MUSIC THEORY IV****3-0-3**

Students in this course will study harmonies, and compositional techniques of the 20th century. Students will study styles and techniques that will include Popular Song Forms, Impressionism, Modalism, Octatonic Scales, Pitch Class Collections, Mixed Meters, Set Theory and Serialism. Prerequisite(s) MUS 215, MUS 265; Corequisite(s): MUS 216

**MUS 275—COLLEGE CHOIR III****2-0-2**

This course is designed for the music and non-music major. A variety of choral literature from all periods of music history will be rehearsed and performed. The course is required of all music majors but is open to all qualified students.

**MUS 276—COLLEGE CHOIR IV****2-0-2**

This course is designed for the music and non-music major. A variety of choral literature from all periods of music history will be rehearsed and performed. The course is required of all music majors but is open to all qualified students.

**MUS 277—COLLEGE ORCHESTRA III****2-0-2**

The Westmoreland Orchestra is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized orchestral monuments to the less explored. Rehearsals are once a week for two and one half hours. The inclusion of semi professional musicians from the community greatly enhances the artistic and educational experiences of student participation in an orchestra. This course is designed for all students who play orchestral instruments. This ensemble provides students the opportunity to rehearse and perform orchestra music appropriate for all instrumentalists. The repertoire will include music literature from all music periods and styles. There are no auditions to become a member. Students will sit in their section on playing ability. There are no auditions except for solos or duets when needed.

**MUS 278—COLLEGE ORCHESTRA IV****2-0-2**

The Westmoreland Orchestra is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized orchestral monuments to the less explored. Rehearsals are once a week for two and one half hours. The inclusion of semi-professional musicians from the community greatly enhances the artistic and educational experiences of student participation in an orchestra. This course is designed for all students who play orchestral instruments. This ensemble provides students the opportunity to rehearse and perform orchestra music appropriate for all instrumentalists. The repertoire will include music literature from all music periods and styles. There are no auditions to become a member. Students will sit in their section on playing ability. There are no auditions except for solos or duets when needed.

**MUS 280—CLASS PIANO II****2-0-2**

This course is designed for those students who have had prior keyboard knowledge and are at an early intermediate level of playing or students who have reached a level of performance in Piano I that places them at the early intermediate level. Harmonization and sight-reading will be emphasized as well as further studies in classical and folk music. Proficiency level will be evaluated and approved by the instructor.

**MUS 285—COLLEGE STAGE BAND I****.5-3-2**

The Westmoreland Stage Band is a collaboration of the community and student musicians who rehearse together to perform two concerts a year. The repertoire ranges from the recognized stage band literature to the less explored. Rehearsals are twice a week for four hours. Prerequisite(s): Must pass audition

**NGT—NATURAL GAS TECHNOLOGY****NGT 100—COMMUNICATION TEAMWORK****1-0-1****AND CONFLICT RESOLUTION IN INDUSTRY**

The work environment is a dynamic and ever changing place. Employers expect that their employees will possess both the technical and the interpersonal skills necessary to get the job done. Employees may work in teams, make presentations to clients, be responsible for keeping project managers informed on project progress, or interact with representatives from regulatory agencies. Thus, effective communication skills are an integral part of ensuring success in any job. In addition, a fundamental factor that will determine success in many industries is the ability to work within a team environment where conflict is expected. Understanding how to manage conflict and use it in a productive manner will help ensure that the team and the project is a success. This course will assist the student in developing the skills necessary to be an effective communicator and a valuable team member.

**NGT 101—OVERVIEW OF THE NATURAL GAS AND OIL TECHNOLOGY****4-0-4**

A comprehensive study of the natural gas and oil industry. Topics to be covered include industry sectors; history of natural gas and oil drilling, production, transportation, storage and transmission processes; and environmental topics. Special focus on career opportunities in the industry.

**NGT 105—EMERGENCY RESPONSE FOR NATURAL GAS AND OIL****1-0-1**

Natural gas and oil field jobsite are usually very safe, however there is potential for emergency situations. This course will present the various emergency situations that may occur at a natural gas/oil exploration, production, transmission, storage, and/or distribution location. Students will learn the proper procedures for handling these situations. Real-world scenarios and past emergency situations will be examined. Students must maintain a current Heartsaver First Aid: Adult/Child AED and CPR and Infant CPR designation.

**NGT 110—ENVIRONMENTAL PROTECTION-METHODS AND DEVICES FOR NATURAL GAS AND OIL INDUSTRY****2-1-2**

A study of the laws, regulations, best practices and good neighbor policies in place which ensure that natural gas exploration, production, distribution and transmission activities comply with environmental standards. This course is an introduction to the basic requirements for air quality, water resources protection/preservation and land use. Other practices intended to preserve and protect the environment will also be explored. There will be a focus on the methods and devices utilized in the various facets of the natural gas and oil industry. Students will learn the basics of the legal requirements, the responses expected with challenged with protecting the environment and the consequences of not adhering to laws and regulations. Students will demonstrate their knowledge of the right way to protect the environment in various industry situations by developing a protection plan and describing the implementation of the plan.

**NGT 140—GAS PROCESSING I****3-2-4**

Natural gas must be processed to achieve marketable products that meet desired production specifications. This course will instruct the student interested in becoming plant operating personnel by introducing an understanding of the process techniques and equipment used. The plant systems covered in this course include gas feed receipt and condensate stabilization; dew-point control and refrigeration systems; treating, dehydration and mercury removal of hydrocarbons; NGL recovery and fractionation as well as nitrogen rejection units. This improved understanding of plant process operations and effective process plant surveillance techniques will lead to an increased ability to achieve optimum, economical operating performance.

**NGT 150—GAS COMPRESSION AND FLOW DYNAMICS****3-2-4**

Many oil field lease operators are required to provide maintenance and service for reciprocating gas compressors. Downtime for a gas compressor is extremely expensive and trained service technicians can do much to prevent downtime. This course will review basic math required to understand equations and ratios which impact the function of natural gas compressors. Material will focus on understanding equations which are important to compressor assembly and operations. Students will also review variables and understand the relationship between variables in these types of equations. Students in this class will review compressor service manuals furnished by the manufacturing in addition to laboratory and classroom exercises.

**NGT 160—PETROLEUM INSTRUMENTATION****3-2-4**

This course is an overview of the latest procedures, practices and equipment used in the measurement of oil and natural gas. The course is designed to provide an introduction for employees who will deal regularly with measurements of oil and natural gas. The course provides a basic understanding of the metering equipment, techniques and calculations, required to accurately measure liquid levels in storage tanks as well as flowing natural gas.

**NGT 170—CORROSION BASICS****3-2-4**

This course provides a basic understanding of the corrosion process, some common corroding agents, methods detecting and measuring corrosion and various methods of corrosion control with special emphasis on cathodic protection. The course is designed to provide an introduction for lease operators who will deal regularly with corrosion.

**NSG—NURSING****NSG 112—INTRODUCTION TO PROFESSIONAL NURSING AND HEALTH PROMOTION ACROSS THE LIFESPAN****2.16-2.52-3**

The five critical elements of the WCCC 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 114—HEALTH AND PHYSICAL ASSESSMENT THROUGHOUT THE LIFESPAN****2.33-2.10-3**

The five critical elements of the WCCC 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**

This 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 application of the basic concepts and practice skills occurs in various health care settings. Prerequisite(s): BIO 171, CPT 150, NSG 112; Corequisite(s): BIO 172, NSG 114

**NSG 124—MEDICAL-SURGICAL NURSING CARE OF THE ADULT****4.5-13.5-9**

This 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 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. Mental health concepts and management principles are introduced in this course to provide a basis for care of adult patients in the acute care setting. The opportunity to develop and practice selected skills is provided in the campus laboratory and in the acute care clinical setting. Prerequisite(s): BIO 171, BIO 172, CPT 150, NSG 112, NSG 114, NSG 116; Corequisite(s): ALH 120, PSY 160

**NSG 200—LPN TRANSITION INTO ASSOCIATE DEGREE NURSING****2.5-5-3**

Designed specifically for the LPN who meets the criteria for advanced placement in the ADN program. 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 WCCC. The course emphasizes the major components of the conceptual framework of all nursing courses. These include caring, competency, communication, critical thinking, and commitment/conduct. The course includes critical thinking concepts and the nursing process, organization of assessment data using functional health patterns, communication and care across life spans 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 225—NURSING CARE OF THE CHILDBEARING FAMILY, INFANT AND CHILD****3-3-4**

The five critical elements of the WCCC nursing program - caring, competency, communication, critical thinking and commitment - serve as the framework for this course. This course introduces the student to the role of the professional nurse as provider of care when working with childbearing individuals, the newborn, infant, child and family. Emphasis is placed on identifying alteration in basic human needs and applying the nursing process to the promotion, restoration, or maintenance of health throughout the phases of the childbearing process. Common health problems of newborns and of women in each phase of childbearing are explored. Health promotion, disease prevention and care of the infant and child with common health problems are studied. Opportunities for practice of related skills are provided in campus laboratory and a variety of clinical and community settings to provide the student with opportunities to apply concepts. Prerequisite(s): All Level ADN nursing and support courses; Corequisite(s): Level II ADN nursing and support courses in assigned sequence semester.

**NSG 240—PSYCHIATRIC/MENTAL HEALTH NURSING CARE****1.5-4.5-3**

Emphasizes the utilization of the nursing process in the care of patients with alterations in their psychosocial needs. Focus is on the nurse as provider of care with emphasis on the development of caring communications and teaching/learning concepts in assisting individuals in meeting their basic needs. The campus laboratory is utilized as a forum to practice developing skills. Clinical laboratory experiences in area mental health settings provide the student with opportunities to apply knowledge and caring in the therapeutic nurse/patient relationship. Prerequisite(s): Level I ADN nursing and support courses Corequisite(s): Level II nursing and support courses

**NSG 255—ADVANCED MEDICAL SURGICAL CARE OF THE AGING ADULT WITH MULTIPLE CHRONIC HEALTH PROBLEMS** 1.5-4.5-3

This course emphasizes the role of the nurse in providing and managing complex care for the individual with alterations in basic human physiological needs of activity, rest, safety and security. The course focus is on the aging adult with common multiple chronic health problems. Campus laboratory provides the opportunity to develop and practice skills in providing nursing care for this vulnerable population. Clinical laboratory experiences are provided in a variety of settings including acute care, long-term care and community. Prerequisite(s): All Level I ADN nursing and support courses; Corequisite(s): Level II ADN nursing and support courses in assigned sequence semester.

**NSG 260—ADVANCED MEDICAL SURGICAL NURSING CARE OF THE CHRONICALLY ILL** 1.5-4.5-3

This course emphasizes the utilization of the nursing process in the care of adults with alterations in basic human needs. This course focuses on common health problems related to immunity, hypersensitivities, blood disorders, genetics and cancer using evidence based research and practices Campus laboratory will provide the opportunity to practice psychomotor and critical thinking skills related to patient care and symptom management. The opportunity to develop and practice selected skills is provided in the acute care and home health/hospice clinical settings. Prerequisite(s): All Level I ADN Nursing and Support courses Corequisite(s): Level II ADN nursing and support courses in assigned sequence semester.

**NSG 270—ADVANCED MEDICAL SURGICAL NURSING CARE OF THE ACUTELY ILL** 1.5-4.5-3

Emphasizes the utilization of the nursing process in the care of individuals with alterations in basic human needs by focusing on the acutely ill adult with complex common health problems. The campus laboratory provides the student with the opportunity to develop an understanding of basic critical care assessment and interventional techniques and to practice basic critical care skills such as rhythm analysis, cardiac monitoring, electrical interventions, hemodynamic monitoring, mechanical ventilation, airway maintenance, and blood gas analysis. Clinical laboratory experience in area acute care facilities allows the student to apply critical care concepts and skills in critical care emergency department settings. Prerequisite(s): Level I ADN nursing and support courses Corequisite(s): Level II nursing and support courses

**NSG 280—MANAGER OF NURSING CARE** 1-9-4

This course focuses on the role of the professional nurse as a manager of care. It emphasizes management and leadership principles and skills necessary to become competent in directing care for a group of individuals and their families in a variety of settings Campus laboratory provides the opportunity to practice time management strategies, assertive communication skills, conflict management tactics and critical thinking skills. Clinical laboratory experiences in a variety of settings offer the opportunity to apply critical thinking, management, and leadership principles and skills. Prerequisite(s): Level I nursing and support courses, Level II ADN courses. Corequisite(s): Level II support courses

**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 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 120—DOCUMENT PROCESSING II** 3-0-3

This course is a continuation of OFT 110 enabling the student to produce quality reports, correspondence, tables, publications, and legal and medical office documents through the use of handwritten and unarranged documents. Prerequisite(s): OFT 110 with a "C" grade or better

**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 slide shows, visual elements, formats, printing, importing and delivering effective presentations. File management, editing, and Web-based presentations are also covered.

**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.

**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 mid-size 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 101A—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 expectation. 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 170—CAREER EXPLORATION 1-0-1**

This course introduces the theoretical and practical framework with which to explore careers compatible with interests, abilities, work values, academic skills and life goals. Students will examine the world of work; assess their interests, abilities and work values with this information and make realistic decisions regarding academic majors and careers.

## **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 first 8 weeks of 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 semester. Co-requisite(s): ALH 122, PHB 101 (if applicable)

### **PHB 110—SPECIMEN PROCESSING PRACTICUM 0-15-4**

This practicum equires 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 second 8 weeks of 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 during first 8 weeks of semester.

### **PHB 111—PHLEBOTOMY PRACTICUM 0-15-4**

This practicum requires 224 hours of close and directed supervision for the phlebotomist and specimen processor to apply skills. Duties include collection of blood specimens using standard precautions 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 second 8 weeks of semester.

Schedules are arranged by clinical site availability, usually four 8-hour days per week. Prerequisite(s): Successful completion of PHB 101 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.

### **PHL 171—WORLD PHILOSOPHY 3-0-3**

This course offers students a variety of philosophical traditions from around the globe and throughout history. Traditions to be studied include Indian philosophy (Buddhism, Gandhi), Chinese philosophy (Confucius, Taoism), and Islamic philosophy, in addition to learning to appreciate such non-Western philosophy. 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 MTH 100A

### **PHY 110—FUNDAMENTALS OF PHYSICS 2.5-1-3**

This course is designed to prepare students with no physics background for College Physics, Physics for Radiography or Physics for Sonography. 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 satisfactory placement test score

### **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, PHY 107 or PHY 110 Corequisite(s): RAD 141, RAD 146

### **PHY 130—PHYSICS FOR SONOGRAPHY 3-0-3**

This course is a study of the fundamental principles of physics as they pertain to the production of sonographic images. Topics covered include sound wave mechanics, sound generation and reception using transducers, and electrical concepts as they apply to pulse-echo instrumentation. Prerequisite(s): PHY 110 or high school physics

### **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 satisfactory Placement Test score.



**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 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): High school physics or equivalent 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

**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

**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 through 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 WOMEN****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. 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. Principles of digital system quality assurance and maintenance are presented. 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. In the first half of the course, the final set of imaging procedures that include the use of contrast media are also reviewed. In the second half, equipment quality control procedures are reviewed. 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 also learn basic phlebotomy skills including blood collection methods and techniques, and specimen procession 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

**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 102—REAL ESTATE PRACTICES** **2-0-2**

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.

**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 162—CONTEMPORARY SOCIAL PROBLEMS** **3-0-3**

This course will permit student to apply sociological principles and methods to selected major problems of contemporary American society. In addition to studying these problems, this course will also present a selection of proposed "solutions" to these problems and encourage students to understand, analyze, and debate the merits of the proposed solutions. Prerequisite(s): SOC 155

**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 communicative 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 157—FUNDAMENTALS OF SMALL GROUP COMMUNICATION 3-0-3**

Designed to study the group process and to teach methods of group discussion as a problem solving technique. It emphasizes dynamics of "brainstorming" and management of differences in group activity.

### **SPC 158—ORAL INTERPRETATION 3-0-3**

Helps students to acquire skills in voice and gesture that will enable them to communicate literature to an audience. Also helps students prepare programs for individual events in forensics competition.

### **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.

## **THR—THEATER**

### **THR 159—INTRODUCTION TO THEATER 3-0-3**

Provides an introduction to theater as an art form. Emphasis is placed on historical development, social context and formal analysis of drama as literature as well as popular entertainment. Students gain an understanding of and an appreciation for theater as a logical development of the human need to dramatize perspective on the immediate world.

## **TRV—HOTEL/RESORT MANAGEMENT**

### **TRV 171—TRAVEL AND TOURISM PRINCIPLES 3-0-3**

Investigates the economic and social impact of tourism and travel. The role that management plays in catering to tourists and in the development and operations of guided tours is studied. Transportation to off-campus locations is the responsibility of the student.

### **TRV 273—TRAVEL DESTINATIONS 3-0-3**

Provides students with intensive familiarization of the major tourist areas frequented by leisure and business travelers. Emphasis is on tourist attractions, points of interest, airport locations and transportation. Transportation to off-campus locations is the responsibility of the student.

### **TRV 274—TOUR PLANNING AND SALES 3-0-3**

Focuses on tour development, group travel and corporate travel. Creative itineraries and fundamentals of tour escorting will be covered. Students will explore options for corporate functions and scheduling. Group touring will be investigated for both the leisure and corporate traveler. Transportation to off-campus locations is the responsibility of the student.

## **WEB—WEB TECHNOLOGY**

### **WEB 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.

### **WEB 110—WEB DESIGN 3-0-3**

An exploration of Web design that focuses on the basic design concepts used in creating Web-based publications—layout, typography and color usage. Rapid prototyping and the issues of accessibility, usability and versatility are explored.

### **WEB 140—DREAMWEAVER – BASIC 3-0-3**

This course introduces students to Adobe Dreamweaver's powerful, visual environment to construct Web pages and sites. Students will explore the live design environment in the design and creation of basic Web pages and sites.

### **WEB 162—FIREWORKS 3-0-3**

This course introduces Web graphic design and creation using Adobe Fireworks. Students will address the special challenges of creating and editing bitmap and vector images, animating graphics, adding interactivity and optimizing images to export with HTML and JavaScript code for Adobe Dreamweaver and various HTML editors.

### **WEB 188—SOCIAL MEDIA 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 a business or organization.

### **WEB 199—WEB INTERNSHIP 1-12-3**

Students gain exposure and insight into selection of occupations within the fields of Web design/development through supervised and evaluated on-the-job experience. Students select locations for their internships from college approved sites which primarily encompass southwestern Pennsylvania.

### **WEB 235—INTERACTIVE DESIGN 3-0-3**

This course explores the structure and aesthetics of interactive projects, with attention to the end-user needs and visual design. Students focus on project development from initial concept and research through design, prototype, testing and production.

### **WEB 277—ELECTRONIC COMMERCE TECHNOLOGY 3-0-3**

This course focuses on the impact of emerging trends and technologies in electronic commerce. Specific topics are selected by faculty to reflect the current state-of-the-art in the field.

## **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 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 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 210—MAINTENANCE AND TROUBLESHOOTING FOR INDUSTRY II 2-4-4**

This course will expand upon the knowledge and skills obtained in WEL 209, Introduction to Maintenance and Troubleshooting. Students will advance their knowledge of electromechanical concepts, hydraulics, pneumatics and motors. Installation and troubleshooting skills learned in WEL 209 will be applied to more advanced industrial concepts, developing an advanced technical and mechanical skill set. Students should be prepared to perform mathematical calculations and engage in problem solving activities. Knowledge and skills gained in this course are utilized in industries including, but no limited to: Agriculture, Communications, Gas and Oil, Government, Health Care, Logistics, Maintenance, Manufacturing, Mining, Retail, Service and Utilities. Prerequisite(s): WEL 209; Corequisite(s): ELC 106

### **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 light weight, 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 228

### **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, MTH 101

### **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 indepth 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 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(s): WEL 227

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**Director/Student Success**

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**Director/Event Services**

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**Director/ICCC of WCCC**

B.A., M.A., Indiana University of Pennsylvania

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## Administrative Staff

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**CASEY S. CAVANAUGH — 724-925-6981**

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**VALERIE L. COMPTON — 724-925-5975**

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**JUDY L. DEWITT — 724-925-4090**

**Coordinator/Workforce Development Sales**

B.S., M.S., Indiana University of Pennsylvania; M.S., California University of Pennsylvania

**LORRIE J. DOUGLASS — 724-925-5864**

**Workforce Development Sales Coordinator**

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**VICKIE A. FRY — 724-925-5801**

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**Coordinator for the Office of the President**

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**\*Denotes full-time temporary faculty**

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**RICHARD R. BROWN**

**Professor (Accounting)**

**DAVE BRUCE**

**Professor (Electronics)**

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**RUTH ANN ZUPAN**

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# Personnel Directory

## Westmoreland Educational Foundation, Inc.

The Westmoreland County Community College Educational Foundation, Inc. provides an opportunity for individuals, organizations, businesses and industries to contribute financially to the college. The foundation strives to help meet the critical needs facing the college so that a high-quality, low-cost education is available to all. The work of the foundation helps the college by establishing student scholarships and raising funds for current and long-range goals, including improvements to the campus and support facilities.

The foundation is an IRS-501(c)3 charitable, nonprofit organization governed by its own board of directors. All donations are tax deductible.

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Greensburg, Pennsylvania  
Secretary V/Westmoreland County Community College

**WILLIAM SCALISE**

North Huntingdon, PA  
President/Scalise Construction Inc. &  
Scalise Real Estate, Inc.

**MARCY SLONEKER**

Mount Pleasant, Pennsylvania  
Manager/WalMart-Delmont

**JEFF SMAIL**

Latrobe, Pennsylvania  
General Manager/Smail Buick, GMC & Cadillac

**DR. TUESDAY STANLEY**

Greensburg, Pennsylvania  
President/Westmoreland County Community College

**JOSEPH TRIMARCHI**

Indiana, Pennsylvania  
Vice President of Services/First Commonwealth Bank

**ROSIE WOLFORD**

Latrobe, Pennsylvania  
Manager, Labor Relations - Medical Services/Latrobe Steel

**DEBRA D. WOODS**

Greensburg, Pennsylvania  
Executive Director/Westmoreland County Community  
College Educational Foundation, Inc.

**JOHN D. WRIGHT**

Greensburg, Pennsylvania  
Retired/International Representative/United Association of  
Plumbers and Pipefitters

# Personnel Directory

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## WESTMORELAND EDUCATIONAL FOUNDATION EMERITUS BOARD

### **JAMES BENDEL**

Greensburg, Pennsylvania  
Director of Planned Giving/Saint Vincent College

### **DAVID S. DAHLMANN**

Greensburg, Pennsylvania  
Chairman of the Board/First Commonwealth Financial Corp.

### **DICK J. DICKERT, JR.**

Latrobe, Pennsylvania  
Retired/Elliott Company

### **DENNIS R. DIFFENDERFER**

North Huntingdon, Pennsylvania  
Insurance Broker

### **JOSEPH B. FREILAND**

Irwin, Pennsylvania  
President/Dura-Metal Products Corporation

### **EDWIN R. HOGAN**

West Newton, Pennsylvania  
Retired President/Jones Brewing Company

### **A. RICHARD KACIN**

Murrysville, Pennsylvania  
President/A. Richard Kacin, Inc.

### **DANIEL C. KREZENSKI, D.Ed.**

Lake Wales, Florida  
Retired President/Westmoreland County  
Community College

### **JACK H. MILLSTEIN, JR.**

Youngwood, Pennsylvania  
Managing Director/Millstein Industries

### **DR. DANIEL J. OBARA**

Irwin, Pennsylvania  
Retired President/Westmoreland County  
Community College

### **JOHN A. ROBERTSHAW, JR.**

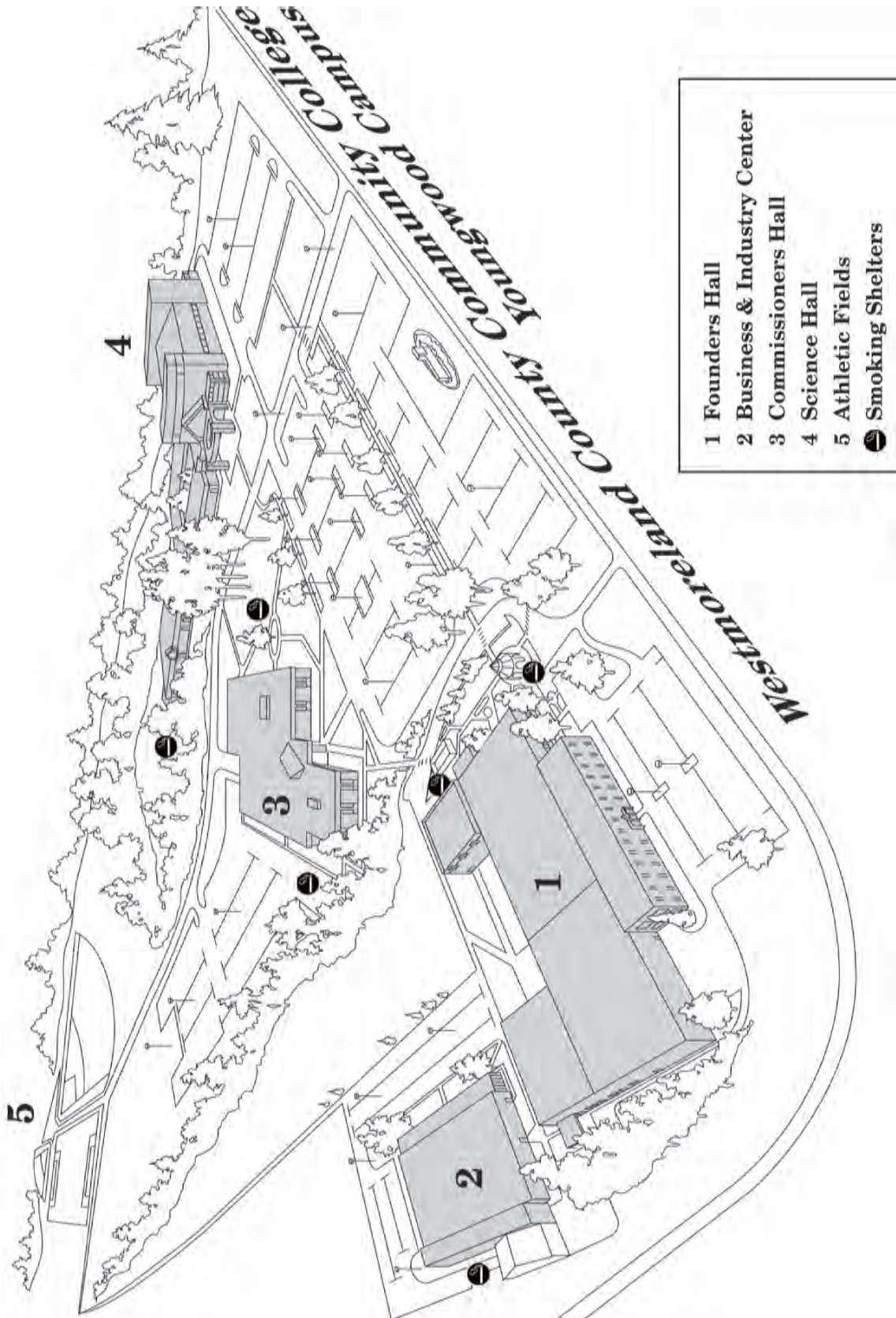
Greensburg, Pennsylvania  
Robertshaw Management, Ltd.

### **BUD SMAIL**

Greensburg, Pennsylvania  
President/Smail Auto Group



# Locations and Facilities



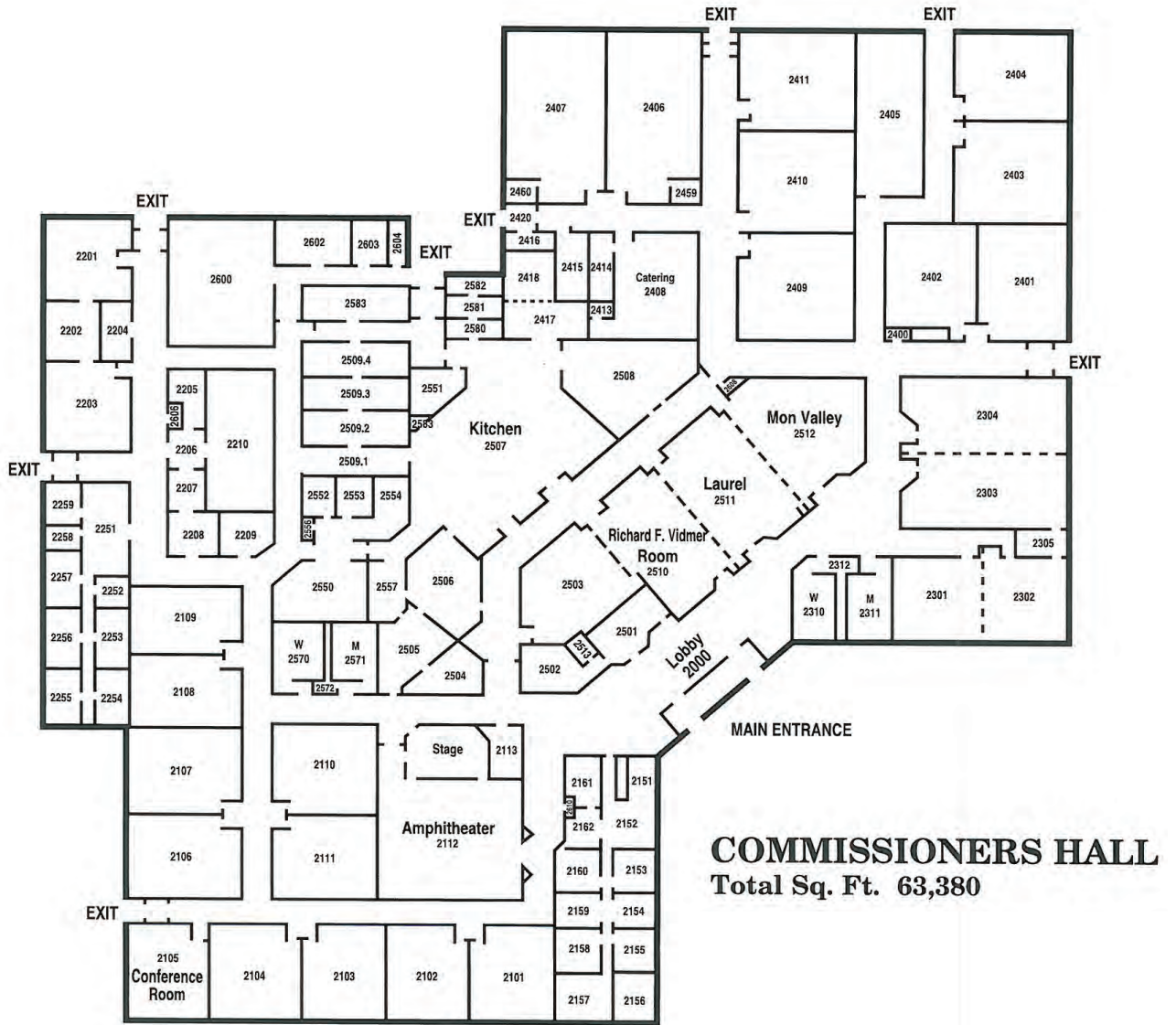




# Locations and Facilities

09/16

## Commissioners Hall



**COMMISSIONERS HALL**  
Total Sq. Ft. 63,380

- Commissioners Hall**
- Continuing Education Grants
- Management
- Culinary Arts Kitchen/Dining Complex
- Dining Rooms
- Lecture Room
- School of Health Professions/School of Culinary Arts



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# Majors

## Associate of Arts Degree — A.A.

The associate of arts degree is designed to parallel the first two years of a baccalaureate degree and transfer to four-year colleges and universities. Some of the areas of study are listed below. This list does not include all possible baccalaureate degree majors. 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
PSY	Psychology
LBI	Biology Transfer
LCH	Chemistry Transfer
LCI	Chiropractic Transfer
LCM	Communication Transfer
LCO	Computer Science Transfer
LEN	Engineering Transfer
LEG	English Transfer
LPH	Health & Physical Education Transfer
LHE	Health Professions Transfer
LHI	History Transfer
LHU	Humanities Transfer
LMA	Mathematics Transfer
LPA	Pre-Law Transfer
LPY	Physics Transfer
LPO	Political Science Transfer
LSO	Sociology Transfer
LTE	Teacher Education Transfer
LIB	Undecided Transfer

## Associate of Fine Arts Degree — A.F.A.

ART	Visual Art
ATH	Art Therapy
GRA	Graphic Design
MUS	Music

## APPLIED INDUSTRIAL TECHNOLOGY

AIT Degree

## ARCHITECTURAL DRAFTING AND DESIGN

ADD Degree

## ART

ARTBS Art Business – Certificate  
ARTTC Art Technology - Certificate

## BAKING & PASTRY

BAA Apprenticeship - Degree  
BAN Non-Apprenticeship - Degree  
BAPA Non-Apprenticeship - Diploma  
BPAA Apprenticeship - Diploma  
BAKPA Non-Apprenticeship - Certificate

## BIONANOTECHNOLOGY

BNT Degree

## BUSINESS

FIN Finance - Degree  
BUS Management - Degree  
HRM Human Resource Management - Degree  
MKM Marketing - Degree  
SBM Entrepreneurship – Degree  
BUSG Business - Diploma  
FINMG Financial Management - Certificate  
BUSMG General Management - Certificate  
HRMGT Human Resource Management - Certificate  
MKTMG Marketing Management - Certificate  
RESMG Real Estate Management - Certificate  
SMBMG Small Business Management - Certificate

## COMMUNICATION DESIGN

CMD Degree  
GRAPB Graphic & Publishing – Certificate  
WEBMD WEB & Mobile Design – Certificate

## COMPUTER INFORMATION SECURITY

CIS Degree  
COIFS Certificate

## COMPUTER NUMERICAL CONTROL

CNU Degree  
CNCCI Certificate  
CNCC2 Certificate  
CNCC3 Certificate  
CNCC4 Certificate

## COMPUTER TECHNOLOGY

CON Networking - Degree  
CPE Programming for the Enterprise - Degree  
CTS Technical Support – Degree  
WEB Web Publishing - Degree  
COTE Diploma  
CODMG Database Application - Certificate  
COFIO Fiber Optic Technologies - Certificate  
COTEC Microcomputer Support - Certificate  
CONET Networking - Certificate  
COREP PC Repair/A+ - Certificate  
COPRG Programming - Certificate  
COWED Web Development - Certificate  
WEPUB Web Applications - Certificate

## Associate of Applied Science Degree, 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

### ADVANCED MANUFACTURING AND ROBOTICS

AMR Degree  
BMANS Basic Manufacturing Systems – Certificate  
AMRT1 Advanced Manufacturing and Robotics  
Technician I – Certificate  
AMRT2 Advanced Manufacturing and Robotics  
Technician II - Certificate

# Majors

## CRIMINAL JUSTICE

CJU	Degree
CJS	Information Security - Degree
CJUCO	Corrections Officer - Certificate
CJUSP	Security Professional - Certificate

## CULINARY ARTS

CUA	Apprenticeship - Degree
CUN	Non-Apprenticeship - Degree
CUAA	Apprenticeship - Diploma
CUNA	Non-Apprenticeship - Diploma

## \*DENTAL ASSISTING

DEAS	Diploma
EXFDA	Expanded Functions Dental Assisting - Certificate

## \*DENTAL HYGIENE

DEH	Degree
-----	--------

## \*DIAGNOSTIC MEDICAL SONOGRAPHY

DMS	Degree
-----	--------

## DIETETIC TECHNICIAN/NUTRITIONAL SERVICES MANAGEMENT

NSM	Degree
-----	--------

## DINING ROOM MANAGEMENT

DINRM	Certificate
-------	-------------

## DRAFTING & DESIGN TECHNOLOGY

DDC	CADD/CAM - Degree
DDM	Mechanical Drafting - Degree

## EDUCATION/PRE-K–GRADE 4

EDU	Degree
EDUC	Diploma
EACHD	Director - Certificate
EDPRK	Certificate

## ELECTRICAL UTILITY TECHNOLOGY

EUT	Degree
-----	--------

## ELECTRONICS ENGINEERING TECHNOLOGY

EET	Electronics - Degree
-----	----------------------

## ENGINEERING TECHNOLOGY

ENT	Degree
-----	--------

## FIRE SCIENCE TECHNOLOGY

FSC	Degree
FSCT	Diploma
FSCTE	Certificate

## FORENSIC SCIENCE

FORSC	Forensic Science Investigator - Certificate
-------	---

## HEATING, VENTILATION, AIR-CONDITIONING & REFRIGERATION

HVA	Degree
HVAC	Heating, Ventilation, Air-Conditioning - Diploma
HVAC1	HVACR Mechanic I - Certificate
HVAC2	HVACR Mechanic II - Certificate

## HOMELAND SECURITY MANAGEMENT

HSM	Degree
HOSEC	Certificate

## HORTICULTURE

FLO	Floriculture - Degree
HOR	Landscape, Design, Installation & Maintenance - Degree
TUR	Turfgrass Management - Degree
FLORT	Floriculture - Certificate
HORTTO	Horticulture - Certificate LANDN Landscape Design - Certificate
LANIM	Landscape Installation & Maintenance - Certificate
TURMG	Turfgrass Management - Certificate

## HOSPITALITY MANAGEMENT

HOSTM	Certificate
-------	-------------

## HOTEL/RESORT MANAGEMENT

TTO	Degree
HTRS	Diploma
HTRSM	Certificate

## HUMAN SERVICES

HUS	Degree
-----	--------

## INDUSTRIAL ELECTRICITY TECHNOLOGY

INELC	Certificate
-------	-------------

## JOURNEYMAN TECHNOLOGY

JRM	Degree
JOUR	Diploma
JOURN	Certificate
JRNT2	Certificate
JRNT3	Certificate
JRNT4	Certificate

## MACHINE TECHNOLOGY

MAT	Degree
MATEI	Certificate

## MANUFACTURING TECHNOLOGY

MAP	Manufacturing Process Technology - Degree
NFM	Nanofabrication Manufacturing - Degree

## \*MEDICAL ASSISTING

MEAS	Diploma
------	---------

## MEDICAL/HEALTHCARE MANAGEMENT

HCM	Degree
HCMG	Diploma
HCMGT	Certificate
HCMCS	Medical Computer Support - Certificate

## MULTIMEDIA & PHOTOGRAPHY

MMT	Multimedia Technology - Degree
PHO	Photography - Degree
ADOBE	Adobe Video Studio - Certificate
PHOTO	Photography - Certificate
VIDTE	Video/Television - Certificate

# Majors

## **NATURAL GAS & OIL TECHNOLOGY**

NGOTT Certificate

## **\*NURSING**

NUR Degree

## **OFFICE TECHNOLOGY**

OTA Office Administration - Degree  
OADM Office Administration - Diploma  
OADMN Office Administration - Certificate  
OTCSV Customer Service - Certificate

## **PARALEGAL**

LEA Degree  
LEAS Diploma

## **PETROLEUM INDUSTRIAL PROCESS OPERATION TECHNOLOGY**

PIPOT Certificate

## **PETROLEUM TECHNOLOGY**

PTT Degree

## **\*PHLEBOTOMY**

PHBSP Phlebotomy/Specimen Processing - Certificate  
PHLEB Phlebotomy - Certificate

## **PIPELINE MECHANIC**

PIMEC Certificate

## **RESTAURANT/CULINARY MANAGEMENT**

RSC Degree  
RSCM Diploma  
RSCMG Certificate

## **\*RADIOLOGY TECHNOLOGY**

RAD Degree

## **SCIENCE TECHNOLOGY**

STF Forensics - Degree

## **WELDING ENGINEERING TECHNOLOGY**

WET Degree  
WELD Diploma  
WELD1 Certificate  
WELD2 Certificate  
WELD3 Certificate

*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

## **Advanced Technology Center**

1001 Technology Drive, Suite 1009  
Mt. Pleasant, PA 15666  
724-925-4269

## **Bushy Run**

6707 Mellon Road  
Export, PA 15632  
724-327-8090

## **Fayette County**

140 North Beeson Boulevard, Suite 304  
Uniontown, PA 15401  
724-437-3512

## **Indiana County**

45 Airport Road  
Indiana, PA 15701  
724-357-1404

## **Latrobe**

130 Depot Street  
Latrobe, PA 15650  
724-925-8473

## **New Kensington**

1150 Fifth Avenue  
New Kensington, PA 15068  
724-335-8110

## **Public Safety Training Center**

65 Public Safety Drive  
Smithton, PA 15479  
724-872-2447

[Admissions@westmoreland.edu](mailto:Admissions@westmoreland.edu)

