



Westmoreland County  
Community College

2013-14

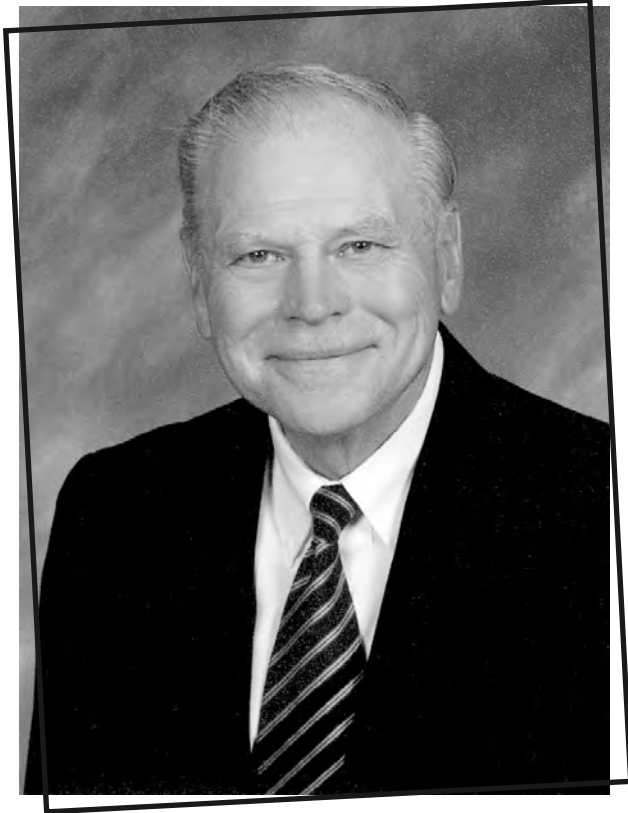
COLLEGE CATALOG  
&  
STUDENT HANDBOOK

**YOU CAN AFFORD SUCCESS**

wccc.edu

# A MESSAGE FROM THE PRESIDENT

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Congratulations! The fact that you are exploring Westmoreland County Community College, our academic programs and services tells me a lot about you. For instance, I know that you have made a decision to make postsecondary education a part of your life which in turn will better your future, and grow your intellectual and employability skills. We are honored that you are considering or have chosen WCCC as your postsecondary educational provider.

We remain committed to you and your educational pursuits. Our faculty and staff stand ready to assist you to become all that you can be. We pledge to challenge and support you and to provide an outstanding educational curriculum to help you reach your dreams. You may be considering an associate degree, diploma, certificate, or just choosing to get your feet wet by taking a course or two. Whatever your goal at this stage in your life, we are ready to walk the path of success with you.

As a WCCC student, you can select from a variety of degree, diploma and certificate programs. We offer 63 associate degree programs, 13 diploma programs and 55 certificate programs that can provide you with the education and skills needed to enter the workforce immediately upon graduation. Or, you can enroll in our associate of arts degree

program which parallels the first two years of a bachelor's degree and then transfer your credits to a four-year university. Articulation agreements with numerous colleges and universities will help to ease the transfer process.

Postsecondary education is not easy, nor should it be. As citizens of this great county and region, you are the leaders of tomorrow. Some of you are leaders of today. Leadership and citizenship are the cornerstones of our great country and we are all faced with living in an increasingly complex and complicated technological world. The challenges to our globe are significant and call for our very best thinking and problem-solving capabilities.

At WCCC we are committed to providing a curriculum, be it a course, program, or degree, that will challenge you intellectually and cultivate your problem-solving skills. We want you to learn how to learn, how to investigate problems and reach viable solutions. This process calls for hard work and commitment. We are committed to modeling these attributes as we work with you. We are confident that you will challenge yourself, grow in significant ways and become all that you can be.

Thank you for trusting us to be a part of your significant life journey.

Sincerely,  
Daniel J. Obara, Ph.D.

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### Notice of Nondiscrimination

Westmoreland County Community College will not discriminate in its educational programs, activities or employment practices based on race, color, national origin, sex, sexual orientation, disability, age, religion, ancestry, union membership or any other legally protected classification. Announcement of this policy is in accordance with state law including the Pennsylvania Human Relations Act and with federal law, including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Section 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990. Inquiries should be directed to the Affirmative Action Officer (presently Sylvia Detar) at 724-925-4190 or in Room 4100D, WCCC Business & Industry Center, Youngwood, PA 15697.

## TELEPHONE DIRECTORY

Admissions Office. . . . .	724-925-4077
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	
Computer Technology/Business . . . . .	724-925-4004
Public Service/Humanities/ Social Sciences/Mathematics . . . . .	724-925-4046
Health Professions. . . . .	724-925-4029
Wordforce Development/Technologies/ Culinary Arts/Physical Sciences/ Horticulture . . . . .	724-925-4086
Education Centers	
Bushy Run . . . . .	724-327-8090
Fayette County . . . . .	724-437-3512
Greene County . . . . .	724-627-3464
Indiana County. . . . .	724-357-1404
Laurel. . . . .	724-539-3390
Mon Valley . . . . .	724-379-4119
New Kensington . . . . .	724-335-8110
Public Safety Training Center . . . . .	724-872-2447
Financial Aid . . . . .	724-925-4063
Health/Fitness Center . . . . .	724-925-4244
Library. . . . .	724-925-4101
Placement Testing . . . . .	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 . . . . .	724-925-4059
Tutoring. . . . .	724-925-4135
Veteran's Services . . . . .	724-925-4056

For other WCCC offices call 724-925-4000.

## 2013-2014 ACADEMIC CALENDAR

### Fall 2013

Classes begin	Aug. 22
Labor Day (college closed)	Sept. 2
No classes	Oct. 1, 24
Thanksgiving recess	Nov. 27-30
Last day for student-initiated withdrawal	Dec. 9
Last day of classes/final exams	Dec. 18

### Spring 2014

Classes begin	Jan. 9
No classes	Jan. 20, March 4, April 16-19
Last day for student-initiated withdrawal	April 21
Last day of classes/final exams	May 7
Commencement	May 8

### Summer 2014

1st session classes begin	May 19
Memorial Day (college closed)	May 26
8-week classes begin	June 9
1st session classes end	June 24
2nd session classes begin	June 25
Independence Day (college closed)	July 4
2nd session classes end	July 30
8-week classes end	July 31

## Philosophy

Westmoreland County Community College, a publicly supported institution, offers a broad range of programs and services to meet the educational needs of the community. The college offers academic programs which parallel the first two years of a baccalaureate degree program, comprehensive occupational programs which prepare students for employment in a broad array of technical fields, a strong core of general education which prepares students to live and work in an increasingly complex and diverse society, and developmental education, which enables students to overcome academic deficiencies in order to be successful in college-level courses.

As a responsible and responsive member of the Westmoreland County community, the college invites business, industry, and community leaders to participate in the development and review of programs and courses to ensure that WCCC provides an up-to-date curriculum that will address the region's needs for well-educated workers.

The college provides a strong dedicated faculty who are committed to student success. In turn, WCCC expects students to commit time and energy to their course work in order to be successful.

The college also offers a variety of noncredit, continuing education courses to meet short-term educational goals as well as to provide leisure and recreational activities for people of all ages.

## Mission/Vision/Values

### MISSION

WCCC improves the quality of life of everyone we touch through education, training and cultural enrichment.

### VISION

WCCC 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

WCCC 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)



## Goals

Westmoreland County Community College is committed to these goals:

Providing quality curricula and educational opportunities and continual upgrading of its instructional capabilities,

Providing a curriculum that meets the needs of its students and provides them with the skills necessary to participate fully in a 21st century world,

Providing excellent physical facilities for the educational programs and the services that the college provides,

Supporting student development and helping students succeed in their educational programs and in

reaching their educational goals,

Expanding its linkages within its entire service area, including businesses, industries, other educational entities, and community organizations,

Providing the technology and the systems necessary to manage and support informational requirements of staff and students,

Enhancing its image and becoming more visible to the public it serves,

Employing effective and efficient resource development and allocation based on sound planning, and

Providing a sense of community throughout the organization.

## ACCREDITATION

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, 1361 Park Street, Clearwater, FL, 727-210-2350.

- The Practical Nursing Diploma Program is fully approved and 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 National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, NY 1006, 800-669-1656, [www.nlnac.org](http://www.nlnac.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 WCCC. The college reserves the right to amend any provisions or requirements at any time. Admission to WCCC acknowledges notice and acceptance of the college's reservation of this right.



**Founded:** 1970

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

**Phone:** 724-925-4000

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

**Enrollment:** approximately 6,612 full- and part-time students who range in age from 17 to 75

**Programs:** 63 associate degree, 13 diploma, and 55 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 WCCC 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 eight off-campus education centers - WCCC-Bushy Run, Export; WCCC-Fayette, Uniontown; Greene County Center, Waynesburg; Indiana County Center, Indiana; WCCC-Laurel, Latrobe; WCCC-Mon Valley, Belle Vernon; and WCCC-New Kensington, New Kensington - that serve all of Westmoreland, Fayette, Greene and Indiana counties.

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

**Faculty:** 82 full-time teaching faculty and approximately 414 part-time faculty

**Academic Calendar:** two 15-week semesters (fall, spring); two 12-week Late-Start sessions (fall, spring); and 5-1/2-, 8- and 11-week summer sessions. 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.

# WCCC EDUCATION CENTERS

WCCC maintains education centers that serve all of Westmoreland, Fayette, Greene and Indiana counties. Day and evening classes are conducted at WCCC-Bushy Run, Export; WCCC-Fayette, Uniontown; Greene County Center, Waynesburg; Indiana County Community College Center, Indiana; WCCC-Laurel, Latrobe; WCCC-Mon Valley, Belle Vernon; and WCCC-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.

## WCCC-Bushy Run

WCCC-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.

## WCCC-Laurel

WCCC-Laurel is located in the former Kennametal facility at 17 Lloyd Avenue, Latrobe. The center houses traditional classrooms, a distance learning classroom, three computer classrooms/labs, electronic classrooms, a natural science classroom/lab, administrative offices and student lounge areas. 724-539-3390

**DIRECTIONS:** From Route 30: Take Route 981 North toward Latrobe. (Route 981 becomes Lloyd Avenue.) The center is located on the right just before crossing the Loyalhanna Creek Bridge.

From Route 22 - New Alexandria: Take Route 981 South and turn right onto Latrobe Derry Road at the traffic light. Cross the Loyalhanna Creek Bridge. (Route 981 becomes Lloyd Avenue.) The center is the second building on the left.

## WCCC-Mon Valley

WCCC-Mon Valley, located off Route 51 on Fells Church Road, Belle Vernon, houses traditional classrooms, a distance learning classroom, a computer laboratory, offices and a student lounge. 724-379-4119

**DIRECTIONS:** From Route 51 North: Make the first left turn at the traffic light past Bill's Golfland. Proceed on Fellsburg Road approximately 1/2 mile to the traffic light and turn right at the light; the Mon Valley Center is on the right.

From Route 51 South: Make the right turn at the United Gospel Alliance Church. Proceed 1 mile and turn left into the college parking lot before the traffic light.

## WCCC-New Kensington

Opened in January 2009, WCCC-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 Career-Link - 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. WCCC 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. WCCC 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.

## Public Safety Training Center

Designed for firefighter, police and emergency services personnel, the first phase of this center, located in South Huntingdon Township, was completed in October 2003. 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.

## **WCCC-Fayette**

Located at the Fayette County Community Action Agency Inc. Campus in Uniontown, WCCC-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.

## **Greene County Education Center**

The Greene County Education Center is located in the EverGreene Technology Park in Waynesburg. Easily accessible from I-79, the center contains two computer labs, a nursing lab, six classrooms and a student lounge. 724-627-3464

**DIRECTIONS:** From I-79 South: Take Exit 14 (Waynesburg). At the bottom of the exit ramp, turn left onto Roy E. Furman Highway. Proceed to the second traffic light and make a left onto Progress Drive. Go straight on Progress Drive until the road splits. Bear to the right and follow the road to EverGreene Technology Park. WCCC is located in the first building on the right.

From I-79 North: Take Exit 14 (Waynesburg). At the bottom of the exit ramp, turn left onto Roy E. Furman Highway. Proceed to the first traffic light and make a left onto Progress Drive and follow the directions listed above.

From Route 21 West: Make a right onto Progress Drive at the light just after the Greene County Airport and follow the directions listed above.

From Route 21 East: Proceed under I-79 and follow the directions from I-79 South listed above.

## **Indiana County Community College Center of WCCC**

The Indiana County Community College 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.



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 WCCC, 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. Submit the online Application for Admission with a \$25 nonrefundable processing fee at [wccc.edu](http://wccc.edu). Readmit students who have previously taken courses at WCCC for college credit should contact the Student Records Office to update their academic record.
2. Upon receipt of the Application for Admission, the Admissions Office will send information on placement testing and registration.
3. Take the placement test and register for classes.
4. 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 WCCC Form.
5. In order to complete the admission process, students must request that their high school send an official copy of their transcript to the WCCC Admissions Office. GED holders must submit their GED certificate with the Application for Admission. Financial aid processing cannot be completed without these transcripts.
6. International students must submit official English-translated academic credentials, TOEFL scores of 61 or higher (TOEFLiBT), a statement of financial support for the entire period of enrollment, and provide documentation of immigration status.

## 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 32-33.)

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 WCCC are encouraged to contact the Admissions Office at 724-925-4077 or 1-800-262-2103 for more information, an application, an interview, or a campus tour.

## Early Enrollment for High School Students

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



## Program of Study/SOAR (Students Occupationally and Academically Ready)

The mission of SOAR is to prepare students for college and high demand, skilled careers. SOAR Programs of Study incorporate secondary and postsecondary education elements aligned with challenging academic standards and relevant career and technical content. SOAR includes the statewide articulation agreement partnerships between the state's secondary schools offering these programs and the postsecondary schools that receive Perkins funding in this state.

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

# ADMISSIONS

- The POS Perkins Statewide Articulation Agreement Documentation Coversheet completed by your secondary school

For more information, go to [www.wccc.edu](http://www.wccc.edu), click on Academic Information in the menu, and select Statewide Articulation; find the box with the SOAR logo. Details on the WCCC degrees that are currently aligned with SOAR Programs of Study can be found by following the “Click Here”

hyperlink; information on SOAR and the required document templates can be found by clicking on the SOAR logo.

At the time of catalog publication, 24 WCCC 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 WCCC degrees aligned with secondary Programs of Study.

CIP Code and Secondary Program Names	High School Grad Year	WCCC Program	Credits Articulated
<b>52.0302</b> Accounting Technology/ Technician & Bookkeeping	2010-2015	Accounting, AAS	9
<b>52.0401</b> Administrative Assistant & Secretarial Science, General	2010-2015	Office Technology, AAS, Office Administration Option	12
<b>11.0901</b> Computer Systems Networking & Telecommunications	2011-2013	Computer Technology, AAS, Networking Option	9
		Computer Information Security, AAS	9
		Computer Technology, AAS, Technical Support Option	9
<b>51.0601</b> Dental Assisting	2013-2015	Dental Assisting, Diploma	8
<b>15.1301</b> Drafting & Design Technology/ Technician, General	2011-2015	Engineering Technology, AAS	12
		Drafting and Design Technology, AAS, CADD/CAM Option	12
		Drafting and Design Technology, AAS Mechanical Drafting & Design Option	12
<b>15.0303</b> Electrical, Electronic & Communications Engineering Technology/Technician	2011-2013	Electronics Engineering Technology, AAS, General Option	9
		Manufacturing Technology, AAS, Nanofabrication Manufacturing Option	9
		Computer Systems Electronics Technology, AAS, Electro-Optics Option	9
		Computer Systems Electronics Technology, AAS, Networking Option	9
<b>47.0201</b> Heating, Air Conditioning, Ventilation & Refrigeration Maintenance Technology	2011-2013	Heating, Ventilation, Air-Conditioning and Refrigeration, AAS	11
<b>43.9999</b> Homeland Security, Law Enforcement, Firefighting and Related Protective Services	2011-2013	Homeland Security, AAS	9
<b>12.0508</b> Institutional Food Workers	2011-2013	Baking and Pastry, AAS, Apprenticeship Option	11
		Baking and Pastry, AAS, Non-Apprenticeship Option	11
		Culinary Arts, AAS, Apprenticeship Option	11
		Culinary Arts, AAS, Non-Apprenticeship Option	11
<b>48.0501</b> Machine Tool Technology/ Machinist	2011-2013	Machine Technology, AAS	12
		Computer Numerical Control Technology, AAS	9

<b>CIP Code and Secondary Program Names</b>	<b>High School Grad Year</b>	<b>WCCC Program</b>	<b>Credits Articulated</b>
<b>51.0801</b> Medical/Clinical Assistant	2013-2015	Medical Assisting, Diploma	3
<b>52.1801</b> Sales./Distribution & Marketing Operations, General	2010-2015	Business, AAS, Marketing Management Option	9
<b>48.0508</b> Welding Technology/Welder	2010-2012	Welding Engineering Technology, AAS	10
<b>48.0508</b> Welding Technology/Welder	2013-2015	Welding Engineering Technology, AAS	2

## 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 WCCC 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 should contact the Admissions Office for specific details.

## Transfer of Credit

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

Recent high school graduates who request transfer of credit are required to take the placement test. Determination of courses to be transferred will be made after placement test scores are evaluated.

## 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 WCCC Admissions Office. CLEP exam scores must be sent directly to the Admissions Office from the College Entrance Examination Board.

WCCC serves as an official CLEP testing center. Exams are offered by individual appointment only through the Learning Support Services Testing Center.

Appointments and more information about CLEP can be obtained by calling 724-925-4133.

## Credit by Examination

Students may demonstrate mastery of WCCC 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 WCCC Form and must have official Advanced Placement Examination scores sent directly to the WCCC 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. 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 WCCC 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 \$75 fee is charged for assessment of each course. See your advisor for further information.

## Placement Testing

All new students are required to take placement tests. Students who have completed an associate or bachelor's degree from an accredited community college or university may be exempt upon receipt of college transcripts. Applicants for nursing and other allied health programs may be required to complete placement tests regardless of degrees completed.

New part-time students who do not plan on pursuing a degree or diploma are not required to take placement tests. However, placement tests are required prior to enrolling in mathematics or English courses and any course with a prerequisite of English 080. Furthermore, nondegree students are required to take placement tests after the completion of 12 credits in order to continue their enrollment. Visiting high school students are required to take placement tests.

On the basis of the placement tests, students will be advised to enroll in appropriate freshman courses, pursue developmental course work prior to taking other credit courses, or consider noncredit academic preparation before enrolling in credit course offerings at the college.

Call the College Learning Center at 724-925-6893 to schedule the placement test. There is no fee for this testing.

## Registration

Dates for course registration are printed in the class schedule for each session. Registration begins approximately April 1 for the fall sessions, November 1 for the spring sessions and December 1 for the summer sessions. Class schedules are available at the Youngwood campus

and the education centers. Schedules can be requested by calling 724-925-4077 or 1-800-262-2103. Class may also be viewed online at [wccc.edu](http://wccc.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. Counselors 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 34-209.

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 WCCC 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 [wccc.edu](http://wccc.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., Friday. Registration procedures are printed in all the class schedules.

## Developmental Courses

Roughly three-quarters of the students who come to WCCC qualify for developmental courses based on placement testing results. These courses in reading, writing and mathematics are specifically designed to prepare students for success in their academic careers. Students may qualify for one to three development courses per semester for one or two semesters. While developmental courses serve as prerequisites, they are not applied to degree requirements. Those students who actively participate in the developmental program are more likely to succeed and complete their course of study.

## Personal Development Courses

First-time, full-time students who place into one or more developmental courses are required to take those courses and take PDV 160 (Strategies for Academic Success). This is a one-credit course designed to help students succeed in college by exploring such topics as time management, note taking, study habits, goal setting and college resources.

## 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 WCCC full-time students to register for courses at these institutions and for students at UPG and SHU to register for courses at WCCC. The student must be enrolled 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 WCCC Admissions Office and obtain appropriate signatures for approval.

## Change of Schedule

During the first week of each course, students may add or drop courses by completing the official forms.

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.

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.

## Change of Major

Students who wish to change their major program must complete a Change of Major Form in the Student Information Center. Course substitutions approved under the former major must be resubmitted for approval in the new program of study.

## Withdrawal From Courses

Withdrawal from a course becomes official only after a Student Withdrawal Request is processed by the Records Office. Students who wish to withdraw from a course or courses should request Student Withdrawal Request forms at the Student Services Success Center in Founders Hall. Forms are also available at the education centers.

- Students who drop classes within the first three weeks of the semester will be dropped from the course and no record of the course will appear on the transcript.
- Students who officially withdraw from a course after the third week but prior to the last day of the seventh week of the semester will receive a "W" on the transcript indicating withdrawal from the course.
- Students who withdraw after the seventh week but before the end of the fourteenth week of the semester will receive a W or F grade as determined by the instructor.
- Withdrawals are not permitted after the fourteenth week.
- Students who initially attend class but, due to poor attendance and/or participation, are not making

satisfactory progress, may be recommended for withdrawal by the instructor after the third week and prior to the end of the twelfth week of the semester. Students recommended for withdrawal are notified by the Records Office and receive a "W" on the transcript.

## WCCC 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. WCCC 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.

- Bellevue University
- Bethany College
- Burlington College
- California University of Pennsylvania
- Carlow University
- Chatham University
- Clarion University of Pennsylvania
- Edinboro University
- Franklin University
- Immaculata University
- Indiana University of Pennsylvania
- Kaplan University
- Pennsylvania State University/Fayette
- Pennsylvania State University/Greater Allegheny
- Pennsylvania State University/New Kensington
- University of Pittsburgh/Oakland
- University of Pittsburgh/Greensburg
- Point Park University
- Robert Morris University
- Saint Joseph University
- Saint Vincent College
- Seton Hill University
- Slippery Rock University of Pennsylvania
- Strayer University
- University of Phoenix
- West Liberty University

## 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 ex-

plained in a written document between the two institutions.

- Pennsylvania State System of Higher Education Universities (PaTRAC)
  - Bloomsburg
  - California
  - Cheney
  - Clarion
  - East Stroudsburg
  - Edinboro
  - Indiana
  - Kutztown
  - Lock Haven
  - Mansfield
  - Millersville
  - Shippensburg
  - Slippery Rock
  - West Chester
- 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 WCCC 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) (A.A.S.) (PreK-Grade-Education)
  - Bloomsburg
  - California
  - Cheney
  - Clarion
  - East Stroudsburg
  - Edinboro
  - Indiana
  - Kutztown
  - Lock Haven
  - Mansfield
  - Millersville
  - Shippensburg
  - Slippery Rock
  - West Chester
- Art Institute of Pittsburgh
  - A.A.S. Culinary Arts - Apprenticeship Option
  - A.A.S. Culinary Arts - Non-Apprenticeship Option
  - A.A.S. Graphic Design & Animation
  - A.A.S. Multimedia and Photography
  - A.A.S. Restaurant/Culinary Management
  - A.A.S. Web Technology - Web Publishing Option
  - A.F.A. Studio Arts Option
- Bellevue University
- Franklin University
- Geneva College
- Immaculata University
- Kaplan University
- Point Park University
- Robert Morris University
- Seton Hill University
  - A.F.A. Art Therapy Option
- Strayer University
- University of Phoenix



# EXPENSES AND FINANCIAL AID

## 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 . . . . . \$ 93 per credit
      - Out-of-County Residents . . . . \$186 per credit
      - Out-of-State Residents . . . . . \$279 per credit
    - b. **Flat Rate: 12-18 credits**
      - Westmoreland County Residents . . . . \$1,395
      - Out-of-County Residents . . . . . \$2,790
      - Out-of-State Residents . . . . . \$4,185
2. Technology Service Fee . . . . . \$ 15 per credit
3. Student Service Fee . . . . . \$ 3 per credit
4. Facilities Fee . . . . . \$ 3 per credit
5. Capital Fee
  - Out-of-County Residents only . . . \$ 6 per credit
6. Lab Fees (*Most laboratory courses have a fee. The fees range from \$10 to \$25*) . . . . . \$ varies

## Other Fees

1. Application fee . . . . . \$ 25
2. Books & Supplies - These costs vary according to individual courses.
3. Credit by exam, per course. . . . . \$ 30
4. Assessment of Experiential Learning, per course . . . . . \$ 75
5. 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 at the main campus or any of 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 WCCC, and the student's social security 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.

## 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.*

**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.

## TuitionPay Payment Plan

Offered by WCCC in conjunction with Sallie Mae, the TuitionPay Payment Plan lets students pay educational expenses interest-free in four payments. The payment plan is offered during the fall and spring semesters only. The payment plan is not offered for Continuing Education classes. **Enrollment in the TuitionPay Payment Plan must be finalized by the payment due date on your billing statement.** For more information, visit [tuitionpay.salliemae.com](http://tuitionpay.salliemae.com) or call 1-800-635-0120 to speak with a TuitionPay consultant. **Sallie Mae assesses an enrollment fee for this service.**

## Financial Aid

Financial aid is a grant, scholarship, loan or employment opportunity which assists students with their educational expenses. Most financial aid is awarded on the basis of financial need, or the difference between the cost of education (tuition, fees, books, transportation, etc.), and the amount parents and/or students can contribute toward these expenses.

WCCC participates in several state and federal financial aid programs. (See the chart on page 16.)

## Basic Eligibility Criteria

In order to be eligible for many forms of financial aid a student must:

- Be a citizen or eligible noncitizen of the United States.
- Be enrolled in a degree, diploma or certificate program (audited courses do not count toward enrollment status and registered classes must count toward program of study).
- Have a high school diploma, GED or have been home schooled.
- Be registered with Selective Service if a male.
- Be in good academic standing and maintain satisfactory progress according to college, state and federal regulations.

## How to Apply

1. Complete the Free Application for Federal Student Aid (FAFSA) and mail it to the processor as soon as possible after January 1. In order for the Financial Aid Office to receive the application information from the processor, students must include WCCC as one of the colleges they plan to attend. WCCC's Title IV code is 010176.
2. Submit tax returns, corrections and any other requested documentation to the Financial Aid Office in a timely manner.
3. To ensure timely consideration, students should have paperwork on file in the Financial Aid Office by April 15 for the upcoming fall term.

The grant application is available online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). The loan application is available online at [studentloans.gov](http://studentloans.gov).

## Minimum Standards of Academic Progress for Financial Aid

To continue to receive financial aid from the government-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). Students who earn a grade point average below 2.0 may lose financial aid for future semesters and should check with the Financial Aid Office.

The minimum standards of completion are as follows:

**Pell Grant and College Work-Study** — Students must successfully complete 70% of the credits they attempt.

**PHEAA Grant** — Students must successfully complete at least 24 credits per academic year if full-time and 12 credits if part-time.

**Direct Loan/PLUS** — Students must successfully complete 70% of the credits attempted per year. In addition, they must successfully complete 30 credits each year in order to qualify for level two in the loan program. Website to apply is [studentloans.gov](http://studentloans.gov).

Academic progress may be reviewed each term to determine future eligibility for Pell or PHEAA grants. Eligibility for loans and work-study will be based on a student's past academic performance at the college. Academic performance is reviewed after each semester or loan term.

Courses with an I (incomplete), W (withdrawal) or an F grade will be considered as courses attempted but not successfully completed. Financial aid may be awarded for repeated courses only if the original grade in the course is below a "C." Financial aid will not be awarded for courses repeated more than once.

**Financial aid is awarded for courses that count toward a student's degree, diploma or certificate. Students who complete more than 150% of their original program credits will have their aid eligibility reviewed. Aid may not continue to pay for future programs. Students will have to complete an appeal request, and have it approved to get aid.**

## Return of Title IV Student Aid Requirements for Students Who Withdraw from WCCC

Up through the 60 percent point in each payment period of enrollment, a pro rated schedule is used to determine the amount of Title IV funds the student has earned at the time of the withdrawal. After the 60 percent point in the payment period or period of enrollment, a student has earned 100 percent of the Title IV funds (Federal Pell Grant, Federal Stafford Subsidized and Unsubsidized Loans, Federal PLUS loan and Federal Nursing Loan).

In accordance with federal regulations, students who withdraw on or before the 60 percent of the award period will be required to repay the unearned portion of the Federal Title IV student aid program. The student must complete a withdrawal form that is available from the Records Office.

An example: Student totally withdraws at the end of the fourth week of a 16-week term. The school's refund policy ends at the second week of classes. The student's tuition for the term is \$2,000 and the student had a Pell Grant for \$2,400. Since the student was in school for four weeks, the student earned 25% of their aid, 25% x \$2,400, which is \$600. Therefore the student's unearned portion of the Pell Grant must be returned to the grant and the student would owe the balance of the school's tuition, \$2,000 - \$600 (earned aid) is, \$1,400 to the school. Students who have questions about dropping classes should always check with the Financial Aid office for clarification.

# EXPENSES AND FINANCIAL AID

FINANCIAL AID PROGRAMS					
TYPE OF AID	SOURCE	AWARD AMOUNTS	WHO IS ELIGIBLE TO APPLY	HOW TO APPLY	WHEN TO APPLY
Pell Grant	Federal Govt.	Yearly award may range from \$400 to \$5,500 as determined by a federal formula. Based on financial need.	Any student intending to enroll in a credit course at WCCC and must have a high school diploma or GED to qualify	Complete Free Application for Federal Student Aid. Must reapply each year. www.fafsa.ed.gov	After January 1/ at least 2 months before semester
PHEAA Grants PA Higher Educ. Assistance Agency	State of PA	Range from \$200 to \$2,400 per year. Amount determined by state formula. Based on financial need.	Full-time or part-time (at least 6 credits) student enrolled in two-year associate degree program, a U.S. citizen, PA resident, high school grad or GED recipient	Complete Free Application for Federal Student Aid. Must reapply each year.	By August 1
Direct Loan	Federal Govt.	Base amounts, \$3,500 first-year student and \$4,500 second-year student.	Student must be enrolled at least half-time (6 credits) and a U.S. citizen Website: studentloans.gov	Complete Free Application for Federal Student Aid and Master Promissory Note. See wccc.edu.	3 months before semester
PLUS (Parents Loan for Undergraduate Students)	Federal Govt.	Up to cost of education minus other aid. Student must be a "dependent."	Students enrolled at least half-time who pass the the necessary credit approval	Forms available from PHEAA or see wccc.edu	2 months before semester
WCCC Work-Study Program	WCCC	Determined by WCCC Financial Aid Office	Any student enrolled at least half-time (6 credits)	Complete a student employment application	Apply any time
Federal College Work-Study Program	Federal Government	Variable; based on unmet financial need	Any student intending to enroll in a credit course at WCCC	Complete Free Application for Federal Student Aid. Must reapply each year.	Apply any time
State Vocational Rehabilitation Educational Assistance	State & Federal Government	Variable; determined by Office of Vocational Rehabilitation (OVR)	Mentally, physically or emotionally disabled students intending to enroll in a credit course at WCCC	Contact local OVR for application forms	3 months before semester
Scholarships	WCCC Foundation	Variable; see listings on pages 15-19 or contact the WCCC scholarship coordinator, 724-925-4215	Based on criteria of scholarship	Application available in WCCC Financial Aid Office or at wccc.edu	Varies by scholarship; as soon as possible
Veterans Benefits	Veterans Administration	Variable; depends on program	Based on VA program eligibility requirements	Applications available from WCCC Financial Aid Office	2 months before semester

## Scholarships

Listed on the following pages are a number of scholarships available at WCCC. Interested students must submit a WCCC Scholarship Application Form. Students may inquire about scholarships at any time, but preference will be given to students who apply by May 1 unless an earlier date is indicated. Application forms are available from the WCCC Financial Aid Office, high school counselors or online at [www.wccc.edu](http://www.wccc.edu). This list is subject to change based on funding available.

### ACADEMIC SCHOLARSHIPS

Scholarship	Donor	Amount	Eligibility Criteria
President's	WCCC	<ul style="list-style-type: none"> <li>• Full tuition and fees for two years (Westmoreland County graduates)</li> <li>• Half tuition and fees for two years (graduates from Fayette, Greene and Indiana counties)</li> <li>• Renewable for second year based on 3.0 GPA</li> <li>• Multiple awards</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 Westmoreland County high school graduates</li> <li>• 2013 Fayette, Greene and Indiana county high school graduates</li> <li>• Top 10 percent of their class</li> <li>• High school transcript required</li> </ul>
Trustees' Meritorious	WCCC	<ul style="list-style-type: none"> <li>• Full tuition for two years (Westmoreland County graduates)</li> <li>• Half tuition for two years (graduates from Fayette, Greene and Indiana counties)</li> <li>• Renewable for second year based on 2.5 GPA</li> <li>• Multiple awards</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 Westmoreland County high school graduates</li> <li>• 2013 Fayette, Greene and Indiana county high school graduates</li> <li>• Minimum 3.0 GPA</li> <li>• High school transcript required</li> </ul>
Phi Theta Kappa Academic Excellence	Phi Theta Kappa Fraternity & Friends	<ul style="list-style-type: none"> <li>• \$500/term</li> </ul>	<ul style="list-style-type: none"> <li>• Academic history</li> <li>• Requires short essay and two letters of recommendation**</li> </ul>

### GENERAL SCHOLARSHIPS

Scholarship	Donor	Amount	Eligibility Criteria
Humanitarian Award	WCCC Educational Foundation	<ul style="list-style-type: none"> <li>• \$250/term</li> <li>• Renewable for second year</li> </ul>	<ul style="list-style-type: none"> <li>• Westmoreland County resident</li> <li>• Minimum 3.5 GPA</li> <li>• Short essay stating need required**</li> </ul>
Nikki's 2nd Chance Scholarship	Jennifer Kominsky	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• Full-time student</li> <li>• Preference given to residents of Westmoreland County</li> <li>• Essay required**</li> </ul>
The Wright Thing to Do Scholarship	John & Linda Wright	<ul style="list-style-type: none"> <li>• \$250/term</li> </ul>	<ul style="list-style-type: none"> <li>• Full- or part-time student</li> <li>• Must maintain a GPA of 2.5 to receive for the spring award</li> <li>• Preference given to Westmoreland County residents</li> <li>• Based on need</li> </ul>
American Legion Post 446 Honoring America's Veterans	American Legion Post 446	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Must be a veteran (w/discharge other than dishonorable)</li> <li>• Based on financial need*</li> <li>• Minimum 2.0 GPA</li> </ul>
Smail Auto Group	Smail Auto Group	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Based on financial need*</li> </ul>
Elliott Company	Elliott Company	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Based on financial need*</li> </ul>

# SCHOLARSHIPS

## GENERAL SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
First Niagara	First Niagara	• Varies	• Based on financial need*
Highmark Blue Cross/ Blue Shield	Highmark Blue Cross/Blue Shield	• Varies	• Based on financial need*
United Association of Plumbers & Pipefitters Award	UA of Plumbers & Pipefitters	• Varies	• Based on financial need*
West Penn Power A First Energy Co.	West Penn Power	• Varies	• Based on financial need*
UPS	UPS	• Varies	• Based on financial need*

## SPECIAL CRITERIA SCHOLARSHIPS

Scholarship	Donor	Amount	Eligibility Criteria
Alumni Association	WCCC Alumni Association	• \$250/term • Multiple awards	• Full- or part-time student • Preference given to family members of WCCC alumni (state relationship on application)
Scott Brewer Early Child Care Club	Early Childhood Education Club	• Varies • Multiple awards	• Based on financial need* • Used in WCCC Children's Center
Eberly Family Fund	Eberly Family Fund	• \$500/term • Multiple awards	• Preference given to Fayette, Washington and Greene county students • Based on financial need*
Eberly Family Fund – Uniontown Campus	Eberly Family Fund	• \$500/term • Multiple awards	• Preference given to Fayette County students • Based on financial need* • Must attend Fayette County Center
Reschini Agency, Inc.	Reschini Foundation	• Full tuition • Up to \$2,500/semester	• Must be a family member of a Reschini employee (state relationship on application) • Preference given to employees of the Reschini Agency, Inc. • Based on financial need*
Ford Business Machines	Ford Business Machines	• \$250	• Preference will be given to Uniontown, Fayette County students • Based on financial need*
Dr. Martin Luther King, Jr. Meritorious	WCCC Black Awareness Committee	• Full-time \$250/term • Part-time \$125/term	• African-American student • Based on academic history, community service and financial need* • Requires short essay**
Never Enough Boutique	Never Enough Boutique & Friends	• \$750/term	• Women who need training to enter or re-enter the workforce • Based on financial need* • Requires short essay stating need**

# SCHOLARSHIPS

<b>SPECIAL CRITERIA SCHOLARSHIPS (CONTINUED)</b>			
<b>Scholarship</b>	<b>Donor</b>	<b>Amount</b>	<b>Eligibility Criteria</b>
Pennsylvania Governor's Conference for Women	WCCC Educational Foundation	<ul style="list-style-type: none"> <li>Varies</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 3.0 GPA</li> <li>Traditional student</li> <li>First semester</li> <li>Must be female</li> <li>Must complete volunteer work or community activism</li> <li>Short essay describing leadership experience**</li> <li>Based on financial need*</li> </ul>
New Alexandria Lions Club	New Alexandria Lions Club	<ul style="list-style-type: none"> <li>\$375/term</li> <li>Multiple awards</li> </ul>	<ul style="list-style-type: none"> <li>Priority given to New Alexandria Lions Club service area</li> </ul>
New Beginnings	Dr. Steven C. & Karen G. Ender & Friends	<ul style="list-style-type: none"> <li>\$250/term</li> </ul>	<ul style="list-style-type: none"> <li>Must be a first-time student age 24 or older</li> <li>Must be enrolled at least part-time (6 cr.)</li> <li>Based on financial need*</li> </ul>
Oliver K. Painter Memorial	Oliver K. Painter	<ul style="list-style-type: none"> <li>\$250/term</li> </ul>	<ul style="list-style-type: none"> <li>Must be a Mt. Pleasant or Southmoreland high school senior (awarded on a rotating basis)</li> </ul>
Youngwood Lions	Youngwood Lions	<ul style="list-style-type: none"> <li>\$250/term</li> </ul>	<ul style="list-style-type: none"> <li>Resident of New Stanton-Youngwood area</li> <li>Must attend Lions Club meeting</li> <li>Based on financial need*</li> <li>Given to second-year students</li> <li>Minimum 2.5 GPA</li> </ul>
Slickville Lions Club Scholarship	Slickville Lions Club	<ul style="list-style-type: none"> <li>Varies</li> </ul>	<ul style="list-style-type: none"> <li>Based on financial need*</li> <li>Must have a family member in the Slickville Lions Club or reside in the Slickville Lions Club service area</li> </ul>
Greater Rostraver Chamber of Commerce	Greater Rostraver Chamber of Commerce	<ul style="list-style-type: none"> <li>Varies</li> </ul>	<ul style="list-style-type: none"> <li>Full-time WCCC student</li> <li>Minimum 2.0 GPA</li> <li>Resident of Belle Vernon, North Belle Vernon, Forward Township, Elizabeth Township, Washington Township, Perryopolis &amp; surrounding municipalities of Allegheny, Westmoreland and Fayette counties</li> </ul>
Dr. Nancy I. Davis	Dr. Nancy I. Davis	<ul style="list-style-type: none"> <li>\$250/term</li> </ul>	<ul style="list-style-type: none"> <li>Must be full-time student</li> <li>Must be enrolled at the WCCC Greene County center</li> <li>Based on financial need*</li> <li>Minimum 2.5 GPA</li> </ul>
S & T Wealth Management Supporting Higher Education	S & T Bank	<ul style="list-style-type: none"> <li>Varies</li> </ul>	<ul style="list-style-type: none"> <li>Must be a full- or part-time student</li> <li>Preference given to residents of the S &amp; T Bank Market: Allegheny, Armstrong, Blair, Butler, Cambria, Clarion, Clearfield, Indiana, Jefferson, Westmoreland</li> <li>Based on financial need*</li> </ul>
Grant E. & Betty J. Cooper	The Estate of Betty J. Cooper	<ul style="list-style-type: none"> <li>\$250/term</li> </ul>	<ul style="list-style-type: none"> <li>Must be a graduate of a high school in Mt. Pleasant Township</li> <li>Must demonstrate financial need*</li> </ul>



# SCHOLARSHIPS

## SPECIAL CRITERIA SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
Delmont-Salem Rotary Club Scholarship	Rotary Club of Delmont-Salem	• \$125/term	<ul style="list-style-type: none"> <li>• Must be enrolled at the WCCC Bushy Run Center for a minimum of 3 credits</li> <li>• Minimum 2.5 GPA</li> <li>• Preference given to residents of Delmont and Salem Township</li> <li>• Recipient is required to attend Delmont-Salem Rotary meeting at end of semester</li> </ul>
Rev. Kenneth Rutter Memorial Scholarship	Kenneth Rutter Estate	• Varies	<ul style="list-style-type: none"> <li>• Based on financial need*</li> </ul>
Windy Ridge Retreat Center/Allegheny Power/Greene Center Scholarship	Windy Ridge Retreat Center	<ul style="list-style-type: none"> <li>• \$500/term</li> <li>• Multiple awards</li> </ul>	<ul style="list-style-type: none"> <li>• Students must be enrolled at the WCCC Greene County Center and remain enrolled there</li> <li>• 3 years immediate past residency in Greene County (will need proof)</li> <li>• Candidate for an AAS in the following areas of study - Business, Education, Medical, Sciences, Information Technology</li> <li>• Must maintain a 2.5 to receive further awards</li> </ul>

## PROGRAM SPECIFIC SCHOLARSHIPS

Scholarship	Donor	Amount	Eligibility Criteria
<b>Business</b>			
First Commonwealth Bank	First Commonwealth Bank	• Varies	<ul style="list-style-type: none"> <li>• Minimum 2.5 GPA</li> <li>• Based on financial need *</li> <li>• Must be enrolled in a Business program</li> </ul>
Dr. Thomas Lloyd Memorial	Friends of Dr. Thomas Lloyd	• \$100/term	<ul style="list-style-type: none"> <li>• Must have completed 12 credits</li> <li>• Awarded to the applicant with highest GPA</li> <li>• Must be enrolled in a Business Management program</li> </ul>
<b>Career Technology</b>			
Hamill Career Technology	Hamill Mfg.	• \$750/term	<ul style="list-style-type: none"> <li>• Must graduate from a career-technical school</li> <li>• Must be enrolled in a SOAR Program</li> <li>• Minimum of 2.0 GPA</li> <li>• Based on financial need*</li> </ul>
The Williams Foundation	Williams Foundation	• \$500/term	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• Must be enrolled in a SOAR program</li> </ul>
<b>Criminal Justice</b>			
E.E. "Duck" Cooley	WCCC Criminal Justice Fraternity	• \$200/spring term	<ul style="list-style-type: none"> <li>• Second semester</li> <li>• Minimum 3.0 GPA</li> <li>• Active member of CRJ Fraternity</li> </ul>
Eli Award	WCCC Criminal Justice Fraternity	• \$200/fall term	<ul style="list-style-type: none"> <li>• Returning student</li> <li>• Minimum 3.0 GPA</li> <li>• Active member of CRJ Fraternity</li> </ul>
Cecil Yates Memorial	Friends & relatives of Cecil Yates	• \$200/term	<ul style="list-style-type: none"> <li>• Returning student</li> <li>• Based on financial need*</li> <li>• Must be enrolled in Criminal Justice</li> </ul>

## PROGRAM SPECIFIC SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
<b>Criminal Justice (continued)</b>			
Corporal Jason Alan Shaffer Memorial	Family & friends of Corporal Shaffer	• \$125/term	<ul style="list-style-type: none"> <li>• Criminal Justice major</li> <li>• Derry Area High School graduate preferred</li> <li>• Minimum 2.0 GPA</li> <li>• Based on financial need*</li> </ul>
<b>Culinary Arts/Hospitality</b>			
American Culinary Federation	ACF Laurel Highlands Chapter	• \$500/semester	<ul style="list-style-type: none"> <li>• Junior member of the ACF Laurel Highlands Chapter</li> <li>• 10 credits or more in the major</li> <li>• Based on academic achievement</li> <li>• Must be enrolled in the Culinary Arts or Baking &amp; Pastry Apprenticeship program</li> </ul>
Chef Jack F. Braun Memorial	Friends & family of Chef Jack F. Braun	• \$500/semester	<ul style="list-style-type: none"> <li>• Minimum of 10 credits in the major</li> <li>• Based on academic achievement</li> <li>• Minimum 2.0 GPA</li> <li>• Must be enrolled in the Culinary Arts or Baking &amp; Pastry program</li> </ul>
Chef Regis Holden	Regis Holden	• \$250/term	<ul style="list-style-type: none"> <li>• Full time student</li> <li>• Minimum 2.5 GPA</li> <li>• Based on financial need *</li> <li>• Must be enrolled in the Culinary Arts Apprenticeship or Non-Apprenticeship associate degree program</li> </ul>
Chef Richard Rosendale Scholarship	Chef Richard Rosendale	• \$500	<ul style="list-style-type: none"> <li>• Full-time student</li> <li>• Must have at least a 2.5 GPA</li> <li>• Based on financial need*</li> <li>• Must be enrolled in the Culinary Arts Apprenticeship or Non-Apprenticeship associate degree program</li> </ul>
Celli-Flynn Brennan Architects & Planners	Celli-Flynn Brennan Architects & Planners	• Varies	<ul style="list-style-type: none"> <li>• Based on financial need*</li> </ul>
McDowell Associates,	McDowell Associates, Inc.	• Varies	<ul style="list-style-type: none"> <li>• Based on financial need*</li> </ul>
Donald D. Mateer Foundation	Donald D. Mateer Foundation	<ul style="list-style-type: none"> <li>• Varies</li> <li>• Renewable second year</li> </ul>	<ul style="list-style-type: none"> <li>• New student</li> <li>• Based on financial need*</li> <li>• Minimum 2.75 GPA to renew</li> </ul>
Center for Culinary Arts/Hospitality Hall of Fame Scholarship honoring Chef Debbie Balog	Culinary Hall of Fame	• \$500	<ul style="list-style-type: none"> <li>• Full-time student</li> <li>• Must have at least a 2.5 GPA</li> <li>• Based on financial need*</li> <li>• Must be enrolled in the Culinary Arts Apprenticeship or Non-Apprenticeship associate degree program</li> </ul>
Center for Culinary Arts/Hospitality Hall of Fame Scholarship honoring Chef Lenora Palonder	Culinary Hall of Fame	• \$500	<ul style="list-style-type: none"> <li>• Full-time student</li> <li>• Must have at least a 2.5 GPA</li> <li>• Based on financial need*</li> <li>• Must be enrolled in the Culinary Arts Apprenticeship or Non-Apprenticeship associate degree program</li> </ul>

# SCHOLARSHIPS

## PROGRAM SPECIFIC SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
<b>Culinary Arts/Hospitality (continued)</b>			
Seven Springs	Seven Springs	• Varies	• Based on financial need*
Nemacolin Woodlands Resort	Nemacolin Woodlands Resort	• Varies • Multiple Awards	• Must be enrolled in the Nemacolin Woodlands Program • Based on financial need*
Walmart	Walmart	• Varies • Multiple awards	• Based on financial need*
Helen Wright	Nancy Longo	• \$125/term	• Minimum 2.5 GPA • Preference given to a culinary arts student
Wiley Publishers Book	Wiley Publishers	• Books for one year	• Culinary student enrolled in the Nemacolin Woodlands program • Based on financial need*
<b>Dental Program</b>			
Susan "Abby" Belli Memorial Scholarship	Husband, Family and Friends of Susan "Abby" Belli	• Equipment Costs	• Based on financial need* • Nontraditional student • Dental Hygiene student
<b>Diagnostic Medical Sonography</b>			
Un-LOCKE Your Success in DMS	Laura & Bobby Locke	• \$250/term	• Full- or part-time student • Minimum 2.5 GPA • Based on financial need* • Must be enrolled in the Diagnostic Medical Sonography program
<b>Fine Arts</b>			
John Pollins Memorial Scholarship	Anonymous	• Varies	• Currently enrolled in the Associate of Fine Arts degree program • Must maintain a 3.0 GPA • Must register for Touchstone class • Essay required**
AFA Visual Arts Fund	Anonymous	• Varies	• Must be enrolled in the WCCC Associate of Fine Arts program • Scholarship may be used for books and fees • Essay required**
<b>Graphic Design</b>			
Gregory Hricenak Graphic Design	Anonymous	• Varies	• Minimum 3.2 GPA
<b>Horticulture</b>			
Horticulture Club	Horticulture Club	• Two awards/\$250	• Must have 9 credits in Horticulture • Must be a member of the Horticulture Club • One award based on financial need* • One award based on academic achievement

## PROGRAM SPECIFIC SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
<b>Human Services</b> Jack Wagner Memorial Human Services Scholarship	Joyce Clohessy	<ul style="list-style-type: none"> <li>• \$500</li> <li>• Two awards</li> </ul>	<ul style="list-style-type: none"> <li>• Full- or part-time student</li> <li>• Must maintain a GPA of 3.0</li> <li>• Based on financial need*</li> <li>• One award for a current WCCC student</li> <li>• One award for a transfer student accepted into a program for human services or social work</li> <li>• Student must demonstrate participation in community service</li> <li>• Preference given to students active in the Human Services Club</li> <li>• Essay required**</li> </ul>
<b>Math or Science Major</b> Dr. Daniel Krezenski	Friends of Dr. Daniel Krezenski	<ul style="list-style-type: none"> <li>• \$125/term</li> </ul>	<ul style="list-style-type: none"> <li>• Full-time student</li> <li>• Based on academic history</li> <li>• Based on financial need*</li> </ul>
<b>Machine Technology</b> Alyssa Ryan Lang	General Nuclear Corporation	<ul style="list-style-type: none"> <li>• \$1,000</li> </ul>	<ul style="list-style-type: none"> <li>• Must be enrolled in the Machine Technology program</li> <li>• Must be a Westmoreland County resident</li> <li>• Must demonstrate financial need*</li> <li>• Minimum 3.0 GPA</li> </ul>
<b>Nursing</b> Roylene Penska	Family of Roylene Penska	<ul style="list-style-type: none"> <li>• \$250/term</li> </ul>	<ul style="list-style-type: none"> <li>• Returning student</li> <li>• Minimum 3.0 GPA</li> <li>• Must be a Westmoreland County resident</li> <li>• Must be enrolled in the Nursing program</li> </ul>
Carol Curey	Debra Woods & Bob Curey	<ul style="list-style-type: none"> <li>• Two awards</li> <li>• \$250/term</li> </ul>	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• Minimum 3.0 GPA</li> <li>• Must be enrolled in the Nursing program</li> <li>• Preference given to Indiana County residents</li> </ul>
Bridget McGrath	Family & Friends of the McGrath Family	<ul style="list-style-type: none"> <li>• \$500/term</li> </ul>	<ul style="list-style-type: none"> <li>• Full-time Nursing student</li> <li>• Must maintain a minimum 2.5 GPA</li> <li>• Must be employed a minimum of 20 hours a week</li> <li>• Essay required**</li> </ul>
Excela	Excela	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Must be enrolled in the Nursing program</li> <li>• Based on financial need*</li> </ul>
Latrobe Area Hospital Charitable Foundation	Latrobe Hospital Charitable Found.	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Must be enrolled in the Nursing program</li> <li>• Based on financial need*</li> </ul>
George Stephen Rusinko Memorial Scholarship	Michael & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• Varies</li> </ul>	<ul style="list-style-type: none"> <li>• Must be enrolled in the Nursing program</li> <li>• Based on financial need*</li> </ul>

# SCHOLARSHIPS

## PROGRAM SPECIFIC SCHOLARSHIPS (CONTINUED)

Scholarship	Donor	Amount	Eligibility Criteria
<b>Nursing (continued)</b>			
Aimee Rusinko Kakos Evening & Weekend Nursing Scholarship	Aimee Rusinko Kakos	• Multiple	<ul style="list-style-type: none"> <li>• Returning student, second semester, second year</li> <li>• Must be enrolled in the Evening &amp; Weekend Nursing program</li> <li>• Based on financial need*</li> </ul>
The Thorne Group	The Thorne Group	• Varies	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• Greensburg-Salem high school graduate</li> <li>• Must be enrolled in the Nursing program</li> </ul>
<b>Office Technology (Medical) and Medical Assisting</b>			
Beverly Diehl Memorial	Daughters & friends of Beverly Diehl	• \$200/term	<ul style="list-style-type: none"> <li>• Returning student</li> <li>• Preference given to nontraditional students</li> <li>• Minimum 2.0 GPA</li> <li>• Based on financial need*</li> </ul>
<b>Paralegal</b>			
Gene McDonald Scholarship	Gene McDonald Family	<ul style="list-style-type: none"> <li>• \$250</li> <li>• Two awards</li> </ul>	<ul style="list-style-type: none"> <li>• Freshman student</li> <li>• Based on financial need*</li> <li>• Renewable based on 2.5 GPA</li> <li>• Available for three semesters</li> </ul>
<b>Police Training</b>			
Ron Waugaman Memorial Scholarship	Friends of Ron Waugaman	• Varies	<ul style="list-style-type: none"> <li>• Must be enrolled in the WCCC Municipal Police Training Program</li> </ul>
<b>Psychology/Humanities Transfer</b>			
Bruck Elizabeth Dorczuk Memorial	Joseph & Vicki Dorczuk	• \$500/term	<ul style="list-style-type: none"> <li>• Psychology or humanities transfer student</li> <li>• Minimum 3.0 GPA</li> <li>• Based on financial need*</li> </ul>
<b>Science</b>			
OMNOVA Solutions Scholarship	OMNOVA Solutions, Inc.	• Varies	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• GPA at least 2.5</li> <li>• Science student</li> </ul>
<b>Visual Arts Major</b>			
Gregory Hricenak Visual Arts	Family & friends of Greg Hricenak	• \$350/term	<ul style="list-style-type: none"> <li>• Minimum 2.5 GPA</li> <li>• Based on financial need*</li> </ul>

## SCHOLARSHIPS REQUIRING SEPARATE APPLICATION

*Retrieve from [www.wccc.edu](http://www.wccc.edu) quick links and scholarships*

Scholarship	Donor	Amount	Eligibility Criteria
Kiwanis of Greensburg	Kiwanis of Greensburg	<ul style="list-style-type: none"> <li>• \$1,000</li> </ul>	<ul style="list-style-type: none"> <li>• Graduates of Greensburg Central, Greensburg-Salem, Hempfield or Greater Latrobe high schools</li> <li>• Minimum 2.5 GPA</li> <li>• Based on financial need*</li> </ul>
Delmar Foundation	Delmar Foundation	<ul style="list-style-type: none"> <li>• Up to \$5,000/academic year</li> </ul>	<ul style="list-style-type: none"> <li>• Based on financial need*</li> <li>• Must reside in the Franklin Regional School District</li> <li>• Minimum GPA and separate application required</li> </ul>
<b>Part-time Studies</b>			
Michael J. Kakos Memorial	Michael & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• Amount varies - spring term award</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. Pleasant High School graduate</li> <li>• Must be a part-time student</li> </ul>
<b>Criminal Justice</b>			
Michael J. Kakos Memorial Scholarship for Criminal Justice	Michael J. & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• \$500/second semester</li> </ul>	<ul style="list-style-type: none"> <li>• Criminal Justice major</li> <li>• Returning students</li> <li>• Preference will be given to graduates of Mt. Pleasant High School residing in Mt. Pleasant Township or who attended Norvelt Elementary School</li> </ul>
<b>Early Childhood Education</b>			
Agnes Kakos Memorial	Michael & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• Amount varies - spring award</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. Pleasant High School graduate or attended Norvelt Elementary School</li> </ul>
<b>Horticulture</b>			
George Rusinko Memorial	Michael & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• Varies - awarded in spring</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. Pleasant High School graduate or attended Norvelt Elementary School</li> </ul>
<b>Nursing</b>			
Agnes Rusinko Memorial	Michael & Aimee Rusinko Kakos	<ul style="list-style-type: none"> <li>• Varies - awarded in spring</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. Pleasant High School graduate or resident of Mt. Pleasant Township or attended Norvelt Elementary School</li> </ul>

\*Based on financial need - requires completion of the Free Application for Federal Student Aid (FAFSA).

\*\*Essay criteria located at [wccc.edu](http://wccc.edu) under Admissions/Aid Scholarships.



## Unit of Credit

A credit hour is the unit of credit students earn at WCCC. 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
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 3	= 9
			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 in which they receive D or F grades; however only the grade and credits earned the second time will be included in the calculation of grade point average. Such courses may be repeated only once. Any exception to this policy must be submitted to the vice president for academic affairs and student services for approval.

## 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. Students should refer to Procedures for Resolution Involving Grades and Academic Issues on page 272.

## Attendance

Students are expected to attend all class sessions and to complete all course work as specified in the course syllabus. Should students require an extended absence, the instructor should be notified. If the faculty member cannot be reached, the dean of students should be notified. Students unable to meet the performance requirements of the course should complete an official course withdrawal form. Students should see page 12 of this college catalog for withdrawal procedures. Poor attendance may result in class withdrawal initiated by the instructor after the third week and prior to the end of the twelfth week. In programs regulated by external agencies, attendance policies may differ from the policies above. Students enrolled in such programs should consult with their faculty advisors or deans.

## Student Illness

Students must contact their instructors if they expect to miss three or more consecutive class days because of illness or other circumstances beyond their control. Students must also disclose the reason for the absence. If a faculty member cannot be reached, the dean of students should be notified.

## Standards of Academic Progress

All students are expected to maintain satisfactory academic progress. Satisfactory academic progress requires maintaining a cumulative grade point average of 2.0 or higher. Failure to maintain satisfactory 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.

### 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 dean of students.

### 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 by the dean of students.
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 dean of students. The appeal must be submitted to the office of the dean of students who will make a determination on the appeal.

### Readmission

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, and the Portfolio Development process. Students who have questions or comments about LRC services should contact the director of Learning Resources and Special Projects, 724-925-4101.

### 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 50,000 books, 10,000 periodical titles, 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. Coin-operated copiers are available for student use.

### Student Access to Library Resources

All WCCC 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, 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.

WCCC participates in the Westmoreland County Academic Libraries Reciprocal Borrowing Program which provides the opportunity for WCCC students to borrow library materials directly from the following libraries: Penn State-New Kensington, Saint Vincent College, Seton Hill University, and the University of Pittsburgh at Greensburg. Students must present a valid ID card when requesting borrowing privileges or reference assistance.

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

Located in rooms 560 and 565 of Founders Hall, the College Learning Center offers WCCC credit students comprehensive services which are essential to academic success.

Tutorial services are offered through the College Learning Center (CLC) at no cost to students. The coordinator works closely with a staff of professional and peer tutors who provide individual and small group tutoring in most courses. The CLC also offers a writing lab, study skills assistance, and computer-assisted instruction.

Placement testing and make-up testing are also administered in the CLC. Students are required to show the test monitor a current WCCC student photo ID card. No personal items will be allowed in the testing area. Students may stow their personal items in the lockers outside the testing area. Personal items include, but are not limited to; cell phones, book bags, purses, textbooks and loose paper. All tests are filed by the course instructor's last name; therefore, students should know their instructor's name prior to coming to the CLC. Following these procedures will help to provide an efficient and effective testing service.

## GED Testing and Scholarship Program

WCCC is designated by the Commonwealth of Pennsylvania as an official GED Testing Center and provides a high quality, secure testing facility for adults who wish to earn a GED. WCCC offers a GED Scholarship Program for income-eligible Westmoreland County residents.

The cost to take the full GED tests for the first time is \$50 and those who successfully complete the test will be refunded \$50 through the WCCC GED Scholarship Program. Eligibility is based on federal poverty-level guidelines.

In addition, those who successfully complete the GED test at WCCC are entitled to enroll for one three-credit course at WCCC tuition free. To be eligible, GED graduates must provide proof of Westmoreland County residency and the GED Commonwealth Secondary School Diploma and must inquire within 90 days of receipt of the GED diploma.

WCCC administers the GED test on a monthly basis in the College Learning Center at the Youngwood campus. The test is usually conducted during a two-day session and lasts approximately four hours each. In addition, the WCCC Continuing Education Division offers GED test preparation classes to help students prepare for the exam.

For more information about the GED testing or the GED Scholarship Program, call 724-925-4133.

## 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, WCCC 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 29 microcomputer classrooms and 14 personal computer laboratories, 20 electronic classrooms and seven distance education 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, e-mail, 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 and are open more than 65 hours per week during the regular semesters.

The Information Technology Department maintains the infrastructure of WCCC, 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 upon the completion of at least 12 credits; 24 credits; 36 credits; and 48 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 upon the completion of at least 12 credits; 24 credits; 36 credits; and 48 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, provided the catalog does not exceed six years prior to the anticipated graduation date.
- Earn at least 30 credits of degree requirements or 15 credits of diploma requirements at WCCC 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 Information Center and pay the required nonrefundable graduation fee. 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.

## Additional Degrees

Students may earn more than one associate of applied science degree from WCCC 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 WCCC. 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*)

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.

**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

WCCC is an approved provider for Act 48 courses/training in the Commonwealth of Pennsylvania. Educators wishing to take WCCC 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 Information 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/Grade Report Abbreviations

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

**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.

**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 WCCC 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 WCCC 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, WCCC 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.

## **Interactive Webconferencing Television (VID)**

WCCC offers live courses using the Blackboard Collaborate platform which links the Youngwood campus with the education centers. The instructor teaches from various sites during the semester; students interact with the instructor and other students.

## **Online Courses**

Online courses utilize the Blackboard Learn platform to enable students to take courses using their home computers or computers located in other sites such as the WCCC computer labs or public libraries. Although the courses are not self-paced, they allow the opportunity for students to do course work at times convenient for them. Interaction with the instructor, as well as with other students in the class, enhances and personalizes the learning experience.

## **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

## ACCOUNTING

Accounting, AAS. . . . . 53  
Computer Accounting and Tax Specialist, Certificate . . 54

## ALLIED HEALTH

Clinical Laboratory Technology, AAS. . . . . 78  
Dental Assisting, Diploma . . . . . 109  
Dental Hygiene, AAS. . . . . 112  
Diagnostic Medical Sonography, AAS . . . . . 114  
Expanded Functions Dental Assisting, Certificate. . . . 130  
Magnetic Resonance Imaging, Certificate . . . . . 160  
Medical Assisting, Diploma. . . . . 166  
Nursing, AAS . . . . . 173-178  
Phlebotomy/Specimen Processing, Certificate. . . . . 189  
Radiology Technology, AAS . . . . . 192-195

## ASSOCIATE OF FINE ARTS

Art Therapy Option, AFA . . . . . 49  
Music Option, AFA . . . . . 50  
Visual Arts Option, AFA . . . . . 51

## BUSINESS

Business Administration, AA (transfer). . . . . 37  
Business . . . . . 64  
    Finance Option, AAS, Certificate. . . . . 65, 73  
    General Management Option, AAS, Certificate . . 66, 73  
    Human Resource Management Option, AAS,  
    Certificate . . . . . 67, 74  
    Marketing Management Option, AAS, Certificate . . 68, 74  
    Real Estate Management Option, AAS, Certificate . . 69, 75  
    Small Business Management Option, AAS,  
    Certificate . . . . . 70, 75  
    Supply Chain Management, AAS, Certificate. . . . 71, 76  
    Diploma . . . . . 72

## COMPUTER INFORMATION SYSTEMS

Computer Information Security, AAS, Certificate . . 81, 82  
Computer Technology. . . . . 88  
    Networking Option, AAS, Certificate . . . . . 89, 97  
    Programming for the Enterprise Option, AAS . . . . 90  
    Technical Support Option, AAS . . . . . 91  
    Telecommunications Option, AAS, Diploma . . . . 92, 94  
    Computer Technology, Diploma . . . . . 93  
    Database Application Development, Certificate. . . . 95  
    Fiber Optic Technologies, Certificate. . . . . 96  
    Microcomputer Support, Certificate . . . . . 95  
    PC Repair/A+, Certificate . . . . . 97  
    Programming, Certificate . . . . . 98  
    Web Development Certificate . . . . . 98

## CENTER FOR CULINARY ARTS AND HOSPITALITY

Baking and Pastry, AAS, Certificate, Diploma . . . . 57-62  
Casino/Gaming, Certificate . . . . . 77  
Culinary Arts, AAS, Diploma . . . . . 102-108  
Dietetic Technology/Nutritional Services  
    Management, AAS . . . . . 118  
Dining Room Management, Certificate . . . . . 120  
Hotel/Motel Management, Certificate . . . . . 151  
Restaurant/Culinary Management, AAS,  
    Certificate, Diploma. . . . . 196-198  
Travel, Tourism and Lodging  
    Management, AAS . . . . . 204

## GRAPHIC COMMUNICATIONS

Graphic Communications . . . . . 136  
    Graphics and Publishing Option, AAS,  
    Certificate . . . . . 137, 139  
    Web and Mobile Design Option, AAS, Certificate . 138, 140

## HORTICULTURE

Floriculture Option, AAS, Certificate. . . . . 145, 148  
Landscape Design, Installation and Maintenance  
    Option, AAS . . . . . 146  
Turfgrass Management Option AAS, Certificate. . 147, 150  
Horticulture, Certificate . . . . . 148  
Landscape Design, Certificate. . . . . 149  
Landscape Installation and Maintenance,  
    Certificate. . . . . 149

## LIBERAL ARTS AND SCIENCE (Transfer

**Options)** *(All options lead to an associate of arts degree.)*  
Biology . . . . . 42  
Business Administration . . . . . 37  
Chemistry . . . . . 42  
Chiropractic . . . . . 42  
Communication . . . . . 43  
Computer Science/Information Systems. . . . . 43  
Criminal Justice. . . . . 38  
Engineering . . . . . 44  
English/Writing/Literature. . . . . 45  
Health and Physical Education. . . . . 45  
Health Professions . . . . . 45  
History . . . . . 46  
Humanities . . . . . 46  
Library Science. . . . . 46  
Mathematics . . . . . 47  
Physics. . . . . 47  
Political Science . . . . . 47  
Pre-Law . . . . . 48  
Psychology . . . . . 39  
Sociology . . . . . 48  
Teacher Education . . . . . 40  
Undecided . . . . . 48  
General Studies Transfer, Diploma . . . . . 41

# PROGRAMS OF STUDY

## MULTIMEDIA AND PHOTOGRAPHY

Multimedia Technology Option, AAS . . . . .	168
Adobe Video Studio, Certificate . . . . .	170
Photography, AAS, Certificate . . . . .	169, 170
Video/Television, Certificate . . . . .	171

## OFFICE TECHNOLOGY

Medical Administration Option, AAS, Diploma, Certificate . . . . .	180, 182, 185
Office Administration Option, AAS, Diploma, Certificate . . . . .	181, 183, 185
Customer Service, Certificate . . . . .	184

## PUBLIC SERVICES

Criminal Justice, AAS . . . . .	99
Information Security Option, AAS . . . . .	100
Corrections Officer, Certificate . . . . .	101
Education/Pre-K-Grade 4, AAS, Diploma, Certificate . . . . .	123-125
Education/Early Childhood Director, Certificate . . . . .	125
Fire Science Technology, AAS, Diploma, Certificate . . . . .	132-134
Homeland Security, AAS, Certificate . . . . .	143-144
Human Services, AAS . . . . .	152
Library Science, Certificate . . . . .	154
Paralegal, AAS, Diploma . . . . .	186, 187

## SCIENCE TECHNOLOGY

Bionanotechnology, AAS . . . . .	63
Forensic Science, Certificate . . . . .	135
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Chemistry Option . . . . .	201
Forensics Lab Technician Option . . . . .	202
Medical Applications Option . . . . .	203

## TECHNOLOGY, ADVANCED MANUFACTURING AND ENGINEERING SCIENCE

Applied Industrial Technology, AAS . . . . .	55
Architectural Drafting and Design, AAS . . . . .	56
Computer Numerical Control Technology, AAS, Certificate . . . . .	83-87
Drafting and Design Technology, AAS Computer Aided Drafting and Design/Computer Aided Manufacturing Option . . . . .	121
Mechanical Drafting and Design Option . . . . .	122
Electrical Utility Technology, AAS . . . . .	126
Electronics Engineering Technology, AAS . . . . .	128
Engineering Technology, AAS . . . . .	129
Fire Science Technology, AAS, Diploma, Certificate . . . . .	132, 134
Heating, Ventilation, Air-Conditioning, and Refrigeration, AAS, Certificate . . . . .	141, 142
Industrial Electricity Technology, Certificate . . . . .	153
Machine Technology, AAS, Certificate . . . . .	155-159
Manufacturing Technology, AAS Manufacturing Process Technology Option . . . . .	163
Nanofabrication Manufacturing Option . . . . .	164
Mechatronics System, Certificate . . . . .	165
Natural Gas and Oil Technology, Certificate . . . . .	172
Occupational Health and Safety, Certificate . . . . .	179
Petroleum and Industrial Process Operation Technology, Certificate . . . . .	188
Robotics Technology, AAS . . . . .	199
Welding Engineering Technology, AAS, Certificate . . . . .	208, 209

## WEB TECHNOLOGY

Web Publishing Option, AAS, Certificate . . . . .	206, 207
Web Development, Certificate . . . . .	207



# ACADEMIC PROGRAMS

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

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

The associate of arts degree requires a minimum of 60 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 35. The transfer electives may also be selected from the courses listed on page 35 or 24 credit hours may be selected from courses listed on page 36. 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 35 by areas. Courses that satisfy general education

requirements for the associate of applied science degree are listed by area on page 52.

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

## 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 WCCC and transfer to a four-year institution. Students can be assured that with appropriate planning the transfer experience will be a successful one. The WCCC 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, WCCC 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 WCCC has a large collection of college catalogs and other materials to help in the selection. Many senior institutions will visit WCCC 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. Suggested courses are listed on pages 37-51 for specific majors in baccalaureate programs. This list is not all inclusive and students should contact the four-year institution to which they plan to transfer to ensure compatibility with program requirements. Not all majors are listed; however, students who have not made decisions about majors or senior institutions can generally take courses that will transfer by using the course selections in general education areas (page 35).

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	CPT 145
ENG 164	ART 156		ECN 255	MTH 158	BIO 120	CPT 150
	ART 158	ITA 155	ECN 256	MTH 160	BIO 145	CPT 151
	ART 160	ITA 156		MTH 161	BIO 155	
	ART 162		GEO 155	MTH 172	BIO 156	
		MUS 155		MTH 180	BIO 171	
	ASL 101	MUS 160	HIS 155	MTH 185	BIO 172	
	ASL 102		HIS 156		BIO 265	
	ENG 159	PHL 155	HIS 249			
	ENG 165	PHL 160	HIS 255		CHM 107	
	ENG 245	PHL 161	HIS 256		CHM 108	
	ENG 255	PHL 165	HIS 257		CHM 155	
	ENG 256		HIS 262		CHM 156	
	ENG 258	REL 171				
	ENG 260	REL 181	POL 155		EPS 150	
	ENG 264		POL 200		EPS 160	
	ENG 270	SPA 155			EPS 163	
	ENG 271	SPA 156	PSY 160			
	ENG 275		PSY 161		GEO 160	
	ENG 276	SPC 155	PSY 163			
	ENG 277	SPC 156	PSY 165		PHY 153	
	ENG 279	SPC 157	PSY 167		PHY 155	
	ENG 280	SPC 158	PSY 250		PHY 156	
	ENG 290	SPC 255	PSY 260		PHY 255	
			PSY 265		PHY 256	
	FRN 155	THR 160	PSY 267			
	FRN 156	THR 161	PSY 268			
		THR 170	PSY 270			
			SOC 155			
			SOC 161			
			SOC 162			
			SOC 165			
			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 WCCC 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 35. 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.

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ACC 155	CRJ 155	HMS 155	MUS 111
ACC 156	CRJ 160	HMS 157	MUS 131
ACC 219	CRJ 162	HMS 170	MUS 141
ACC 222	CRJ 163	HMS 171	MUS 142
ACC 230	CRJ 180	HMS 172	MUS 165
ACC 234	CRJ 255		MUS 175
ACC 250	CRJ 261	HON 295	MUS 176
ACC 255	CRJ 263	HON 296	MUS 177
ACC 256	CRJ 265	HON 297	MUS 178
ACC 260	CRJ 277	HON 298	MUS 241
	CRJ 290		MUS 242
ART 156		HOR 105	MUS 255
ART 157	ECE 180		MUS 275
ART 164	ECE 188	HPE 156	MUS 276
ART 165		HPE 157	MUS 277
	ECN 255	HPE 176	MUS 278
BUS 140	ECN 256	HPE 178	MUS 285
BUS 158			
BUS 205	EDU 156	LAS 101	PHY 258
BUS 206	EDU 200	LAS 111	
BUS 240			POL 156
BUS 241	ENG 162	LIS 100	POL 255
BUS 244	ENG 163	LIS 110	POL 256
BUS 245	ENG 166	LIS 120	
BUS 249	ENG 240	LIS 130	SPA 255
BUS 250		LIS 140	SPA 256
BUS 260	FIN 155		
BUS 261	FIN 220	MED 105	WEB 110
BUS 275	FIN 242	MED 110	WEB 140
BUS 285	FIN 246	MED 155	WEB 235
BUS 288	FIN 259	MED 158	
BUS 296	FIN 266	MED 160	
	FIN 280	MED 170	
CHM 250		MED 255	
CHM 251	FSM 159	MED 256	
CHM 264			
	FRN 255	MTH 108	
CPT 160	FRN 256	MTH 109	
CPT 162		MTH 173	
CPT 163	GCT 115	MTH 271	
CPT 180	GCT 161	MTH 272	
CPT 181			
CPT 182			
CPT 183			
CPT 213			
CPT 235			
CPT 242			
CPT 286			

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

# Business Administration, AA

## Division of Computer Technology/Business

This academic planning page for Business Administration students 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 WCCC'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 follow the *Guide to Selecting Courses for Transfer to Specific Bachelor's Degree Programs – if planning a bachelor's degree major in: Business* in this catalog.

### Program Learning Outcomes

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

- interpret financial statements representing the profitability, liquidity and solvency of the business organization using appropriate vocabulary and analytical skills
- collect, structure and report accounting information relevant for managerial planning and decision making
- apply the vocabulary and analytical skills appropriate for understanding the macroeconomic and microeconomic environment of business
- develop professional competency in business finance, product marketing and sales, operations management, and in the management of human resources
- employ sound management principles in the administration of a modern business enterprise.
- develop sound methodology in supervisory management and decision-making
- use effective communications skills when collaborating with other members of the enterprise
- apply mathematical concepts and reasoning using numerical data, utilize critical thinking skills, and demonstrate competency in information literacy and computer technology

### PROGRAM REQUIREMENTS (TOTAL CREDITS-63-65)

General Education			Major		
CPT 150	Micromputer Concepts	3	ACC 155	Accounting I	3
ECN 255	Macroeconomics	3	ACC 156	Accounting II	3
ECN 256	Microeconomics	3	BUS 158	Prin. of Management	3
ENG 161	College Writing	3	BUS 205	Business Law	3
ENG 164	Advanced Composition	3	BUS 244	Business Statistics	3
MTH 157	College Algebra	3	BUS 250	Calculus for Business	3
HUM 156	Critical Thinking	3	BUS 245	Principles of Marketing	3
SPC 155	Effective Speech	3	BUS 288	Business Analytics	3
or		3	FIN 220	Business Finance	3
SPC 156	Interpersonal Commun.				<b>27</b>
	Natural Science Elective	6-8			
	Social Science Elective	<u>6</u>			
		<b>36-38</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ACC 155	3	ACC 156	3	FIN 220	3	BUS 245	3
CPT 150	3	BUS 158	3	BUS 205	3	BUS 288	3
ENG 161	3	ENG 164	3	BUS 250	3	ECN 256	3
HUM 156	3	BUS 244	3	ECN 255	3	Natural Science Elective	3/4
MTH 157	3	SPC 155 or 156	<u>3</u>	Natural Science Elective	<u>3/4</u>	Social Science Elective	<u>3</u>
Social Science Elective	<u>3</u>		<b>15</b>		<b>15/16</b>		<b>15/16</b>
	<b>18</b>						

# Criminal Justice, AA

## Division of Public Service/Humanities/Social Sciences/Mathematics

This academic planning page for Criminal Justice students 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 WCCC'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 follow the *Guide to Selecting Courses for Transfer to Specific Bachelor's Degree Programs – if planning a bachelor's degree major in: Criminal Justice* in this catalog.

### Program 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS - 62)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	CRJ 155	Intro to Criminal Justice 3	Math Elective (MTH 157+)	<u>3</u>
ENG 161	College Writing 3	CRJ 160	Criminal Law I		<b>3</b>
ENG 164	Advanced Composition 3		or 3		
MTH 157	College Algebra (or higher) 3	CRJ 163	Criminal Procedure		
PHL 160	Intro to Philosophy	CRJ 162	Police Administration I 3		
	or	CRJ 180	Corrections 3		
MUS 155	Music Listening 3	CRJ 255	Juvenile Delinquency 3		
	or	CRJ 277	Ethics & CRJ 3		
ART 155	Intro to Art History	CRJ 290	Principles of Criminology <u>3</u>		
POL 155	Amer. Nat. Government		<b>21</b>		
	or				
PSY 160	General Psychology 6				
	or				
SOC 155	Principles of Sociology				
SPC 155	Effective Speech 3				
	English Literature Elective 3				
	Social Science Elective 3				
	Natural Science Electives w/labs <u>8</u>				
	<b>38</b>				

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall		Spring		Fall		Spring	
CPT 150	3	CRJ 162	3	CRJ 277	3	CRJ 180	3
CRJ 155	3	ENG 164	3	CRJ 290	3	CRJ 255	3
CRJ 160 or 163	3	SOC155	3	ENG 255	3	Criminal Justice Elective	3
ENG 161	3	SPC 155	3	Humanities Elective	3	Natural Science Elective	4
PSY 160	<u>3</u>	Math Elective	<u>3</u>	Natural Science Elective	<u>4</u>	Political Science Elective	<u>3</u>
	<b>15</b>		<b>15</b>		<b>16</b>		<b>16</b>

# Psychology, AA

## Division of Public Service/Humanities/Social Sciences/Mathematics

This academic planning page for Psychology students 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 WCCC'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 follow the *Guide to Selecting Courses for Transfer to Specific Bachelor's Degree Programs – if planning a bachelor's degree major in: Psychology* in this catalog.

### 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS - 62)

General Education			Major		Other Required Courses	
BIO 155	General Biology I	4	PSY 161	Human Growth & Dvlpmt.3	Psychology Electives	6
CPT 150	Microcomputer Concepts	3	PSY 163	Physiologic Psychology	AA Electives from page 35	6
ENG 161	College Writing	3	or			12
ENG 164	Advanced Composition	3	PSY 260	Social Psychology		
MTH 157	College Algebra	3	or			
PHL 161	Intro to Ethics		PSY 270	Abnormal Psychology		
or			PSY 250	Research Meth. in Psy.	3	
PHL 165	Social Ethics	3	MTH 160	Intro to Statistics	3	
PSY 160	General Psychology	3			12	
SPC 155	Effective Speech	3				
Humanities Elective		3				
Social Science Electives (not psychology)		6				
Natural Science Elective w/lab		4				
		<b>38</b>				

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester:

Fall		Spring		Fall		Spring	
CPT 150	3	ENG 164	3	BIO 155	4	General Elective	3
ENG 161	3	MTH 160	3	PSY 250	3	Major Psychology	3
MTH 157	3	PHL 161 or 165	3	General Elective	3	Natural Science Elective	3
PSY 160	3	Psychology Elective	3	Humanities Elective	3	Psychology Elective	3
SPC 155	3	Social Science	3	Major Psychology Course	3	Social Science Elective	3
	<b>15</b>		<b>15</b>		<b>15</b>		<b>15</b>

# Teacher Education, AA

(SECONDARY OR SPECIAL EDUCATION)

Division of Public Service/Humanities/Social Sciences/Mathematics

The Teacher Education program is designed to provide course work necessary for transfer to a baccalaureate program in Secondary or Special Education.

## Career Opportunities

Upon the completion of this program students can obtain a job as a teaching assistant while pursuing a bachelor's degree in teaching.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify the state and national educational standards that relate to their specific area of interest
- recognize typical developmental levels of students and recognize when student development differs from typical development
- explain how diversity influences learning and demonstrate effective responses to the diversity in the classroom
- demonstrate effective classroom management skills
- identify and use verbal, nonverbal and media communication techniques effectively
- describe a variety of assessments for use in the classroom, including formal and informal assessments
- identify state certification requirements of teaching professionals for initial certification and continuous professional development
- defend the statement that "learning is a partnership." (The student will describe and defend the importance of school, parent/guardian and community working together for the success of the learner.)
- take the required test as stated by the PA Department of Education for admission into the teaching program at their transfer institution
- discuss changes in education and the trends from analyzing professional journal articles
- identify the essential characteristics of effective teachers and schools
- describe how changes in the student population are leading to educational change
- develop a personal philosophy of education that will include, but not be limited to: how students learn, the purpose of school, the importance of parent involvement and the role of the teacher and school

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 62-64)

General Education			Major			Other Required Courses	
CPT 150	Microcomputer Con.	3	EDU 156	Intro to Mid. & Sec. Ed.	3	Restricted Electives*	<u>3</u>
ENG 161	College Writing	3	ECE 188/	Exceptional Dvlpmt.	3		3
ENG 164	Advanced Composition	3	EDU 188	Exceptional Dvlpmt.			
PSY 160	General Psychology	3	EDU 200	Intro to Instruc. Tech.	3	<b>*Restricted Electives</b>	
SPC 155	Effective Speech	3	EDU 250	Teaching English to		ECE 194 Young Child/Special Needs	
British or Ameri. Lit. Elective		3		Spkrs. of Other Lang.	3	SOC 155 Principles of Sociology	
Humanities Elective (art, music, theater)		3	PSY 165	Educational Psychology	3	SOC 165 Cultural Diversity	
Math Electives (MTH 157+)		6	PSY 265	Child Psychology		SOC 255 Cultural Anthropology	
Natural Science Elective		8-10	or		3	HMS 170 Racial & Ethnic Minorities	
Social Science Elective (one multicultural and one history)		<u>6</u>	PSY 268	Adolescent Psychology	<u>18</u>	GEO 155 Intro to Human Geography	
		<b>41-43</b>				HIS 255 Early U.S. & Pa. History	
						HIS 256 Modern U.S. & Pa. History	
						HPE 156 Health & Physical Education	

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester**	Fall Semester***	Spring Semester
CPT 150	EDU 200	PSY 265 or PSY 268	ECE 188/EDU 188
ENG 161	ENG 164	Brit./Ameri. Lit. Elective	EDU 250
EDU 156	PSY 165	Math Elective	Natural Science Elective 3/4
PSY 160	Humanities Elective	Natural Science Elective 3/4	Social Science Elective (history)
SPC 155	Math Elective	Social Science Elective (multicultural)	Restricted Elective
	<b>15</b>	<b>15/16</b>	<b>15/16</b>

\*Students should be in contact with their chosen transfer institution to verify course acceptance.

\*\*After completing 30 credits, students should contact their senior institution.

\*\*\*Students should take the required PA Department of Education exam for admission into the teaching program of the transfer institution after 30 credits.

# General Studies Transfer, Diploma

This diploma is designed for students who plan to transfer to a four-year college or university, but do not intend to complete an associate degree at Westmoreland County Community College. 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 WCCC'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 WCCC. 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 pages 34 and 35 of this catalog for complete learning outcomes.

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 30/31)

Refer to page 34 for complete Associate of Arts Degree Requirements. In addition, students who test into developmental classes must successfully pass them and complete any prerequisite courses.

General Education		Other Required Courses	
ENG 161 College Writing	3	AA Electives from pages 35 or 36	<u>6</u>
ENG 164 Advanced Composition	3		6
Humanities Electives	6		
Social Science	6		
Mathematics or Natural Sciences	3-4		
Computer Science	<u>3</u>		
	<b>24/25</b>		



## GUIDE TO SELECTING COURSES FOR TRANSFER TO SPECIFIC BACHELOR'S DEGREE PROGRAMS

To assist students and advisors/counselors in selecting courses to fulfill associate of arts degree requirements, the following courses are suggested for transfer to bachelor's degree majors listed below. Students should be aware that this list is not all inclusive and that through discussions with officials at the four-year college or university, other appropriate courses may be identified. This list does not contain all possible majors at four-year institutions. Course work for other majors can be taken at WCCC; for assistance see an advisor or counselor. If undecided about a major refer to page 40. General education requirements must be taken from specified lists on page 32.

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### If planning a bachelor's degree major in: Biology

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CHM 155 General Chemistry I	4
ENG 164 Advanced Composition	3	CHM 156 General Chemistry II	4
BIO 155 General Biology I	4	Restricted Elective*	
BIO 156 General Biology II	4	- select from course with prefix of BIO	8
MTH 157 College Algebra (or higher level math)	3-4	- select from courses with prefixes of MTH, CHM, PHY	8
Computer Science Elective	3		
Humanities Electives	9		
Social Science Electives	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

### If planning a bachelor's degree major in: Chemistry

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CHM 240 Analytical Chemistry	4
ENG 164 Advanced Composition	3	CHM 250 Organic Chemistry I	4
CHM 155 General Chemistry I	4	CHM 251 Organic Chemistry II	4
CHM 156 General Chemistry II	4	CHM 275 Biochemistry	4
MTH 158 Precalculus Mathematics	3	MTH 172 Analytical Geometry and Calculus I	4
Computer Science Elective	3	MTH 173 Analytical Geometry and Calculus II	4
Humanities Electives	9	PHY 255 Engineering Physics I	5
Social Science Electives	9	PHY 256 Engineering Physics II	5

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

### If planning a bachelor's degree major in: Chiropractic

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CHM 155 General Chemistry I	4
ENG 164 Advanced Composition	3	CHM 156 General Chemistry II	4
BIO 155 General Biology I or		CHM 250 Organic Chemistry I	4
BIO 171 Anatomy and Physiology I	4	CHM 251 Organic Chemistry II	4
BIO 156 General Biology II or		PSY 155 College Physics I	4
BIO 172 Anatomy and Physiology II	4	PSY 156 College Physics II	4
MTH 157 College Algebra	3	Electives*	8
PSY 160 General Psychology	3		
Computer Science Elective	3		
Humanities Electives	9		
Social Science Electives	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Communication**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Electives*	24
ENG 164 Advanced Composition	3		
MTH 157 College Algebra (or higher level math)	3		
PSY 160 General Psychology	3		
SPC 155 Effective Speech	3		
Computer Science Elective	3		
Humanities Electives	6		
Natural Science Electives	8		
Social Science Electives	6		

There are many options within a communication major, including advertising, media, public relations, and speech and rhetoric. Selection of courses will depend on the specific option chosen by the student and on the requirements of the college to which the student is transferring. Subjects used to meet these major requirements often come from disciplines such as English, business, media, speech, theater and graphic arts. Students should contact their advisor or the transfer counselor concerning the appropriate choice of courses.

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Computer Science/Information Systems**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Computer Technology/ Mathematics Electives*	12-15
ENG 164 Advanced Composition	3	Electives**	9-12
MTH 158 Precalculus Mathematics (or higher level math)	3		
Computer Technology Elective	3		
Humanities Electives	9		
Natural Science Electives	8		
Social Science Electives	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

\*\*Students' specific educational or career goals will determine the choice of support courses. Additional courses in mathematics may be appropriate for those planning to major in Computer Science. Students planning to major in Information Systems may be encouraged to take courses in business, social science, or other related areas. Students should consult with their advisor or transfer counselor to determine which courses will meet the requirements of the receiving institution.

**If planning a bachelor's degree major in: Criminal Justice**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CRJ 155 Introduction to Criminal Justice	3
ENG 164 Advanced Composition	3	CRJ 160 Criminal Law I	3
PSY 160 General Psychology	3	Electives*	18
SOC 155 Principles of Sociology	3		
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Elective	3		

There are many specialized areas within criminal justice, including corrections, counseling, forensics, investigations, probation, and parole. Depending on the specialty chosen, students will be encouraged to take additional CRJ courses or related courses in subject areas such as business, natural science, psychology, and sociology.

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Engineering**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CHM 155 General Chemistry I	4
ENG 164 Advanced Composition	3	CHM 156 General Chemistry II	4
MTH 172 Analytical Geometry and Calculus I	4	MTH 173 Analytical Geometry and Calculus II	4
PHY 255 Engineering Physics I	5	Electives*	7-8
PHY 256 Engineering Physics II	5		
Computer Science Elective	3		
Humanities Electives	9		
Social Science Electives	9		

Students planning to major in engineering are cautioned to communicate with their transfer institution prior to the completion of their first year of study at WCCC. This will assist in ensuring successful transfer of course work.

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

## GUIDE TO SELECTING COURSES FOR TRANSFER TO SPECIFIC BACHELOR'S DEGREE PROGRAMS

### If planning a bachelor's degree major in: English/Writing/Literature

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	GENERAL EDUCATION	SEM. HRS.
ENG 161 College Writing	3	Electives*	24
ENG 164 Advanced Composition	3	A student's specific educational or career goals will determine the choice of support courses. Additional courses in the humanities may be appropriate for those planning on graduate work in English literature while those planning on entering the work force after the bachelor's degree may be encouraged to take courses in business, social science, or other related areas. Students should consult with their advisor or transfer counselor to determine which courses will meet requirements of the receiving institution.	
SPC 155 Effective Speech	3		
Computer Science Elective	3		
Humanities Electives	6		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Electives	9		
		*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.	

### If planning a bachelor's degree major in: Health & Physical Education

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Electives**	15
ENG 164 Advanced Composition	3	*Required for teacher certification.  **The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.	
PSY 160 General Psychology	3		
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Electives	6		
Natural Science Electives	8		
Social Science Electives	6		

### If planning a bachelor's degree major in: Health Professions

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	CHM 155 General Chemistry I	4
ENG 164 Advanced Composition	3	CHM 156 General Chemistry II	4
BIO 171 Anatomy and Physiology I and	4	Electives*	16
BIO 172 Anatomy and Physiology II or	4	Health professions include majors such as dietetics, medical technology, occupational therapy, physician's assistant, and physical therapy. Each specialization has its own set of prerequisites with some emphasizing the natural sciences and others stressing the social sciences or related subject areas. Major and support courses should be selected according to the requirements of the specific baccalaureate program.	
BIO 155 General Biology I and	4		
BIO 156 General Biology II	4		
MTH 157 College Algebra or	3		
MTH 160 Introduction to Statistics	3		
PSY 160 General Psychology	3		
Computer Science Elective	3		
Humanities Electives	9	*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.	
Social Science Electives	6		

**If planning a bachelor's degree major in: History**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Electives*	24
ENG 164 Advanced Composition	3		
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Electives (other than history)	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Humanities**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Electives*	24
ENG 164 Advanced Composition	3		
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Electives	9		

Disciplines within the humanities include art, English, foreign languages, music, philosophy, and speech. Selection of major and support courses will be determined by the student's educational and career goals and the requirements of the receiving institution.

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Library Science**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	LIS 100 Intro to Library Science	3
ENG 164 Advanced Composition	3	LIS 110 Cataloging and Classification	3
SPC 155 Effective Speech	3	LIS 120 Information Sources and Services	3
Computer Science Elective	3	LIS 130 Materials Selection (Collection Dev.)	3
Humanities Electives (in 2 areas)	6	EDU 156 Intro to Middle & Secondary Education	3
Mathematics Elective	3	EDU 200 Intro to Instructional Technology	3
Natural Science Electives	8	PSY 160 General Psychology	3
Social Science Electives (in 2 areas)	9	PSY 165 Educational Psychology	3

This program is designed to facilitate transfer into a Bachelor of Science in Education in Library Science degree program leading to Pennsylvania School Library Certification, grades K-12.

**If planning a bachelor's degree major in: Mathematics**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	MTH 173 Analytical Geometry and Calculus II	4
ENG 164 Advanced Composition	3	MTH 271 Analytical Geometry and Calculus III	4
MTH 172 Analytical Geometry and Calculus I	4	Electives*	15
Computer Science Elective	3		
Humanities Electives	9		
Natural Science Electives	8		
Social Science Electives	9		

Additional courses in computer science or natural sciences are advisable. Specific selection of these courses should be based on the requirements of the receiving institution.

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Physics**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	MTH 173 Analytical Geometry and Calculus II	4
ENG 164 Advanced Composition	3	MTH 271 Analytical Geometry and Calculus III	4
CHM 155 General Chemistry I	4	MTH 272 Differential Equations	3
CHM 156 General Chemistry II	4	PHY 255 Engineering Physics I	5
MTH 172 Analytical Geometry and Calculus I	4	PHY 256 Engineering Physics II	5
Computer Science Elective	3	Elective*	3
Humanities Electives	9		
Social Science Electives	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Political Science**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	POL 155 American National Government	3
ENG 164 Advanced Composition	3	Electives*	21
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Electives (other than political science courses)	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Pre-Law**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	POL 155 American National Government	3
ENG 164 Advanced Composition	3	POL 200 Constitutional Law & Civil Liberties	3
Computer Science Elective	3	POL 255 American, State & Local Government	3
Humanities Elective	3	HUM 156 Critical Thinking	3
Mathematics Elective	3	SPC 155 Effective Speech	3
Social Science Electives	9	LAS 101 The Legal Assistant	3
		LAS 111 Legal Analysis	3
		Electives*	15

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Psychology**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	PSY 160 General Psychology	3
ENG 164 Advanced Composition	3	Electives*	21
MTH 157 College Algebra or			
MTH 160 Introduction to Statistics	3		
Computer Science Elective	3		
Humanities Electives	9		
Natural Science Electives	8		
Social Science Electives	9		
(other than psychology courses)			

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If planning a bachelor's degree major in: Sociology**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	SOC 155 Principles of Sociology	3
ENG 164 Advanced Composition	3	Electives*	21
MTH 157 College Algebra or			
MTH 160 Introduction to Statistics	3		
Computer Science Elective	3		
Humanities Electives	9		
Natural Science Electives	8		
Social Science Electives	9		
(other than sociology courses)			

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

**If undecided about a bachelor's degree major**

Suggested courses for the associate of arts degree are:

GENERAL EDUCATION	SEM. HRS.	MAJOR AND SUPPORT ELECTIVES	SEM. HRS.
ENG 161 College Writing	3	Electives*	24
ENG 164 Advanced Composition	3		
Computer Science Elective	3		
Humanities Electives	9		
Mathematics Elective	3		
Natural Science Electives	8		
Social Science Electives	9		

\*The choice of these courses is dependent on the four-year college or university to which the student plans to transfer.

# Associate of Fine Arts, AFA

## ART THERAPY OPTION

### Public Service/Humanities/ Social Sciences/Mathematics

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS-61)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Concepts	3	ATH 175	Expressive Therapies	3	ART 185	Clay I - Touchstone	3
ENG 161	College Writing	3	ATH 176	Intro/Visual Art Therapy	3	ART 285	Art Portfolio I	3
ENG 164	Advanced Comp.	3	ART 155	Intro to Art History	3	ASL 101	Amer. Sign Language I	3
MTH 157	College Algebra	3	ART 156	World Art Survey	3	PSY 161	Human Growth/Dev.	3
PSY 160	General Psychology	3	or		3	PSY 270	Abnormal Psychology	3
Natural Science Elective		<u>4</u>	ART 158	Intro to American Art				<b>15</b>
		<b>19</b>	ART 160	2-D Design	3			
			ART 162	Drawing I	3			
			ART 165	Painting I	3			
			ART 161	3-D Design	3			
			ART 163	Drawing	<u>3</u>			
					<b>27</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ART 160	ART 155	ART 163	ART 285
ART 162	ART 161	ASL 101	ART 185
ATH 175	ART 165	ATH 176	ART 156 or 158
ENG 161	CPT 150	PSY 161	ENG 164
MTH 157	PSY160	Natural Science Elective	PSY 270
	<u>3</u>	<u>4</u>	<u>3</u>
	<b>15</b>	<b>16</b>	<b>15</b>



# Associate of Fine Arts Degree, AFA

## MUSIC OPTION

### Division of Public Service/Humanities/Social Sciences/Mathematics

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.

### 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

### PROGRAM REQUIREMENTS (TOTAL CREDIT—61)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Concepts	3	MUS 115	Theory Skills I	1	Applied Music Lessons, courses MUS 121, MUS 122, MUS 221, MUS 222 are available for one or two credits per semester in the following areas: A. Voice B. Guitar C. Clarinet D. String Bass E. Trombone F. Percussion G. Piano H. Pipe Organ J. Violin K. Trumpet L. Flute M. Oboe N. Saxophone O. Bassoon P. French Horn Q. Baritone R. Tuba S. Viola T. Cello		
ENG 161	College Writing	3	MUS 116	Music Aural Theo. Skills II	1			
ENG 164	Advanced Comp.	3	MUS 121	Applied Music I	1			
MTH 157	College Algebra	3	MUS 122	Applied Music II	1			
Social Science Elective		3	MUS 131	Class Voice I	2			
Natural Science Elective		4	MUS 132	Class Voice II	2			
		<b>19</b>	MUS 141/175/177	Ensembles I	2			
			MUS 142/176/178	Ensembles II	2			
			MUS 155	Music Listening	3			
			MUS 160	Music History	3			
			MUS 165	Music Theory I	3			
			MUS 166	Music Theory II	3			
			MUS 180	Class Piano I	2			
			MUS 215	Music Aural Theo. Skills III	1			
			MUS 216	Music Aural Theo. Skills IV	1			
			MUS 221	Applied Music III	1			
			MUS 222	Applied Music IV	1			
			MUS 241/275/277	Ensembles III	2			
			MUS 242/276/278	Ensembles IV	2			
			MUS 265	Music Theory III	3			
			MUS 266	Music Theory IV	3			
			MUS 280	Class Piano II	2			
					<b>42</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ENG 161	3	ENG 164	3	CPT 150	3	MUS 132	2
MTH 157	3	MUS 116	1	MUS 131	2	MUS 216	1
MUS 115	1	MUS 122	2	MUS 215	1	MUS 222	1
MUS 121	2	MUS 142/176/178	1	MUS 221	1	MUS 242/276/278	2
MUS 141/175/177	1	MUS 166	3	MUS 241/275/277	2	MUS 160	3
MUS 165	3	MUS 280	2	MUS 265	3	MUS 266	3
MUS 180	2	Social Science Elective	3	MUS 155	3	Natural Science Elective	4
	<b>15</b>		<b>15</b>		<b>15</b>		<b>16</b>

# Associate of Fine Arts Degree, AFA

## VISUAL ARTS OPTION

### Division of Public Service/Humanities/Social Sciences/Mathematics

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

### PROGRAM REQUIREMENTS (TOTAL CREDIT—61)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	ART 155	Intro to Art History 3	BUS 260	Small Business Mgmt. 3
ENG 161	College Writing 3	ART 160	2-D Design 3	GCT 161	Digital Imaging I 3
ENG 164	Advanced Comp. 3	ART 162	Drawing I 3	Restricted Electives	<u>12</u>
MTH 157	College Algebra	ART 161	3-D Design		<b>18</b>
or	3	or	3		
MTH 161	Modern College Math 3	ART 163	Drawing II	<b>*Restricted Electives</b>	
Social Science Elective	3	ART 164	Color Concepts	ART 140	Illustration 3
Natural Science Elective	<u>4</u>	or	3	ART 142	Typography 3
	<b>19</b>	ART 165	Painting I	ART 143	Printmaking 3
		ART 156	World Art Survey	ART 150	Airbrush Techniques 3
		or	3	ART 166	Painting II 3
		ART 157	Contemporary Art 3	ART 183	Book Arts I 3
		or	3	ART 185	Clay I 3
		ART 158	Intro to American Art	ART 188	Textiles I 3
		ART 285	Art Portfolio I 3	MED 170	Digital Photography 3
		ART 286	Art Portfolio II♦ <u>3</u>	Any partnership course with	
			<b>24</b>	Touchstone Center for Crafts	<u>3-9</u>
		♦capstone course			<b>12</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ART 155	3	ART 161 or 163	3	ART 285	3	ART 286	3
ART 160	3	ART 164 or 165	3	Art History Selection	3	BUS 260	3
ART 162	3	CPT 150	3	Restricted Elective	3	Restricted Electives	<u>9</u>
MTH 157	3	ENG 164	3	Social Science Elective	3		<b>15</b>
ENG 161	<u>3</u>	GCT 161	<u>3</u>	Natural Science Elective	<u>4</u>		
	<b>15</b>		<b>15</b>		<b>16</b>		

# 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.

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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	MTH 100	BIO 107	ARC 210
ENG 162	ART 156	MUS 160	ECN 256	MTH 108	BIO 110	
ENG 163	ART 158			MTH 109	BIO 120	CPT 145
ENG 164	ART 160	PHL 155	GEO 155	MTH 157	BIO 130	CPT 150
ENG 166	ART 162	PHL 160		MTH 158	BIO 145	CPT 151
		PHL 161	HIS 155	MTH 160	BIO 155	
	ASL 101	PHL 165	HIS 156	MTH 161	BIO 160	DFT 258
			HIS 249	MTH 172	BIO 171	
	ENG 159	REL 161	HIS 255	MTH 173	BIO 180	GCT 125
	ENG 165	REL 171	HIS 256	MTH 180	BIO 210	GCT 161
	ENG 245	REL 181	HIS 257	MTH 185		
	ENG 255		HIS 262	MTH 271	CHM 105	MED 105
	ENG 256	SPA 155		MTH 272	CHM 107	
	ENG 258	SPA 156	POL 155		CHM 108	WEB 110
	ENG 260		POL 200	BUS 120	CHM 155	
	ENG 264	SPC 155		BUS 244	CHM 264	
	ENG 270	SPC 156	PSY 160			
	ENG 271	SPC 157	PSY 161		EPS 150	
	ENG 275	SPC 158	PSY 163		EPS 160	
	ENG 276	SPC 255	PSY 165		EPS 163	
	ENG 277		PSY 167			
	ENG 280	THR 160	PSY 260		GEO 160	
	ENG 290	THR 161	PSY 265			
					PHY 107	
	FRN 155		PSY 267		PHY 150	
	FRN 156		PSY 268		PHY 153	
			PSY 270		PHY 155	
	HUM 156				PHY 255	
			SOC 155			
			SOC 160			
			SOC 161			
			SOC 162			
			SOC 166			
			SOC 255			

# Accounting, AAS

## Division of Computer Technology/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 WCCC 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 including individual, C-corporation, S-corporation and partnership returns and related schedules
- effect cost accounting practices
- utilize the microcomputer for various bookkeeping, accounting and financial functions, 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 skills practice ethical conduct in the making of business decisions
- view accounting as an integrated system providing information to investors, managers, governmental agencies and others to allow them to make intelligent decisions regarding the business

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	ACC 155	Accounting I	3	ACC 234	Payroll & Spread. Soft.	
CPT 150	Microcomputer Con.	3	ACC 156	Accounting II	3	or		3
ENG 161	College Writing	3	ACC 219	Managerial Accounting	3	CPT 195	Excel for Windows	
ENG 163	Business Comm.		ACC 222	Principles of Auditing	3	ACC 251	Tax Prep. Software	
or		3	ACC 230	Integ. Acct. Software	3	or		3
ENG 164	Advanced Composition		ACC 250	Prin. of Taxation	3	BUS 244	Business Statistics	
SPC 155	Effective Speech		ACC 255	Intermed. Accounting I	3	BUS 140	Intro. to Business	3
or		3	ACC 256	Intermed. Accounting II	3	FIN 220	Business Finance	3
SPC 156	Interpersonal Commun.		ACC 260	Adv. Acctg. Issues♦	3	Business or Computer Elective		3
Social Science Elective		3			27			15
		18						

♦capstone course

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ACC 155	3	ACC 156	3	ACC 230	3	ACC 219	3
BUS 120	3	ACC 234 or CPT 195	3	ACC 251 or BUS 244	3	ACC 222	3
BUS 140	3	ACC 250	3	ACC 255	3	ACC 256	3
CPT 150	3	BUS or CPT Elective	3	FIN 220	3	ACC 260	3
ENG 161	3	ENG 163 or 164	3	SPC 155 or 156	3	Social Science Elective	3
	15		15		15		15

# Accounting, Certificate

## COMPUTER ACCOUNTING & TAX SPECIALIST

### Division of Computer Technology/Business

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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.

### 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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

ACC 120	Quickbook - Basics	1
ACC 155	Accounting I	3
ACC 230	Integrated Acctg. Sftwr.	3
ACC 234	Payroll & Sprdsht. Sftwr.	3
ACC 250	Principles of Taxation	3
ACC 251	Tax Preparation Sftwre.	3
		<b>16</b>

# Applied Industrial Technology, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 61/65)

General Education			Major		
ENG 161	College Writing	3	<b>Students must select two of the following certificate majors:</b>		
ENG 162	Technical Comm.	3	Natural Gas & Oil Technology		
MTH 108	Math for Technology I	4	Certificate	18	
DFT 258	AutoCAD	4	Occupational Health &		
PSY 160	General Psychology	3	Safety Certificate	16	
Restricted Electives		<u>9-12</u>	Mechatronics Tech. Certificate	16	
		<b>26-29</b>	Industrial Electricity		
			Technology Certificate	16	
			Computer Numerical Control		
			Technology (CNC) Certificate	16	
			Machine Technology I Certificate	16	
			Supply Chain Mgmt Certificate	<u>18</u>	
				<b>32-36</b>	

## RECOMMENDED SEQUENCE

Students should consult with their advisor for appropriate course sequence.

# Architectural Drafting and Design, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60-61)

General Education			Major			Other Required Courses		
ARC 210	Arch. AutoCAD I	4	ARC 101	Bldg. Materials & Estim.	3	EGR 220	Statics/Strength of Mat.	3
ENG 161	College Writing	3	ARC 102	Contracts and Specs.	3	MTH 109**	Math for the Tech. II	4
ENG 162	Technical Comm.	3	ARC 105	Arch. Drafting I	4	Restricted Elective*		<u>3-4</u>
MTH 108**	Math for the Tech. I	4	ARC 106	Arch. Drafting II	4			<b>10-11</b>
PHY 107**	Applied Physics	4	ARC 119	Intro to Surveying	3			
Social Science Elective		<u>3</u>	ARC 211	Arch. AutoCAD II	4			
		<b>21</b>	ARC 215	Arch. Presentation	4			
			ARC 262	Piping, Struc. & Elec. Mech.	<u>4</u>			
					<b>29</b>			

\*Restricted Electives are courses with the prefix ARC, DFT, EGR, HAC

\*\*Students planning to transfer to a four-year institution should consult their advisor for course substitutions.

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester:

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ARC 101	ARC 102	ARC 119	ARC 215
ARC 105	ARC 106	ARC 211	ARC 262
ENG 161	ARC 210	EGR 220	Restricted Elective
MTH 108	ENG 162	PHY 107	Social Science Elective
	MTH 109		
<b>14</b>	<b>18</b>	<b>14</b>	<b>15</b>

# Baking and Pastry, AAS

## APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



The baking and pastry apprenticeship program is one of eight majors comprising the college's Center for Culinary Arts and Hospitality and is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFE-FAC). This apprenticeship program is sponsored by The American Culinary Federation Laurel Highlands Chapter (ACFLHC) and WCCC. 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) Apprenticeship Data 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. For more information, call the WCCC 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS - 63)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Con.	3	BKP 141	Baking I	4	FSM 103	Intro to Hospitality	
ENG 161	College Writing	3	BKP 142	Baking II	3	or		3
ENG 163	Business Comm.		BKP 243	Healthy Cooking Trends	4	FSM 113	Customer Service	
or		3	BKP 245	Decorating Techniques	3	FSM 117	Wait Staff/Din. Rm. Trng.1	
ENG 164	Advanced Composition		BKP 247	Specialty/Artistic Tech.	4	FSM 218	Hospitality Marketing	
Humanities Elective			CUL 121	Apprenticeship I	2	or		3
or		3	CUL 122	Apprenticeship II	2	BKP 242	Bakery Deli Merch.	
FSM 170	Food Culture & Religion		CUL 123	Apprenticeship III	2	FSM 235	Supervision/Training	3
Mathematics Elective		3	CUL 224	Apprenticeship IV	2			<b>10</b>
Social Science Elective		3	FSM 105	Foods I	4			
		<b>18</b>	FSM 118	Sanitation	2			
			FSM 215	Food Purch.				
				& Menu Mgmt.	3			
					<b>35</b>			



# Baking and Pastry, AAS

APPRENTICESHIP OPTION (CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

<b>Fall Semester</b>		<b>Spring Semester</b>		<b>Fall Semester</b>		<b>Summer Semester*</b>	
BKP 141	4	BKP 142	3	BKP 243	4	ENG 163 or 164	3
CUL 121	2	CUL 122	2	BKP 245	3	Humanities Elective	
FSM 103 or 113	3	FSM 105	4	CUL 123	2	or FSM 170	3
FSM 117	1	FSM 218 or BKP 242	3	FSM 215	3	Social Science Elective	3
FSM 118	2		12		12		9
	<b>12</b>			<b>Spring Semester</b>			
		<b>Summer Semester*</b>		BKP 247	4		
		ENG 161	3	CUL 224	2		
		CPT 150	3	FSM 235	3		
			6	Math Elective	3		
					12		



# Baking and Pastry, Diploma

## APPRENTICESHIP OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The baking and pastry apprenticeship program is one of eight majors comprising the college's Center for Culinary Art and Hospitality. This apprenticeship program is sponsored by The American Culinary Federation Laurel Highlands Chapter (ACFLHC) and WCCC. 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) Apprenticeship Data 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 Nemaocolin Woodlands Resort. For more information, contact the WCCC 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 45)

General Education	Major	Other Required Courses
None Required	BKP 141 Baking I 4	FSM 103 Intro to Hospitality
	BKP 142 Baking II 3	or 3
	BKP 243 Healthy Cooking Trends 4	FSM 113 Customer Service
	BKP 245 Decorating Techniques 3	FSM 117 Wait Staff/Din. Rm. Trng. 1
	BKP 247 Specialty/Artistic Tech. 4	FSM 218 Hospitality Marketing
	CUL 121 Apprenticeship I 2	or 3
	CUL 122 Apprenticeship II 2	BKP 242 Bakery Merch. Tech.
	CUL 123 Apprenticeship III 2	FSM 235 Supervision/Training <u>3</u>
	CUL 224 Apprenticeship IV 2	<b>10</b>
	FSM 105 Foods I 4	
	FSM 118 Sanitation 2	
	FSM 215 Food Purch. & Menu Mgmt. <u>3</u>	
	<b>35</b>	

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
BKP 141 4	BKP 142 3	BKP 243 4	BKP 247 4
CUL 121 2	CUL 122 2	BKP 245 3	CUL 224 2
FSM 103 or 113 3	FSM 105 4	CUL 123 2	FSM 235 <u>3</u>
FSM 117 1	FSM 218 or BKP 242 <u>3</u>	FSM 215 <u>3</u>	<b>9</b>
FSM 118 <u>2</u>	<b>12</b>	<b>12</b>	
<b>12</b>			

# Baking and Pastry, AAS

NON-APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



Baking and pastry is one of eight majors comprising the college's Center for Culinary Arts and 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Con.	3	BKP 141	Baking I	4	FSM 103	Intro to Hospitality	
ENG 161	College Writing	3	BKP 142	Baking II	3	or		3
ENG 163	Business Comm.		BKP 144	Baking III	3	FSM 113	Customer Service	
or		3	BKP 242	Bakery/Deli Merch. Tech.	3	FSM 105	Foods I	4
ENG 164	Advanced Composition		BKP 243	Healthy Cooking Trends	4	FSM 215	Food Purch. & Menu Mgmt.	3
Humanities Elective			BKP 245	Decorating Techniques	3	FSM 235	Supervision & Training	3
or		3	BKP 247	Specialty/Artistic Tech.	4			<b>13</b>
FSM 170	Food Culture & Religion		FSM 118	Sanitation	2			
Mathematics Elective		3	FSM 219	Hospitality Internship	3			
Social Science Elective		3			<b>29</b>			
		<b>18</b>						

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BKP 141	4	BKP 142	3	BKP 144	3	BKP 242	3
ENG 161	3	BKP 245	3	BKP 243	4	BKP 247	4
FSM 103 or 113	3	CPT 150	3	FSM 215	3	FSM 219	3
FSM 105	4	ENG 163 or 164	3	Humanities Elective or		Social Science Elective	3
FSM 118	2	FSM 235	3	FSM 170	3		<b>13</b>
	<b>16</b>		<b>15</b>	Mathematics Elective	3		
					<b>16</b>		

# Baking & Pastry, Diploma

NON-APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

Baking and pastry is one of eight majors comprising the college's Center for Culinary Arts and 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 42)

General Education	Major	Other Required Courses
None Required	BKP 141 Baking I 4	FSM 103 Intro to Hospitality 3
	BKP 142 Baking II 3	or
	BKP 144 Baking III 3	FSM 113 Customer Service 3
	BKP 242 Bakery/Deli Merch. Tech. 3	FSM 105 Foods I 4
	BKP 243 Healthy Cooking Trends 4	FSM 215 Food Purch. & Menu Mgmt. 3
	BKP 245 Decorating Techniques 3	FSM 235 Supervision & Training 3
	BKP 247 Specialty/Artistic Tech. 4	<b>13</b>
	FSM 118 Sanitation 2	
	FSM 219 Hospitality Internship 3	
	<b>29</b>	

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester
BKP 141 4	BKP 142 3	BKP 144 3
FSM 103 3	BKP 243 4	BKP 242 3
FSM 105 4	BKP 245 3	BKP 247 4
FSM 118 2	FSM 215 3	FSM 219 3
<b>13</b>	FSM 235 3	<b>13</b>
	<b>16</b>	

# Baking and Pastry, Certificate

NON-APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

BKP 141	Baking I	4
BKP 245	Decorating Techniques	3
FSM 105	Foods I	4
FSM 113	Customer Service	3
FSM 118	Sanitation	<u>2</u>
		<b>16</b>





## 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 WCCC 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

64 The associate of applied science business degree program is offered in seven areas of concentration: financial management, general management, human resource management, marketing management, real estate management, small business management and supply chain 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 37). 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

WCCC offers seven business certificates covering specific topics in business. Certificates are available in: financial management, general management, human resource management, marketing management, real estate management, small business management and supply chain 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, advanced topical area.

*Complete descriptions of these programs appear on pages 65-76.*

## Business, AAS

### FINANCE OPTION

#### Division of Computer Technology/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 corporate finance and banking.

### Career Opportunities

Graduates of the finance option can expect to 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 corporate financial planning and analysis
- engage in the financial management of organizations
- function in entry-level banking positions
- participate in the consumer and commercial lending process
- plan and execute an investment portfolio
- practice effective decision-making skills

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	3
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3	ECN 256	Microeconomics	<u>3</u>
ECN 255	Macroeconomics	3	BUS 205	Business Law I	3			<b>6</b>
ENG 161	College Writing	3	BUS 245	Principles of Marketing	3			
ENG 163	Business Communication		BUS 296	Business Strategy	3			
or		3	FIN 220	Business Finance	<u>3</u>			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech		Concentration					
or		3	BUS 244	Business Statistics	3			
SPC 156	Interpersonal Commun.		BUS 288	Business Analytics	3			
Social Science Elective		<u>3</u>	FIN 155	Personal Finance	3			
		<b>18</b>	FIN 263	Small Business Finance	3			
			FIN 246	Risk Management	3			
			FIN 266	Financial Statemnt. Anly.	<u>3</u>			
					<b>18</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	ACC 165	3	BUS 244	3	BUS 288	3
BUS 140	3	BUS 158	3	BUS 245	3	BUS 296	3
CPT 150	3	BUS 205	3	ECN 255	3	FIN 246	3
ENG 161	3	ECN 256	3	FIN 220	3	FIN 263	3
FIN 155	<u>3</u>	ENG 163 or 164	<u>3</u>	SPC 155 or 156	<u>3</u>	FIN 266	<u>3</u>
	<b>15</b>		<b>15</b>		<b>15</b>		<b>15</b>



# Business, AAS

## GENERAL MANAGEMENT OPTION

### Division of Computer Technology/Business

The general 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 can expect to 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:

- implement marketing/sales skills applicable to the customer orientation of the employer
- communicate effectively and relate positively to others
- effect the organizing, marketing, purchasing, producing, staffing and financial management skills
- supervise human resources in an organization
- practice effective decision-making skills

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	3
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3	ECN 256	Microeconomics	<u>3</u>
ECN 255	Macroeconomics	3	BUS 205	Business Law	3			<b>6</b>
ENG 161	College Writing	3	BUS 245	Prin. of Marketing	3			
ENG 163	Business Communication	3	BUS 296	Business Strategy	3			
or		3	FIN 220	Business Finance	<u>3</u>			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech							
or		3						
SPC 156	Interpersonal Commun.	<u>3</u>						
		<b>18</b>						
			Concentration					
			BUS 241	Human Resource Mgmt.	3			
			BUS 244	Business Statistics	3			
			BUS 249	Labor Relations	3			
			BUS 258	Supervisory Mgmt.	3			
			BUS 275	Organizational Behav.	3			
			BUS 288	Business Analytics	<u>3</u>			
					<b>18</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	ACC 165	3	BUS 241	3	BUS 249	3
BUS 140	3	BUS 158	3	BUS 244	3	BUS 258	3
CPT 150	3	BUS 205	3	BUS 245	3	BUS 275	3
ECN 255	3	ECN 256	3	FIN 220	3	BUS 288	3
ENG 161	<u>3</u>	ENG 163 or 164	<u>3</u>	SPC 155 or 156	<u>3</u>	BUS 296	<u>3</u>
	<b>15</b>		<b>15</b>		<b>15</b>		<b>15</b>

# Business, AAS

## HUMAN RESOURCE MANAGEMENT OPTION

### Division of Computer Technology/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 can expect to 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:

- implement marketing/sales skills applicable to the customer orientation of the employer
- communicate effectively and relate positively to others
- effect the organizing, marketing, purchasing, producing, staffing, and financial management skills
- supervise human resources in an organization
- practice effective decision-making skills
- utilize negotiating skills with employees and/or local union officials

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	3
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3	ECN 256	Microeconomics	<u>3</u>
ECN 255	Macroeconomics	3	BUS 205	Business Law	3			<b>6</b>
ENG 161	College Writing	3	BUS 245	Prin. of Marketing	3			
ENG 163	Business Communication	3	BUS 296	Business Strategy	3			
or		3	FIN 220	Business Finance	<u>3</u>			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech							
or		3						
SPC 156	Interpersonal Comm.	<u>3</u>						
		<b>18</b>						
			Concentration					
			BUS 241	Human Resource Mgmt.	3			
			BUS 249	Labor Relations	3			
			BUS 258	Supervisory Mgmt.	3			
			BUS 275	Organizational Behavior	3			
			BUS 285	Compensation Mgmt.	3			
			FIN 246	Risk Management	<u>3</u>			
					<b>18</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
BUS 120	ACC 165	BUS 241	BUS 258
BUS 140	BUS 158	BUS 245	BUS 275
CPT 150	BUS 205	BUS 249	BUS 285
ECN 255	ECN 256	FIN 220	BUS 296
ENG 161	ENG 163 or 164	SPC 155 or 156	FIN 246
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>

# Business, AAS

## MARKETING MANAGEMENT OPTION

### Division of Computer Technology/Business



The marketing management option provides an introduction to business and the basic principles of management with emphasis on marketing. 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 can expect to 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:

- participate in gathering marketing data through standard survey techniques
- perform basic public relations functions such as maintaining files on company activities, searching secondary data sources for information, and maintaining schedules and obtaining cost estimates for publicity events
- act as administrative assistants to senior personnel in advertising departments, and in sales and sales promotion departments in television stations, radio stations and newspapers
- gain entry-level positions in advertising agency departments such as traffic and media, and perform account coordinator work in account service departments

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	<u>3</u>
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3			<b>3</b>
ECN 255	Macroeconomics	3	BUS 205	Business Law	3			
ENG 161	College Writing	3	BUS 245	Prin. of Marketing	3			
ENG 163	Business Communication	3	BUS 296	Business Strategy	3			
or		3	FIN 220	Business Finance	<u>3</u>			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech							
or		3						
SPC 156	Interpersonal Comm.	<u>3</u>						
		<b>18</b>						
			Concentration					
			BUS 188	Social Media/Business	3			
			BUS 240	Techniques of Selling	3			
			MKT 242	Retailing	3			
			MKT 251	Consumer Behavior	3			
			MKT 252	Public Relations	3			
			MKT 253	Global Marketing	3			
			MKT 254	Advertising & Promotion	<u>3</u>			
					<b>21</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	ACC 165	3	BUS 188	3	BUS 240	3
BUS 140	3	BUS 158	3	BUS 245	3	BUS 296	3
CPT 150	3	BUS 205	3	FIN 220	3	MKT 252	3
ECN 255	3	ENG 163 or 164	3	MKT 242	3	MKT 253	3
ENG 161	<u>3</u>	SPC 155 or 156	<u>3</u>	MKT 251	<u>3</u>	MKT 254	<u>3</u>
	<b>15</b>		<b>15</b>		<b>15</b>		<b>15</b>

# Business, AAS

## REAL ESTATE MANAGEMENT OPTION

### Division of Computer Technology/Business

The real estate management option of the business degree program provides an introduction to business and the basic principles of management with a major emphasis on real estate practices and real estate management.

### Career Opportunities

Graduates of the real estate management option will find employment as real estate brokers, property managers, property developers and personal financial planners. 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 for investment
- manage rental properties
- engage in real estate brokerage
- participate in real estate marketing and sales activities

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 61)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	3
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3	ECN 256	Microeconomics	3
ECN 255	Macroeconomics	3	BUS 240	Techniques of Selling	3			<b>6</b>
ENG 161	College Writing	3	BUS 241	Human Resource Mgmt.	3			
ENG 163	Business Communication	3	BUS 245	Prin. of Marketing	3			
or		3	FIN 220	Business Finance	3			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech		Concentration					
or		3	RLS 101	Fund. of Real Estate	2			
SPC 156	Interpersonal Comm.	<u>3</u>	RLS 102	Real Estate Practices	2			
		<b>18</b>	RLS 205	Property Management	3			
			RLS 207	Real Estate Brokerage	3			
			RLS 211	Real Estate Appraisal	3			
			RLS 209	Real Estate Finance	3			
			RLS 210	Law of Real Estate	3			
					<b>19</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

*Part-time students can complete this program by taking one or more courses each semester.*

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	ACC 165	3	BUS 245	3	BUS 240	3
BUS 140	3	BUS 158	3	FIN 220	3	BUS 241	3
CPT 150	3	ECN 256	3	RLS 210	3	ECN 255	3
ENG 161	3	ENG 163 or 164	3	RLS 211	3	RLS 207	3
RLS 101	2	RLS 205	3	SPC 155 or 156	3	RLS 209	3
RLS 102	<u>2</u>		<b>15</b>		<b>15</b>		<b>15</b>
	<b>16</b>						

# Business, AAS

## SMALL BUSINESS MANAGEMENT OPTION

### Division of Computer Technology/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 can expect to 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 operating and managing small businesses
- assist small business owners in running their businesses
- start, operate and manage entrepreneurial organizations
- become competent in small business finance and operations

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 61)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 120	QuickBooks - Basics	1
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3	ACC 165	Acctg. for Managers	3
ECN 256	Macroeconomics	3	BUS 205	Business Law	3			4
ENG 161	College Writing	3	BUS 245	Prin of Marketing	3			
ENG 163	Business Communication	3	BUS 296	Business Strategy	3			
or		3	FIN 220	Business Finance	3			
ENG 164	Advanced Composition				<b>18</b>			
SPC 155	Effective Speech		<b>Concentration</b>					
or		3	BUS 188	Social Media/Business	3			
SPC 156	Interpersonal Comm.	3	BUS 240	Techniques of Selling	3			
		<b>18</b>	BUS 260	Small Business Mgmt.	3			
			BUS 262	Eff. Entrepreneurship	3			
			FIN 155	Personal Finance	3			
			FIN 263	Small Business Finance	3			
			FIN 266	Financial Stmt. Anal.	3			
					<b>21</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	ACC 165	3	ACC 120	1	BUS 240	3
BUS 140	3	BUS 158	3	BUS 188	3	BUS 262	3
CPT 150	3	BUS 205	3	BUS 245	3	BUS 296	3
ENG 161	3	ECN 256	3	BUS 260	3	FIN 263	3
FIN 155	3	ENG 163 or 164	3	FIN 220	3	FIN 266	3
	<b>15</b>		<b>15</b>	SPC 155 or 156	3		<b>15</b>
					<b>16</b>		

# Business, AAS

## SUPPLY CHAIN MANAGEMENT OPTION

### Division of Computer Technology/Business

The supply chain management option of the business AAS degree program is designed for students who are interested in participating in the management of the supply chain. Topics in supply chain management will include product procurement, operations management, warehousing, product distribution and logistic. A strong foundation in general business management courses will accompany their option. Courses in accounting and economics will be augmented by business mathematics, college algebra, business calculus, business statistics and business analytics.

### Career Opportunities

Graduates of the supply chain management degree can expect to find employment as customer service representatives; shipping, receiving and traffic clerks; production, planning and expediting clerks; wholesale and retail buyers; purchasing agents; procurement clerks; transportation managers; storage and distribution managers; logistics managers; and supply chain managers. Many of the courses in this degree should also be transferable to a four-year institution.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- participate in the process of operations management
- explain forecasting and planning systems
- participate in the functions of customer service and order fulfillment
- participate in the functions of shipping and warehousing
- develop MRP and scheduling methodology
- demonstrate understanding of stock replenishment and reorder

### PROGRAM REQUIREMENT (TOTAL CREDITS – 60)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 244	Business Statistics	3	ACC 155	Accounting I	3
CPT 150	Microcomputer Concepts	3	BUS 250	Calculus for Business	3	ACC 156	Accounting II	3
ENG 161	College Writing	3	BUS 258	Principles of Mgmt.	3	ECN 255	Macroeconomics	3
ENG 164	Advanced Comp.	3	BUS 288	Business Analytics	3	ECN 256	Microeconomics	3
MTH 157	College Algebra	3			<b>12</b>			<b>12</b>
SPC 155	Effective Speech	3						
or								
SPC 156	Interpersonal Comm.	3	<b>Concentration</b>					
Natural Science Elective		3	BUS 210	Operations Mgmt.	3			
Social Science Elective		3	BUS 220	Intro to Supply Chain	3			
		<u>3</u>	BUS 230	Procurement	3			
		<b>24</b>	BUS 248	Logistics	3			
					<u>3</u>			
					<b>12</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
BUS 120	ACC 155	ACC 156	BUS 248
BUS 210	BUS 220	BUS 230	BUS 258
CPT 150	BUS 244	BUS 250	BUS 288
ENG 161	ENG 164	ECN 255	ECN 256
MTH 157	SPC 155 or 156	Natural Science Elective	Social Science Elective
<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>

# Business, Diploma

## Division of Computer Technology/Business

The business diploma program is designed to provide the student with a selection of general business management courses.

### Career Opportunities

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

### Program Learning Outcomes

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

- participate in business management functions
- conduct marketing analysis and manage sales
- conduct financial analysis and manage finances
- join a small business as a member of management

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 30)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	BUS 140	Intro to Business	3	ACC 165	Acctg. for Managers	<u>3</u>
CPT 150	Microcomputer Concepts	3	BUS 158	Prin. of Management	3			<b>3</b>
ECN 255	Macroeconomics	3	BUS 205	Business Law	3			
ENG 161	College Writing	<u>3</u>	BUS 245	Prin. of Marketing	3			
		<b>12</b>	FIN 220	Business Finance	<u>3</u>			
					<b>15</b>			

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

*Part-time students can complete this program by taking one or more courses each semester.*

Fall Semester		Spring Semester	
ACC 165	3	BUS 158	3
BUS 120	3	BUS 205	3
BUS 140	3	BUS 245	3
CPT 150	3	ECN 255	3
ENG 161	<u>3</u>	FIN 220	<u>3</u>
	<b>15</b>		<b>15</b>

## Business, Certificate

### FINANCIAL MANAGEMENT

#### Division of Computer Technology/Business

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The financial management certificate offers students the opportunity to gain proficiency in managing the financial function in a business.

#### Career Opportunities

Graduates of the financial management option can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

ACC 165	Accounting for Mgrs.	3
FIN 155	Personal Finance	3
FIN 220	Business Finance	3
FIN 246	Risk Management	3
FIN 263	Small Bus. Finance	3
FIN 266	Financial Stmt. Anal.	<u>3</u>
		<b>18</b>

## Business, Certificate

### GENERAL MANAGEMENT

#### Division of Computer Technology/Business

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The general management certificate is designed to provide an introductory view of general management in an enterprise environment.

#### Career Opportunities

The general 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

ACC 165	Acctg. for Managers	3
BUS 120	Math of Business	3
BUS 140	Intro to Business	3
BUS 158	Prin. of Management	3
BUS 245	Prin. of Marketing	3
FIN 220	Business Finance	<u>3</u>
		<b>18</b>



## Business, Certificate

### HUMAN RESOURCE MANAGEMENT

#### Division of Computer Technology/Business

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

#### Career Opportunities

Graduates of the human resource management certificate can expect to 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:**

- implement marketing/sales skills applicable to the customer orientation of the employer
- supervise human resources in an organization
- utilize negotiating skills with employees and/or local union officials

### 74 PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BUS 241	Human Resource Mgmt.	3
BUS 249	Labor Relations	3
BUS 258	Supervisory Mgmt.	3
BUS 275	Organizational Behavior	3
BUS 285	Compensation Mgmt.	3
FIN 246	Risk Management	<u>3</u>
		<b>18</b>

## Business, Certificate

### MARKETING MANAGEMENT

#### Division of Computer Technology/Business

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The marketing management certificate offers students the opportunity to gain proficiency in managing the marketing function in a business.

#### Career Opportunities

Graduates of the marketing option can expect to 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BUS 188	Social Media/Business	3
BUS 245	Prin. of Marketing	3
MKT 242	Retailing	3
MKT 251	Consumer Behavior	3
MKT 253	Global Marketing	3
MKT 254	Advertising & Promotion	<u>3</u>
		<b>18</b>

## Business, Certificate

### REAL ESTATE MANAGEMENT

#### Division of Computer Technology/Business

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

#### Career Opportunities

Graduates of the real estate management option will find employment as real estate brokers, property managers, property developers and personal financial planners. 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 for investment
- manage rental property
- engage in real estate brokerage

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

RLS 101	Fund. of Real Estate	2
RLS 102	Real Estate Practices	2
RLS 205	Property Management	3
RLS 207	Real Estate Brokerage	3
RLS 209	Real Estate Finance	3
RLS 210	Law of Real Estate	<u>3</u>
		<b>16</b>

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## Business, Certificate

### SMALL BUSINESS MANAGEMENT

#### Division of Computer Technology/Business

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The small business management certificate is designed to provide the student with an introduction to the ownership, operation and management of small business ventures.

#### Career Opportunities

Graduates of the small business management option can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BUS 188	Social Media/Business	3
BUS 240	Techniques of Selling	3
BUS 260	Small Business Mgmt.	3
BUS 262	Effective Entrepreneurship	3
FIN 155	Personal Finance	3
FIN 263	Small Business Finance	<u>3</u>
		<b>18</b>

# Business, Certificate

## SUPPLY CHAIN MANAGEMENT

### Division of Computer Technology/Business

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The supply chain management certificate program is designed for students who are interested in participating in the management of the distribution of products from manufacturing to the final destination. The fundamentals of supply chain management will be covered in four essential courses.

### Career Opportunities

Graduates of the supply chain management certificate can expect to find employment as operations assistants, production supervisors, production planners, and warehouse and product distributions clerks.

### Program Learning Outcomes

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

- demonstrate proficiency in operations management
- perform the functions of shipping and warehousing
- demonstrate an understanding of stock replenishment and reorder
- demonstrate an understanding of inventory control methods

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BUS 158	Prin. of Management	3
BUS 210	Operations Mgmt.	3
BUS 220	Intro to Supply Chain	3
BUS 230	Procurement	3
BUS 244	Business Statistics	3
BUS 248	Logistics	<u>3</u>
		<b>18</b>

# Casino/Gaming Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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The Casino/Gaming certificate is designed to provide students with an introduction to the casino/gaming industry which includes operations, marketing, customer service, surveillance and security, the legal and regulatory aspects, and the relationship of the casino industry to tourism in general. Business attire may be required for some class assignments.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify organizational structures and functions of the departments within a casino/gaming operation
- identify casino security issues and investigative techniques
- identify financial records and data required of the casino/gaming industry
- define and evaluate effective casino/gaming marketing plans
- use interpersonal skills to effectively communicate within a casino/gaming environment
- identify and satisfy diverse customer expectations within casino/gaming facilities
- recognize the economic and social impact of gaming to the local and regional areas
- utilize computer technology to maintain casino/gaming operation
- identify regulations governing the casino/gaming industry

### Career Opportunities

Graduates of the Casino/Gaming Certificate program may accept positions as casino hosts, change attendants, slot floor attendants, slot floor supervisors, marketing representatives, cage cashiers, surveillance/security personnel, wait staff bartenders and bar assistants.

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

FSM 113	Customer Service	3
FSM 117	Wait Staff/Din. Rm. Trng.	1
FSM 119	Beverage Management	1
HMT 170	Casino/Gaming Operations	3
HMT 172	Casino Marketing	2
HMT 174	Intro/Casino Surveillance & Security	1
HMT 176	Intro/Casino Fin. Controls	2
SPC 156	Interpersonal Comm.	3
		<b>16</b>

# Clinical Laboratory Technology, AAS

## Division of Health Professions/Natural Sciences

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The clinical laboratory technology program offers the academic preparation, laboratory and clinical training for a career as a clinical laboratory technician. Clinical laboratory testing plays a crucial role in the detection, diagnosis and treatment of disease. Clinical laboratory technicians examine and analyze body fluids and cells. They look for bacteria, parasites and other microorganisms; analyze the chemical content of fluids; match blood for transfusions; and test for drug levels in the blood that show how a patient is responding to treatment. Technicians also prepare specimens for examination, count cells and look for abnormal cells in blood and body fluids. They use microscopes, cell counters and other sophisticated laboratory equipment. They also use automated equipment and computerized instruments capable of performing a number of tests simultaneously. After testing and examining a specimen, they analyze the results and relay them to physicians.

### Career Opportunities

Entry-level technicians may be employed in a variety of settings, and they may assume a variety of job titles depending upon their education, work experience and place of employment.

### Program Learning Outcomes

This curriculum is designed to prepare students to develop:

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- communication skills
- critical thinking
- specific technical skills which adapt to ever changing technologies
- necessary computation skills
- information literacy skills appropriate to their discipline and professional development
- therapeutic interpersonal skills
- personal skills that enhance healthy lifestyles, academic integrity and acceptable professional behavior
- skills necessary to perform in the healthcare environment at various levels and in various settings

### 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 CLT 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.

### Specific Admission and Selection Criteria

- 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 CLT program and must be completed with a "C" grade or better (C minus grade not accepted).
- College prerequisite coursework includes completion of ALH 122, Medical Terminology, with a minimum grade of "C" (C minus grade not accepted).
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester in which enrollment is anticipated. Official transcripts from all secondary schools attended, GED programs, and any other former education program attended beyond high school must accompany the forms.
- 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 minimum grade not accepted). In addition, applicants who have completed credit courses must have a 2.5 or better GPA prior to taking the CLT admission examination.
- Only courses necessary to meet the CLT 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. Transfer courses are not calculated into the GPA.
- Students who have attempted developmental courses, math or science courses three or more times will not be considered for admission.
- Applicants must provide evidence of Pennsylvania State Police Request for Criminal Record Check (SP4-164) and Pennsylvania Child Abuse History Clearance (CY-113) at the candidate's expense. Any child abuse record results in denial of admission to the clinical laboratory technology program. FBI Fingerprinting is required through the Department of Public Welfare, at the applicant's expense. These records must be submitted to the clinical laboratory technology program within two weeks of the date of notification of initial acceptance. Any felony conviction may result in denial of admission to the clinical laboratory technology program. Any misdemeanor is conditional pending receipt and evaluation of the background information to determine whether there is a conviction which may bar the student from admission to the clinical laboratory technology program.

# Clinical Laboratory Technology, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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- Urine drug screening is required at applicant's expense. A positive drug screen may result in denial of admission to the clinical laboratory technology program or continuation in the clinical laboratory technology program. The program reserves the right to require random drug screening while the student is enrolled.

**NOTE: Admission decisions consider the following factors which contribute to the overall admission score; GPA and pattern of success in courses already taken. Admission to the CLT program is competitive and there are a limited number of seats.**

### Essential Cognitive, Physical and Behavioral Functions for the CLT program:

CLT students must be able to meet the following cognitive, physical and behavioral abilities for successful completion of the CLT program:

- Must have a physical ability to move specific CLT equipment
- Stand, sit and walk for extended periods of time (several hours)
- Utilize a keyboard and interact with computer terminals, requiring considerable speed and dexterity in motions
- Lift and/or support a minimum 25 pounds in order to lift and carry accessories and equipment
- Push heavy equipment up to 100 pounds
- Must be able to hear normal voice volume
- Must be able to manage stressful situations that relate to procedure and technical standards
- Have the ability to read and comprehend written classroom material, documents and settings on computer screens, medical documents, and institution procedures and policies
- Must be able to demonstrate attention to thoroughness, detail and accuracy in all aspects of work
- Have ability to write legible in English in a style that is readable
- Have sufficient facility with English (to include reading, writing, spelling, speaking and listening) in order to retrieve information from various sources including patient charts computer screens, textbooks, etc. and have the ability to speak English in a manner that is understood by others
- Cannot be dependent on any chemical or substance
- Must have sufficient manual dexterity to operate lab equipment and to perform specific lab tests
- Must demonstrate ability to discern between accurate and inaccurate results and flaws
- Must demonstrate at all times appropriate universal standards
- Have the ability to react appropriately and quickly in emergency situations
- Must be poised, well groomed and neat appearance, discreet, tactful, diplomatic, professional, versatile, ethical and dependable
- Must be able to complete assigned tasks in reasonable and acceptable time frame
- Must have the ability to comprehend written and verbal instructions correctly in academic and clinical healthcare settings
- Must exhibit the capacity for reasoned judgment and calm in a healthcare and workplace environment
- Must not have physical or mental medical disorders that limit the ability to that limit the ability to perform the duties of a CLT student
- Must show honesty and integrity in all matters with peers, faculty, staff and patients
- Must demonstrate complete confidentiality with information entrusted to them related to patients, healthcare workers and health status issues
- Must display compassion, empathy and concern for others
- Must demonstrate accountability, problem solving and listening skills at all times
- Enjoy working with people
- Given and receive accurate information over the phone
- Critically evaluate their own performance, accept constructive criticism and look for ways for improve performance
- Accept responsibility, accountability and ownership of one's actions
- Manage the use of time in order to complete professional and technical tasks within realistic constraints
- Be forthright about errors or uncertainty
- Synthesize data: draw sound conclusions

# Clinical Laboratory Technology, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

Students will be removed from the program if a health, cognitive, psychomotor or behavioral condition significantly limits the student from performing the routine functions of a CLT student and/or present a danger to the safety and health of patients and/or agency staff.

After starting the CLT program, students will immediately notify the program director if any of these state functions change. An evaluation may occur to determine if students are able to continue in the program.

### Final Admission Criteria

Accepted applicants will be required to attend a mandatory information session and orientation session as the final step in the admission process. Specific information regarding the following additional program requirements will be provided to applicants at that time. These include:

- Complete physical examination, lab studies, proof of immunizations and urine drug screen
- CPR-Basic Life Support for Health Care Providers Annual Certification required
- Evidence of a student's liability insurance policy
- All of the above must be submitted to the CLT program by deadline or program acceptance will be withdrawn
- It should be noted that due to changes in clinical agency requirements, fingerprinting may be a mandatory requirement in the future of some clinical sites.

**NOTE: 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.**

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 74)

Prerequisite			Major			Other Required Courses		
ALH 122	Medical Terminology	3	CLT 101*	Intro to CLT	5	BIO 265*	Microbiology	4
			CLT 103*	Urinalysis, Body Fluids & Parasite	3	CHM 155*	General Chemistry I	4
	<b>General Education</b>		CLT 111*	Clinical Practicum I	2	CHM 156*	General Chemistry II	<u>4</u>
BIO 171*	Anatomy & Physiology I	4	CLT 200*	Professional Issues	3			<b>12</b>
BIO 172*	Anatomy & Physiology II	4	CLT 201*	Clinical Micro	3			
CPT 150	Microcomputer Concepts	3	CLT 203*	Clinical Chem	3			
ENG 161	College Writing	3	CLT 205*	Blood Banking, Serology & Immun.	4			
ENG 164	Advanced Composition	3	CLT 211*	Clinical Practicum II	3			
HUM 156	Critical Thinking	3	CLT 207*	Lab Info Systems	3			
MTH 160	Intro to Statistics	3	CLT 213*	Clinical Practicum III	<u>4</u>			
PSY 160	General Psychology	<u>3</u>			<b>33</b>			
		<b>29</b>						

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Prerequisite	Spring Semester	Fall Semester	Spring Semester
ALH 122	BIO 172*	CLT 200*	ENG 164
	CHM 156*	CLT 201*	CLT 205*
	CLT 103*	CLT 203*	CLT 213*
<b>Fall Semester</b>	CLT 111*	CLT 211*	CLT 207*
BIO 171*	PSY 160*	ENG 161*	<u>3</u>
CPT 150			<b>14</b>
CHM 155			
CLT 101*			
<u>5</u>	<b>Summer Semester</b>		
<b>16</b>	BIO 265*		
	HUM 156		
	MTH 160		
	<u>3</u>		
	<b>10</b>		

\*These courses must be passed with a "C" grade or better

# Computer Information Security, AAS

Division of Computer Technology/Business



The Computer Information Technology 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

**Students enrolled in information security courses must obtain a current criminal record check.**

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education		Major			Other Required Courses			
CPT 150	Microcomputer Concepts	3	CIS 168	Prin. of Info Security	3	CPT 182	Operating Systems	3
ENG 161	College Writing	3	CIS 209	LAN Security	3	CPT 183	Local Area Networks	3
ENG 162	Technical Comm.		CIS 210	Internet Security	3	CPT 198	Fiber Optic Tech.	3
	or	3	CIS 212	Computer Forensics	3	CPT 214	Wireless Commun.	3
ENG 163	Business Commun.		CIS 250	Network Intrusion Detect.	3	CPT 219	Fiber Optic Anal. & Des.	3
SPC 155	Effective Speech		CIS 252	Digital Forensics I	3	CPT 248	PC Hardware	3
	or	3	CIS 253	Commun. Security♦	3	CPT 256	Linux Desktop	3
SPC 156	Interpersonal Comm.				<b>21</b>			<b>21</b>
	Mathematics Elective	3						
	Social Science Elective	3						
		<b>18</b>						

♦capstone course

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CIS 168	3	CIS 210	3	CIS 209	3	CIS 250	3
CPT 150	3	CPT 182	3	CIS 212	3	CIS 253	3
ENG 161	3	CPT 183	3	CIS 252	3	CPT 219	3
Mathematics Elective	3	CPT 198	3	CPT 214	3	CPT 248	3
Social Science Elective	3	ENG 162 or 163	3	SPC 155 or 156	3	CPT 256	3
	<b>15</b>		<b>15</b>		<b>15</b>		<b>15</b>



# Computer Information Security, Certificate

## Division of Computer Technology/Business

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This certificate is designed to provide an introduction to the theories and practices associated with information security. Law enforcement professionals can enhance their knowledge of cyber crimes by becoming more familiar with the intricacies of computer evidence handling and documentation, and cyber crime determination, evaluation, and prosecution. Current computer professionals can expand upon their existing networking experience by increasing their knowledge of information security and expanding their careers into the information security discipline. This certificate is currently available online.

### Career Opportunities

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

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- communicate with law enforcement professionals and network professionals with respect to cyber crimes and information security
- determine the scope and cost of specific security intrusions
- evaluate potential security vulnerabilities
- administer local area network (LAN), wide area network (WAN), and Internet security procedures and devices

*Students enrolled in information security courses must obtain a current criminal record check.*

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

### General Education

CIS 168	Prin. of Info Security	3
CIS 209	LAN Security	3
CIS 210	Internet Security	3
CIS 212	Computer Forensics	3
CPT 182	Operating Systems	3
CPT 183	Local Area Networks	3

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# Computer Numerical Control Technology, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 64)

General Education			Major			Other Required Courses		
DFT 258	AutoCAD	4	CNC 111	CNC I	4	DFT 112	Intro to Design Mat. & Pro.	3
ENG 161	College Writing	3	CNC 112	CNC II	5	DFT 207	Tool Design	4
ENG 162	Technical Commun.	3	CNC 213	CNC III	5	DFT 266	AutoDesk Inventor	4
MTH 108	Math for the Tech. I*	4	CNC 214	CNC IV	6	MTT 101	Blueprints	4
MTH 109	Math for the Tech. II*	4	MTT 111	Machining I	4	MTT 201	Inspection	4
Social Science Elective		3			24			19
		<b>21</b>						

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students should consult their advisor.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CNC 111	4	CNC 112	5	CNC 213	5	CNC 214	6
MTH 108	4	DFT 112	3	DFT 207	4	DFT 266	4
MTT 101	4	DFT 258	4	ENG 161	3	ENG 162	3
MTT 111	4	MTH 109	4	MTT 201	4	Social Science Elective	3
	<b>16</b>		<b>16</b>		<b>16</b>		<b>16</b>

\*Students planning to transfer to a four-year institution should consult their advisor for course substitutions.

# Computer Numerical Control I, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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.

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### 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

<b>Major</b>		
CNC 111	CNC I	4
MTT 111	Machining I	4
MTT 101	Blueprints	4
MTH 108	Math for Technologies I	<u>4</u>
		<b>16</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

#### Fall Semester

CNC 111	4
MTT 111	4
MTT 101	4
MTH 108	<u>4</u>
	<b>16</b>

# Computer Numerical Control II, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

<b>Major</b>		
CNC 112	CNC II	4
DFT 112	Intro to Des., Materials & Processing	4
DFT 258	AutoCAD	4
MTH 109	Math for Technologies II	<u>4</u>
		<b>16</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

<b>Spring</b>	
CNC 112	4
DFT 112	4
DFT 258	4
MTH 109	<u>4</u>
	<b>16</b>

# Computer Numerical Control III, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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.

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### 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

		<b>Major</b>	
CNC 213	CNC III		5
DFT 207	Tool Design		4
ENG 161	College Writing		3
MTT 201	Inspection		<u>4</u>
			<b>16</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

#### Fall

CNC 213	5
DFT 207	4
ENG 161	3
MTT 201	<u>4</u>
	<b>16</b>

# Computer Numerical Control IV, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

<b>Major</b>		
CNC 214	CNC IV	6
DFT 266	AutoDesk Inventor	4
ENG 162	Technical Comm.	3
Social Science Elective		<u>3</u>
		<b>16</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

#### Spring

CNC 214	6
DFT 266	4
ENG 162	3
Social Science Elective	<u>3</u>
	<b>16</b>

# Computer Technology

## Technology and Change

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

## The Computer Technology Department

The computer technology department at WCCC 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 or concentrations: database/programming, networking, technical support and telecommunications. The diploma of computer technology is a shorter-term program that covers the fundamentals of computer technology. There are also six computer technology certificate programs that cover advanced topics in depth.

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## Associate of Applied Science Degree

The computer technology associate of applied science degree program is offered as four options: database/programming, networking, technical support and telecommunications. 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.

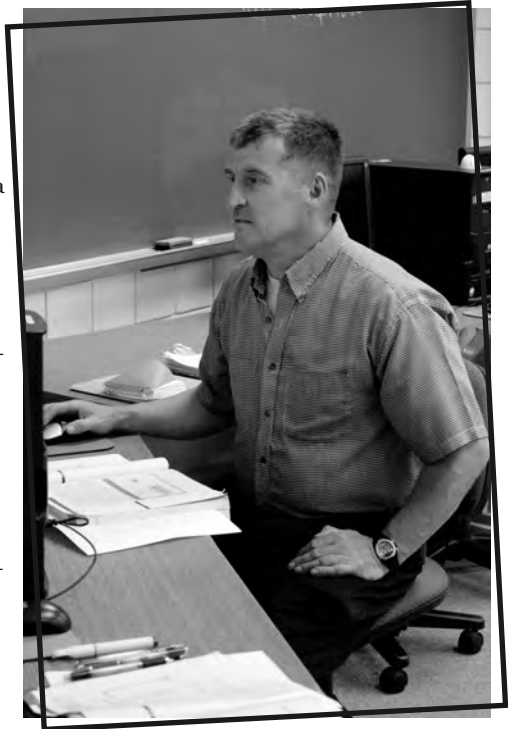
## Computer Technology Diploma

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

WCCC offers a total of six certificates covering advanced technical topics. Certificates are available in: database development, fiber optic technologies, networking, microcomputer support, programming 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 WCCC graduate or student in the workforce who needs to upgrade or expand his or her technical skills.



*Complete descriptions of these programs appear on pages 89-98.*

# Computer Technology, AAS

## NETWORKING OPTION

### Division of Computer Technology/Business



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 can expect to 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education			Major		
CPT 150	Microcomputer Concepts	3	CIS 209	LAN Security	3
ENG 161	College Writing	3	CPT 145	Intro/Computer Tech.	3
ENG 162	Technical Commun.		CPT 151	Advanced Office Applica.	3
or		3	CPT 181	Intro to Telecomm.	3
ENG 163	Business Commun.		CPT 182	Operating Systems	3
SPC 155	Effective Speech		CPT 183	Local Area Networks	3
or		3	CPT 198	Fiber Optic Tech.	3
SPC 156	Interpersonal Comm.	3	CPT 214	Wireless Commun.	3
Mathematics Elective		3	CPT 219	Fiber Optics Anlys. Dsgn.	3
Social Science Elective		<u>3</u>	CPT 222	Fiber Optic Testing	3
		<b>18</b>	CPT 248	PC Hardware	3
			CPT 249	PC Troubleshooting	3
			CPT 256	Linux Desktop	3
			CPT 262	Windows Client Server	3
			CPT 264	Windows Server Mgmt. ♦	<u>3</u>
					<b>45</b>

♦capstone course

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 145	CPT 182	CPT 151	CIS 209
CPT 150	CPT 183	CPT 214	CPT 219
CPT 181	CPT 198	CPT 222	CPT 249
ENG 161	CPT 248	CPT 262	CPT 256
Mathematics Elective	ENG 162 or 163	SPC 155 or 156	CPT 264
<u>3</u>	Social Science Elective	<u>3</u>	<u>3</u>
<b>15</b>	<u>3</u>	<b>15</b>	<b>15</b>
	<b>18</b>		



# Computer Technology, AAS

## PROGRAMMING FOR THE ENTERPRISE OPTION

### Division of Computer Technology/Business

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 server programming tools of the day. 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 for the enterprise option can expect to 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS - 61)

General Education		Major		Other Courses	
CPT 150	Microcomputer Concepts 3	CPT 145	Intro/Computer Tech. 3	OFT 100	Basic Keyboarding <u>1</u>
ENG 161	College Writing 3	CPT 160	Intro to Programming 3		<b>1</b>
ENG 162	Technical Commun. 3	CPT 162	Visual Basic 3		
or		CPT 163	Java Programming 3		
ENG 163	Business Commun. 3	CPT 180	C++ Programming 3		
MTH 157	College Algebra 3	CPT 182	Operating Systems 3		
SPC 155	Effective Speech 3	CPT 196	Access for Windows 3		
or		CPT 203	XHTML and CSS 3		
SPC 156	Interpersonal Comm. 3	CPT 206	JavaScript 3		
Social Science Elective	<u>3</u>	CPT 213	Java Programming II 3		
	<b>18</b>	CPT 235	Database Mgmt. Sys. 3		
		CPT 242	Visual Basic II 3		
		CPT 271	PHP & SQL 3		
		CPT 286	Sys. Analysis & Dsgn. $\blacklozenge$ 3		
			<b>42</b>		

$\blacklozenge$  capstone course

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 145 3	CPT 162 3	CPT 163 3	CPT 180 3
CPT 150 3	CPT 182 3	CPT 203 3	CPT 206 3
CPT 160 3	CPT 196 3	CPT 242 3	CPT 213 3
ENG 161 3	CPT 235 3	CPT 271 3	CPT 286 3
MTH 157 3	ENG 162 or 163 <u>3</u>	SPC 155 or 156 <u>3</u>	Social Science Elective <u>3</u>
OFT 100 <u>1</u>	<b>15</b>	<b>15</b>	<b>15</b>
<b>16</b>			

# Computer Technology, AAS

TECHNICAL SUPPORT OPTION

Division of Computer Technology/Business



The technical support option of the computer technology program provides students with a strong foundation in micro-computer 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 and application software.

## Career Opportunities

Graduates of the technical support option can expect to find employment as technical support technicians, LAN technicians, junior systems analysts, technical sales representatives, customer service technicians, help-desk analysts and IT trainers. 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 a variety of operating systems
- install, configure and troubleshoot popular microcomputer applications
- describe the principles of WAN/LAN network administration
- access and evaluate current telecommunications technology
- troubleshoot and repair computer hardware and software
- install and configure network operating systems
- develop competency in the Microsoft Office productivity suite
- develop oral, written and listening communication skills
- integrate and apply mathematical skills to solve quantitative problems

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 61)

General Education			Major		
CPT 150	Microcomputer Concepts	3	CPT 145	Intro/Computer Tech.	3
ENG 161	College Writing	3	CPT 181	Intro to Telecomm.	3
ENG 162	Technical Commun.		CPT 182	Operating Systems	3
or		3	CPT 183	Local Area Networks	3
ENG 163	Business Commun.		CPT 185	PowerPoint	1
SPC 155	Effective Speech		CPT 190	Word for Windows	3
or		3	CPT 195	Excel for Windows	3
SPC 156	Interpersonal Comm.		CPT 196	Access for Windows	3
Mathematics Elective		3	CPT 201	Web Design/Web Stndrds.	3
Social Science Elective		<u>3</u>	CPT 230	Integrated Office Applica.♦	3
		<b>18</b>	CPT 248	PC Hardware	3
			CPT 249	PC Troubleshooting	3
			CPT 259	User Support Operations	3
			CPT 262	Windows Client Server	3
			CPT 277	Elect. Commerce Tech.	<u>3</u>
					<b>43</b>

♦capstone course

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CPT 145	3	CPT 181	3	CPT 183	3	CPT 230	3
CPT 150	3	CPT 182	3	CPT 185	1	CPT 249	3
ENG 161	3	CPT 190	3	CPT 196	3	CPT 259	3
Mathematics Elective	3	CPT 195	3	CPT 201	3	CPT 262	3
Social Science Elective	<u>3</u>	ENG 162 or 163	<u>3</u>	CPT 248	3	CPT 277	<u>3</u>
	<b>15</b>		<b>15</b>	SPC 155 or 156	<u>3</u>		<b>15</b>
					<b>16</b>		

# Computer Technology, AAS

## TELECOMMUNICATIONS OPTION

### Division of Computer Technology/Business

The telecommunications option of the computer technology program provides an intensive, hands-on curriculum focusing on the emerging field of telecommunications technology. This program of study will prepare students to design, build, maintain and troubleshoot advanced computer networks. Emphasis will be placed on local and wide-area network systems, the Internet, IP telephony, fiber-optic media and wireless communications. Four Cisco Networking Academy classes are included in this program.

### Career Opportunities

Graduates of the telecommunications option can expect to find employment as network support technicians, WAN/LAN technicians, junior systems analysts, customer service representatives, help-desk analysts or IT trainers. Job opportunities are available with companies in the fields of telecommunications, consulting, the Internet, e-commerce, IT engineering and sales, and any business deploying a local- or wide-area network.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- understand the fundamentals of telecommunications systems
- install, configure, maintain and troubleshoot telecommunications hardware devices
- design and specify a telecommunications network
- design, configure, maintain and troubleshoot wireless communications systems
- configure, maintain and troubleshoot network routers and switches
- deploy the technology of IP telephony and digital voice communications systems
- develop expertise with long- and short-haul fiber optic media and associated equipment
- implement Windows-based networks in an enterprise environment
- employ proper troubleshooting methods for optimal diagnosis and repair of telecom problems
- develop oral, written and listening communication skills
- integrate and apply mathematical skills to solve quantitative problems
- read, understand and apply information from oral and written material

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 62 )

General Education			Major		
CPT 150	Microcomputer Concepts	3	CIS 210	Internet Security	3
ENG 161	College Writing	3	CPT 143	IP Telephony	3
ENG 162	Technical Commun.		CPT 171	Telecom Fundamentals	5
or		3	CPT 182	Operating Systems	3
ENG 163	Business Commun.		CPT 198	Fiber-Optic Tech.	3
SPC 155	Effective Speech		CPT 211	Routing Technologies	5
or		3	CPT 214	Wireless Commun.	3
SPC 156	Interpersonal Comm.		CPT 248	PC Hardware	3
Mathematics Elective		3	CPT 256	Linux Desktop	3
Social Science Elective		<u>3</u>	CPT 257	Switching Technologies	5
		<b>18</b>	CPT 262	Windows Client Server	3
			CPT 291	WAN Technologies♦	<u>5</u>
					<b>44</b>

♦capstone course

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CPT 150	3	CPT 143	3	CPT 214	3	CIS 210	3
CPT 171	5	CPT 182	3	CPT 248	3	CPT 256	3
ENG 161	3	CPT 198	3	CPT 257	5	CPT 291	5
Mathematics Elective	<u>3</u>	CPT 211	5	CPT 262	3	Social Science Elective	<u>3</u>
	<b>14</b>	ENG 162 or 163	<u>3</u>	SPC 155 or 156	<u>3</u>		<b>14</b>
			<b>17</b>		<b>17</b>		

# Computer Technology, Diploma

## COMPUTER TECHNOLOGY

### Division of Computer Technology/Business

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 can expect to 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 30)

General Education			Major		
CPT 150	Microcomputer Concepts	3	CPT 145	Intro/Computer Tech.	3
ENG 161	College Writing	3	CPT 151	Advanced Office Applica.	3
ENG 162	Technical Commun.		CPT 181	Intro to Telecomm.	3
or			CPT 182	Operating Systems	3
ENG 163	Business Commun.	3	CPT 248	PC Hardware	3
Mathematics Elective		<u>3</u>	CPT 249	PC Troubleshooting	<u>3</u>
		<b>12</b>			<b>18</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
CPT 150	3	CPT 145	3
CPT 182	3	CPT 151	3
CPT 248	3	CPT 181	3
ENG 161	3	CPT 249	3
Mathematics Elective	<u>3</u>	ENG 162 or 163	<u>3</u>
	<b>15</b>		<b>15</b>



# Computer Technology, Diploma

## TELECOMMUNICATIONS

### Division of Computer Technology/Business

The telecommunications diploma provides an intensive, hands-on curriculum focusing on the emerging field of telecommunications technology. This program of study will prepare students to design, build, maintain and troubleshoot advanced computer networks. Emphasis will be placed on local and wide-area network systems, the Internet, fiber-optic media and wireless communications. Four Cisco Networking Academy classes are included in this program.

### Career Opportunities

Graduates of the telecommunications option can expect to find employment as network support technicians, WAN/LAN technicians, junior systems analysts, customer service representatives, help-desk analysts or IT trainers. Job opportunities are available with companies in the fields of telecommunications, consulting, the Internet, e-commerce, IT engineering and sales, and any business deploying a local or wide-area network.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- understand the fundamentals of telecommunications systems
- install, configure, maintain and troubleshoot telecommunications hardware devices
- design and specify a telecommunications network
- design, configure, maintain and troubleshoot wireless communications systems
- configure, maintain and troubleshoot network routers and switches
- develop expertise with long- and short-haul fiber optic media and associated equipment
- implement Windows-based networks in an enterprise environment
- employ proper troubleshooting methods for optimal diagnosis and repair of telecom problems
- integrate and apply mathematical skills to solve quantitative problems
- read, understand and apply information from oral and written materials

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### PROGRAM REQUIREMENTS (TOTAL CREDITS – 32)

Major		
CPT 171	Telecom Fundamentals	5
CPT 182	Operating Systems	3
CPT 198	Fiber Optic Technologies	3
CPT 211	Routing Technologies	5
CPT 214	Wireless Communication	3
CPT 219	Fiber Optic Anlys. & Dsgn.	3
CPT 257	Switching Technologies	5
CPT 291	WAN Technologies♦	5
		<b>32</b>

♦capstone course

### RECOMMENDED SEQUENCE OF COURSES

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 171	CPT 211	CPT 257	CPT 291
5	5	5	5
CPT 182	CPT 198	CPT 214	CPT 219
3	3	3	3
<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>

## Computer Technology, Certificate

### DATABASE APPLICATION DEVELOPMENT

#### Division of Computer Technology/Business

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The database application development certificate provides students with an intensive experience in relational database management systems with emphasis on Access and Oracle SQL products.

#### Career Opportunities

Graduates of the database application development certificate can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

CPT 145	Intro to Comp. Tech.	3
CPT 150	Microcomputer Concepts	3
CPT 196	Access for Windows	3
CPT 235	Database Mgmt. Sys.	3
CPT 271	PHP & SQL	3
CPT 286	Sys. Anal. & Design	3
		<b>18</b>

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## Computer Technology, Certificate

### MICROCOMPUTER SUPPORT

#### Division of Computer Technology/Business

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The microcomputer support certificate offers instruction in the Microsoft Office suite of office productivity software products and will guide students toward professional certification.

#### Career Opportunities

Graduates of the microcomputer support certificate can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

CPT 150	Microcomputer Concepts	3
CPT 185	PowerPoint	1
CPT 190	Word for Windows	3
CPT 195	Excel for Windows	3
CPT 196	Access for Windows	3
CPT 259	User Support Oper.	3
		<b>16</b>

# Computer Technology, Certificate

## FIBER OPTIC TECHNOLOGIES

### Division of Computer Technology/Business

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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.

### Career Opportunities

Graduates of fiber optics technologies certificate can expect to 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

**96** 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 18)

Major		
CPT 143	IP Telephony	3
CPT 183	Local Area Networks	3
CPT 198	Fiber Optic Tech.	3
CPT 219	Fiber Optic Anlys. & Dsg.	3
CPT 222	Fiber Optic Sys. Testing	3
CPT 248	PC Hardware	3
		<b>18</b>



# Computer Technology, Certificate

## NETWORKING

### Division of Computer Technology/Business

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The networking certificate provides students with an intensive educational experience in local area networking, focusing on the Microsoft Windows 2000 network operating system.

#### Career Opportunities

Graduates of the networking certificate can expect to find employment as network administrators, network technicians, technical sales representatives, customer service representatives, technical support analysts or IT trainers.

#### Program Learning Outcomes

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

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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

CPT 145	Intro/Computer Tech.	3
CPT 182	Operating Systems	3
CPT 183	Local Area Networks	3
CPT 198	Fiber Optic Tech.	3
CPT 262	Windows Client Server	3
CPT 264	Windows Server Mgmt.	3
		<b>18</b>

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# Computer Technology, Certificate

## PC REPAIR/A+

### Division of Computer Technology/Business

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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.

#### Career Opportunities

Graduates of the PC Repair/A+ certificate program can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

CPT 150	Microcomputer Concepts	3
CPT 182	Operating Systems	3
CPT 183	Local Area Networks	3
CPT 248	PC Hardware	3
CPT 249	PC Troubleshooting	3
CPT 256	Linux Desktop	3
		<b>18</b>



## Computer Technology, Certificate

### PROGRAMMING

#### Division of Computer Technology/Business

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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.

#### Career Opportunities

Graduates of the programming certificate can expect to 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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

98	CPT 160	Intro to Programming	3
	CPT 162	Visual Basic I	3
	CPT 163	Java Programming I	3
	CPT 213	Java Programming II	3
	CPT 242	Visual Basic II	3
	OFT 100	Basic Keyboarding	<u>1</u>
			<b>16</b>

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## Computer Technology, Certificate

### WEB DEVELOPMENT

#### Division of Computer Technology/Business

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The Web development certificate offers the student exposure to a variety of Web page development tools and modern programming languages.

#### Career Opportunities

Graduates of the Web development certificate program can expect to find employment as computer programmers, systems analysts, PC technicians, programmer analysts, technical sales representatives, technical support analysts or Web developers.

#### Program Learning Outcomes

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

- design and create Internet and intranet based Web solutions
- enhance Web sites with interactivity for real-time processing
- identify and correct problems associated with Web sites

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

	CPT 201	Web Design/Web Stndrds.	3
	CPT 203	XHTML and CSS	3
	CPT 206	JavaScript	3
	CPT 277	E Commerce Tech.	3
	WEB 102	Acrobat Essentials	1
	WEB 110	Web Design	<u>3</u>
			<b>16</b>

# Criminal Justice, AAS

## Division of Public Service/Humanities/Social Sciences/Mathematics

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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Concepts	3	CRJ 155	Intro. to Crim. Justice	3	SOC 155	Principles of Sociology	
ENG 161	College Writing	3	CRJ 160	Criminal Law I	3	or		3
ENG 162	Technical Commun.		CRJ 162	Police Administration I	3	POL 255	Amer., State & Local Gov.	
or			CRJ 163	Criminal Procedure	3	SPC 155	Effective Speech	3
ENG 164	Advanced Composition	3	CRJ 172	Subst. Abuse & Crime	3			<b>6</b>
or			CRJ 255	Juvenile Delinquency	3			
ENG 168	Police Report Writing		CRJ 263	Investigative Concepts				
PSY 160	General Psychology	3	or		3			
Humanities Elective		3	CRJ 296	Intro to Criminalistics				
Mathematics Elective		3	CRJ 287	Multiculturalism & the				
		<b>18</b>		Crim. Just. System	3			
			CRJ 290	Prin. of Criminology	3			
				Criminal Justice Electives	9			
					<b>36</b>			

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CPT 150	3	CRJ 163	3	CRJ 255	3	CRJ 162	3
CRJ 155	3	CRJ 172	3	CRJ 263 or 296	3	CRJ 287	3
CRJ 160	3	ENG 162, 164 or 168	3	CRJ 290	3	SPC 155	3
ENG 161	3	SOC 155 or POL 255	3	Criminal Justice Elective	3	Criminal Justice Elective	6
PSY 160	3	Criminal Justice Elective	3	Humanities Elective	3		<b>15</b>
	<b>15</b>	Mathematics Elective	3		<b>15</b>		
			<b>15</b>				

# Criminal Justice, AAS

## INFORMATION SECURITY OPTION

### Division of Public Service/Humanities/Social Sciences/Mathematics

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 72.

All accepted applicants must submit evidence of (ACT 33-34) criminal record check and Pennsylvania Child Abuse History Clearance at the applicant's expense. Specific information regarding this requirement will be provided to qualified applicants.

### 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.

## 100 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

**Students enrolled in information security courses must obtain a current criminal record check.**

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Concepts	3	CRJ 155	Intro. to Crim. Justice	3	CIS 168	Prin. of Info Security	3
ENG 161	College Writing	3	CRJ 163	Criminal Procedure	3	CIS 209	LAN Security	3
ENG 162	Technical Commun.		CRJ 195	Intro to Private Security		CIS 210	Internet Security	3
or			or		3	CIS 212	Computer Forensics	3
ENG 163	Business Commun.	3	CRJ 220	Research Methods		CIS 250	Network Intrusion Det.	3
or			CRJ 263	Investigative Concepts	3	CIS 252	Digital Forensics	3
ENG 164	Advanced Composition		CRJ 265	White Collar Crime		CIS 253	Commun. Security	3
SOC 155	Intro to Sociology		or		3	CPT 182	Operating Systems	3
or		3	CRJ 296	Intro to Criminalistics		CPT 183	Local Area Networks	3
POL 255	Amer., State & Local Gov.				<b>15</b>	CPT 238	Wide Area Networking	<b>3</b>
SPC 155	Effective Speech							<b>30</b>
or		3						
SPC 156	Interpersonal Commun.							
Mathematics Elective		<u>3</u>						
		<b>18</b>						

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CIS 168	3	CIS 209	3	CIS 212	3	CIS 252	3
CPT 150	3	CIS 210	3	CIS 250	3	CIS 253	3
CPT 183	3	CPT 182	3	CPT 238	3	CRJ 265 or 296	3
CRJ 155	3	CRJ 163	3	CRJ 195 or 220	3	SOC 155 or POL 255	3
ENG 161	<u>3</u>	ENG 162, 163 or 164	3	CRJ 263	<u>3</u>	SPC 155 or 156	<u>3</u>
	<b>15</b>	Mathematics Elective	<u>3</u>		<b>15</b>		<b>15</b>
			<b>18</b>				

# Criminal Justice, Certificate

*CORRECTIONS OFFICER*

**Division of Public Service/Humanities/Social Sciences/Mathematics**

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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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

CRJ 155	Intro to Criminal Just.	3
CRJ 180	Corrections	3
CRJ 255	Juvenile Delinquency	3
CRJ 283	Inst. Trtmnt. of Ad. & Jvnl.	3
CRJ 290	Prin. of Criminology	3
CRJ 172	Subst. Abuse & Crime	3
		<b>18</b>



# Culinary Arts, AAS

## APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



The culinary arts apprenticeship program is one of the majors comprising the college's Center for Culinary Arts and Hospitality. This apprenticeship program, sponsored by The American Culinary Federation Laurel Highlands (ACFLHC) Chapter and WCCC, 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 Apprenticeship Data 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 Nemaocolin Woodlands Resort. For information, contact the WCCC 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



# Culinary Arts, AAS

APPRENTICESHIP OPTION (CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 63/64)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	BKP 141	Baking I 4	FSM 103	Intro. to Hospitality Ind. 3
ENG 161	College Writing 3	CUL 121	Chef Apprenticeship I 2	or	
ENG 163	Business Commun. 3	CUL 122	Chef Apprenticeship II 2	FSM 113	Customer Service 4
or		CUL 123	Chef Apprenticeship III 2	FSM 105	Foods I 4
ENG 164	Adv. Composition 3	CUL 132	Garde Manger 3	FSM 112	Quantity Foods 4
Humanities Elective		CUL 224	Chef Apprenticeship IV 2	FSM 117	Wait Staff/Din. Rm. Trng. 1
or		CUL 232	Food Specialties 3	FSM 118	Sanitation 2
FSM 170	Food Culture & Religion 3			FSM 119	Beverage Mgmt. 1
Mathematics Elective	3			or	
Social Science Elective	3			FSM 120	Wine Appre. & Serv. 3/4
	<b>18</b>			FSM 159	Nutrition 3/4
				or	
				BKP 243	Healthy Cooking Trends 3
				FSM 215	Food Purchasing & Menu Mgmt. 3
				FSM 218	Hospitality Marketing 3
				FSM 235	Supervision & Training 3
					<b>27/28</b>

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## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Summer Semester*	Fall Semester	Summer Semester*
CUL 121 2	CPT 150 3	CUL 123 2	ENG 163 or ENG 164 3
FSM 103 or 113 3	ENG 161 3	FSM 112 4	Humanities Elective or
FSM 105 4		FSM 215 3	FSM 170 3
FSM 117 1		CUL 132 3	Social Science Elective 3
FSM 118 2			
<b>12</b>	<b>6</b>	<b>12</b>	<b>9</b>
<b>Spring Semester</b>		<b>Spring Semester</b>	
BKP 141 4		CUL 224 2	
CUL 122 2		CUL 232 3	
FSM 235 3		FSM 119 or 120 1	
FSM 218 3		FSM 159 or BKP 243 3/4	
<b>12</b>		Mathematics Elective 3	
		<b>12/13</b>	

# Culinary Arts, Diploma

## APPRENTICESHIP OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The culinary arts apprenticeship program is one of the majors comprising the college's Center for Culinary Arts and Hospitality. This apprenticeship program is sponsored by the American Culinary Federation Laurel Highlands (ACFLHC) Chapter and WCCC. 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 Apprenticeship Data 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 Nemaquin Woodlands Resort. For more information, contact the WCCC Admissions Office, 724-925-4077.



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## 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

# Culinary Arts, Diploma

APPRENTICESHIP OPTION (CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 45/46)

**General Education**  
None Required

<b>Major</b>		
BKP 141	Baking I	4
CUL 121	Apprenticeship I	2
CUL 122	Apprenticeship II	2
CUL 123	Apprenticeship III	2
CUL 132	Garde Manger	3
CUL 224	Apprenticeship IV	2
CUL 232	Food Specialities	<u>3</u>
		<b>18</b>

<b>Other Required Courses</b>		
FSM 103	Intro to Hospitality Ind.	3
or		
FSM 113	Customer Service	4
FSM 105	Foods I	4
FSM 112	Quantity Foods	4
FSM 117	Wait Staff/Din. Rm. Trng.	1
FSM 118	Sanitation	2
FSM 119	Beverage Management	1
or		
FSM 120	Wine Apprec. & Service	3/4
FSM 159	Nutrition	3/4
or		
BKP 243	Healthy Cooking Trends	3
FSM 215	Food Purchasing & Menu Mgmt.	3
FSM 218	Hospitality Marketing	3
FSM 235	Supervision & Training	<u>3</u>
		<b>27/28</b>

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## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

<b>Fall Semester</b>		<b>Spring Semester</b>		<b>Fall Semester</b>		<b>Spring Semester</b>	
CUL 121	2	BKP 141	4	CUL 123	2	CUL 224	2
FSM 103 or 113	3	CUL 122	2	CUL 132	3	CUL 232	3
FSM 105	4	FSM 218	3	FSM 112	4	BKP 243 or FSM 159	3/4
FSM 117	1	FSM 235	<u>3</u>	FSM 215	<u>3</u>	FSM 119 or 120	<u>1</u>
FSM 118	<u>2</u>		<b>12</b>		<b>12</b>		<b>9/10</b>
	<b>12</b>						





# Culinary Arts, AAS

NON-APPRENTICESHIP OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



The culinary arts non-apprenticeship program is one of the majors comprising the college's Center for Culinary Arts and 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.

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## 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 68/69)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	CUL 130	Basic Culinary Skills 3	BKP 141	Baking I 4
ENG 161	College Writing 3	CUL 132	Garde Manger 3	BKP 142	Baking II <u>3</u>
ENG 164	Advanced Composition 3	CUL 232	Food Specialties 3		<b>7</b>
or		FSM 103	Intro. to Hospitality Ind. 3		
ENG 163	Business Commun. Humanities Elective 3	or			
or		FSM 113	Customer Service 4		
FSM 170	Food Culture & Religion 3	FSM 105	Foods I 4		
Mathematics Elective 3		FSM 112	Quantity Foods 4		
Social Science Elective <u>3</u>		FSM 117	Wait Staff/Din. Rm. Trng. 1		
<b>18</b>		FSM 118	Sanitation 2		
		FSM 119	Beverage Mgmt. 1		
		or			
		FSM 120	Wine Appre. & Serv. 1		
		FSM 159	Nutrition 3/4		
		or			
		BKP 243	Healthy Cooking Trends 3		
		FSM 213	A la Carte Kitchen 4		
		FSM 215	Food Purch. & Menu Mgmt. 3		
		FSM 218	Hospitality Marketing 3		
		FSM 219	Hospitality Internship 3		
		FSM 235	Supervision & Training <u>3</u>		
			<b>43/44</b>		

# Culinary Arts, AAS

NON-APPRENTICESHIP OPTION (CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## RECOMMENDED SEQUENCE (Two-year Program)

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CPT 150	3	BKP 141	4	CUL 132	3	BKP 142	3
CUL 130	3	ENG 161	3	FSM 159 or BKP 243	3/4	CUL 232	3
FSM 103 or 113	3	FSM 112	4	FSM 213	4	FSM 218	3
FSM 105	4	FSM 215	3	FSM 219	3	FSM 235	3
FSM 117	1	Mathematics Elective	3	Humanities Elective or		Social Science Elective	3
FSM 118	2		<b>17</b>	FSM 170	3		<b>15</b>
FSM 119 or FSM 120	1				<b>16/17</b>		
	<b>17</b>	<b>Summer Semester</b>					
		ENG 163 or ENG 164	3				
			<b>3</b>				

## RECOMMENDED SEQUENCE (Accelerated Program - 16 months)

Fall Semester		Spring Semester		Summer Semester		Fall Semester	
CPT 150	3	CUL 132	3	BKP 141	4	BKP 142	3
CUL 130	3	ENG 161	3	ENG 163 or 164	3	CUL 232	3
FSM 103 or 113	3	FSM 112	4	Humanities Elective or		FSM 119 or 120	1
FSM 105	4	FSM 117	1	FSM 170	3	FSM 213	4
FSM 118	2	FSM 215	3	Mathematics Elective	3	FSM 219	3
FSM 159 or BKP 243	3/4	FSM 218	3	Social Science Elective	3	FSM 235	3
	<b>18/19</b>		<b>17</b>		<b>16</b>		<b>17</b>



# Culinary Arts, Diploma

## NON-APPRENTICESHIP OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The culinary arts non-apprenticeship program is one of the majors comprising the college's Center for Culinary Arts and 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 artistry including ice carving, tallow sculpting, cake decorating and garniture display
- utilize the technology to maintain acceptable systems of operation

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 50/51)

General Education	Major	Other Required Courses
None Required	CUL 130 Basic Culinary Skills 3	BKP 141 Baking I 4
	CUL 132 Garde Manger 3	BKP 142 Baking II <u>3</u>
	CUL 232 Food Specialities 3	<b>7</b>
	FSM 103 Intro to Hospitality Ind. 3	
	or 3	
	FSM 113 Customer Service	
	FSM 105 Foods I 4	
	FSM 112 Quantity Foods 4	
	FSM 117 Wait Staff/Din. Rm. Trng. 1	
	FSM 118 Sanitation 2	
	FSM 119 Beverage Mgmt. 1	
	or 1	
	FSM 120 Wine Appre. & Serv.	
	FSM 159 Nutrition 3/4	
	or 3/4	
	BKP 243 Healthy Cooking Trends	
	FSM 213 Ala Carte Kitchen 4	
	FSM 215 Food Purc. & Menu Mgmt. 3	
	FSM 218 Hospitality Marketing 3	
	FSM 219 Hospitality Internship 3	
	FSM 235 Supervision & Trng. <u>3</u>	
	<b>43/44</b>	

### RECOMMENDED SEQUENCE (TWO-YEAR PROGRAM)

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CUL 130 3	BKP 141 4	CUL 132 3	BKP 142 3
FSM 103 or 113 3	FSM 112 4	FSM 159 or BKP 243 3/4	CUL 232 3
FSM 105 4	FSM 215 3	FSM 213 4	FSM 218 3
FSM 118 <u>2</u>	FSM 119 or 120 1	FSM 219 <u>3</u>	FSM 235 <u>3</u>
<b>12</b>	FSM 117 <u>1</u>	<b>13/14</b>	<b>12</b>
	<b>13</b>		

# Dental Assisting, Diploma

## Division of Health Professions/Natural Sciences



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. High school preparation should include one year of biology and chemistry. If high school chemistry and biology were not successfully completed with a C or better, the preadmission requirements can also be met by completing CHM 107 and BIO 107.
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester for which enrollment is anticipated. The forms must be accompanied by official transcripts from all secondary schools attended, GED programs and any other formal educational programs attended beyond high school.
- 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.
- 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 examinations will be provided to accepted applicants.
- Applicants must purchase student liability insurance.
- Upon initial acceptance into the program, a criminal background check, child abuse history, FBI fingerprinting (through the Department of Public Welfare) and drug screening must be obtained at the applicant's expense. The following admission criteria are required:
  - Pennsylvania State Police Request for Criminal Record Check (SP4-164). Positive records will be evaluated individually.
  - Pennsylvania Child Abuse History Clearance (CY-113). Any record results in denial of admission to the dental assisting program.
  - Drug screening must be completed within 10 days of the start of the program. A positive drug screen will result in denial of admission to the dental assisting program or continuation of the program. The program reserves the right to require random drug screens while the student is enrolled.
- 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.

Students enrolled in the dental assisting program must be certified in AHA CPR-BLS for Health Care Providers Annual Certification by January 1 of their spring semester.

### 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

# Dental Assisting, Diploma

(CONTINUED)

## Division of Health Professions/Natural Sciences

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- 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

### Essential Cognitive, Physical and Behavioral Functions for the Dental Assisting Program

**POLICY:** The Westmoreland County Community College Dental Assisting Program requires that students possess the following functional abilities essential for Dental Assisting Practice; however, affiliating institutions may require or may impose restrictions not listed.

- Sufficient musculo-skeletal control to perform gross fine motor tasks inherent in required skills; eg. taking dental radiographs, appropriate adaptation of dental instruments used intraorally, appropriate techniques for intraoral examination
- Have good right and left wrist and hand grip and maintain prolonged arm positions for four-handed dentistry
- Sufficient visual ability to read dental records, labels on medication containers and calibrations on instruments used to make dental measurements
- Sufficient hearing ability to interpret messages not solely based on visual cues, to interpret conversation, and to detect sounds such as heart tones or Korotkoff's sounds
- Sufficient speech ability to convey oral messages to assigned patients and to other dental health team members
- Have sufficient facility with English (to include reading, writing, spelling, speaking and listening) in order to retrieve information from various sources including patients charts, computer screens, textbooks, etc., and have the ability to speak in English in a manner that is understood by others
- Give and receive accurate information over the phone
- Sufficient emotional stability to accurately perceive situations influencing the care of assigned patients and to make unimpaired observations and judgments regarding care of assigned patients
- Must exhibit the capacity for reasoned judgment and calm in a healthcare and workplace environment
- Must be able to demonstrate attention to thoroughness, detail and accuracy in all aspects of work
- Cannot be dependent on any chemical or substance
- Have the ability to react appropriately and quickly in emergency situations
- Must be poised, well-groomed and neat in appearance, discreet, tactful, diplomatic, professional, versatile, ethical and dependable
- Must be able to complete assigned tasks in reasonable and acceptable time frame
- Must show honesty and integrity in all matters with peers, faculty, staff and patients
- Must demonstrate complete confidentiality with information entrusted to them related to patients, healthcare workers and health status issues
- Must display compassion, empathy and concern for others
- Critically evaluate their own performance, accept constructive criticism, and look for ways to improve performance
- Accept responsibility, accountability and ownership of one's own actions
- Be forthright about errors or uncertainty

The need to use a device or substance to enhance deficits in these abilities is acceptable.

# Dental Assisting, Diploma

(CONTINUED)

Division of Health Professions/Natural Sciences

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 42)

General Education			Major			Other Required Courses
BIO 107	Human Biology	3	DAS 100	Intro/Dental Assisting	4	None Required
ENG 161	College Writing	3	DAS 101	Oral Anatomy	2	
PSY 160	General Psychology	3	DAS 102	Dental Mtrl. for Dent. Asst.	2	
SPC 156	Interpersonal Comm.	<u>3</u>	DAS 103	Dental Assisting Lab	4	
		<b>12</b>	DAS 104	Dental Science	4	
			DAS 105	Dent. Rad. for Dent. Asst.	3	
			DAS 106	CLN Dental Assisting I	5	
			DAS 108	CLN Dental Assisting II	4	
			DAS 109	Practice Management	<u>2</u>	
					<b>30</b>	

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Fall Semester	Spring Semester	Summer Semester
BIO 107	DAS 104	DAS 108
DAS 100	DAS 106	DAS 109
DAS 101	ENG 161	SPC 156
DAS 102	PSY 160	
DAS 103		
DAS 105		
<u>3</u>	<u>3</u>	<u>3</u>
<b>18</b>	<b>15</b>	<b>9</b>

**NOTE:** All major courses must be completed with "C" grade or better or graduate.



# Dental Hygiene, AAS

## Division of Health Professions/Natural Sciences

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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.

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- 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, and SOC 160-Applied Human Relations with a minimum grade of C. (C minus grade not accepted.)
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester in which enrollment is anticipated. The forms must be accompanied by official transcripts from all secondary schools attended, GED programs and any other formal education program attended beyond high school.
- 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."
- Upon initial acceptance into the program, a criminal background check, child abuse history and drug screening must be obtained at the applicant's expense. The following admission criteria are required:
  - Pennsylvania State Police Request for Criminal Record Check (SP4-164). Positive records will be evaluated individually. If an applicant has not established residency in the state of Pennsylvania for more than one year, they will need to submit FBI cards for School Employees (FD258).
  - Pennsylvania Child Abuse History Clearance (CY-168). Any record results in denial of admission to the dental hygiene program.
  - Drug screening must be completed within 10 days of the start of the program. A positive drug screen will result in denial of admission to the dental assisting program or continuation in the program. The program reserves the right to require random drug screens while the student is enrolled.
- Those who apply must take a Dental Hygiene admissions test administered by WCCC. 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.
- Applicants must have successfully completed AHA CPR-BLS for Health Care Providers Annual Certification prior to the start of the second semester of program enrollment.
- Applicants must purchase student liability insurance.
- Conviction of a felonious act may result in the Pennsylvania State Board of Dentistry denying licensure.
- 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

# Dental Hygiene, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

- 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 78)

Program Prerequisites		Major		Other Required Courses	
BIO 171	Anatomy & Physiology 4	DAH 101	Intro to Dentistry 3	BIO 172	Anatomy & Physiology II 4
CHM 264	Chem. for the Hlth. Sci. 4	DAH 102	Dental Materials 2	BIO 265	Microbiology 4
SOC 155	Principles of Sociology <u>3</u>	DAH 103	Medical Emergencies 1	BUS 120	Math of Business <u>3</u>
	<b>11</b>	DAH 104	Head, Neck & Dental Anat. 4		<b>11</b>
		DAH 105	Dental Radiology 3		
		DAH 106	Nutritional Biochemistry 2		
General Education		DAH 109	Oral Pathology 2		
CPT 150	Microcomputer Concepts 3	DAH 111	Dental Hygiene Lecture 3		
ENG 161	College Writing 3	DAH 112	Dental Hygiene Lab 4		
ENG 163	Business Commun. 3	DAH 113	Histology/Embryology 2		
SPC 156	Interpersonal Comm. <u>3</u>	DAH 114	Periodontics I 3		
	<b>12</b>	DAH 115	Clinical Dental Hyg. I 5		
		DAH 117	Local Anesthesia 3		
		DAH 205	Periodontics II 1		
		DAH 206	Clinical Dental Hyg. II 6		
		DAH 207	Pharmacology 2		
		DAH 208	Clinical Dental Hyg. III 6		
		DAH 209	Community Dental Hlth. <u>3</u>		
			<b>55</b>		

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Fall Semester	Summer Semester	Fall Semester	Spring Semester
BIO 172 4	CPT 150 3	BIO 265 4	BUS 120 3
DAH 101 3	DAH 106 2	DAH 205 1	DAH 208 6
DAH 102 2	DAH 109 2	DAH 206 6	ENG 163 3
DAH 104 4	DAH 115 5	DAH 207 2	SPC 156 <u>3</u>
ENG 161 <u>3</u>	DAH 117 <u>3</u>	DAH 209 <u>3</u>	<b>15</b>
<b>16</b>	<b>15</b>	<b>16</b>	
Spring Semester			
DAH 103 1			
DAH 105 3			
DAH 111 3			
DAH 112 4			
DAH 113 2			
DAH 114 <u>3</u>			
<b>16</b>			



# Diagnostic Medical Sonography, AAS

## Division of Health Professions/Natural Sciences

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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 diagnostic medical sonography program provides each student opportunities to learn and develop competence in patient care which includes:

- communications skills
- critical thinking
- technical skills which adapt to ever changing technologies
- necessary computation skills
- information literacy skills appropriate to the discipline and professional development
- therapeutic interpersonal skills
- personal skills that enhance healthy lifestyles, academic integrity and acceptable professional behavior
- skills necessary to perform in the healthcare environment at various levels

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 230-Physics for Sonography with a minimum grade of C.
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester in which enrollment is anticipated. Official transcripts from all secondary schools attended, GED programs, and any other formal education program attended beyond high school must accompany the forms.
- 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.

# Diagnostic Medical Sonography, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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- 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, Obstetrics & Gynecology, Neurosonology and Adult Echocardiography
- Those who apply must take a diagnostic medical sonography admissions test administered by WCCC. Applicants will be notified of testing dates.
- Admission to the diagnostic medical sonography program requires the applicant to submit information regarding criminal conviction and/or crimes of moral turpitude. Upon initial acceptance into the program, a criminal record check and child abuse history must be obtained at the applicant's expense. Individuals who are residents of Pennsylvania for less than one year must submit a current FBI clearance. These records must be submitted to the diagnostic medical sonography program within two weeks of the date of notification of initial program acceptance. Admission is conditional pending receipt and evaluation of the background information to determine whether there is any conviction, which may bar the student from admission to the diagnostic medical sonography program.

**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.**

### **THE FOLLOWING ARE REQUIRED AT THE APPLICANT'S EXPENSE:**

#### **Child Abuse Clearance**

Any record results in denial of admission to the diagnostic medical sonography program.

#### **Criminal Record Check**

Any felony conviction may result in denial of admission to the diagnostic medical sonography program. Any misdemeanor will be individually evaluated.

#### **Fingerprinting Clearance**

FBI fingerprinting through the Department of Public Welfare

#### **Urine Drug Screen**

A positive drug screen may result in denial of admission to the diagnostic medical sonography program or continuation in the diagnostic medical sonography program. The program reserves the right to require random drug screens while the student is enrolled.

### **Essential Cognitive, Physical and Behavioral Functions for the Diagnostic Medical Sonography Program**

Diagnostic medical sonography students must be able to meet the following physical and mental abilities for successful completion of the diagnostic medical sonography program:

- Must have the physical ability to move sonography equipment and manipulate the hand-held transducer
- Stand and walk for extended periods of time (several hours)
- Utilize a keyboard
- Discriminate subtle sounds
- Lift and/or support at a minimum 75 pounds in order to lift and carry accessories
- Push heavy equipment up to 200 pounds
- Have the ability to appropriately position patients for procedures and safely transfer patients who may weigh in excess of 300 pounds (in wheelchairs and/or litters)
- Ability to articulate clear verbal commands to the patient while the patient is being positioned for a procedure from a distance of a few feet
- See in a very dim light
- Have good right and left wrist and hand grip and maintain prolonged arm positions for scanning
- Ability to keep arm and hand steady while manipulating transducer
- Feel anatomical landmarks
- Distinguish textures
- Must be able to manage stressful situations that relate to patient care, procedure, and technical standards
- Must be able to evaluate proper patient positioning and other essential factors for the purpose of quality control
- Have hearing corrected, with the ability to hear patients at a distance of 3-5 feet

# Diagnostic Medical Sonography, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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- Have sufficient tactile ability in order to assess a patient's pulses, in addition to changes in a patient's physiologic status (i.e. changes in edema, skin temperature, etc.) and adapt or change small knobs or settings
- Have the ability to smell odors that may signify a change in the physiologic status of a patient or an unsafe environmental condition
- Have the ability to read and comprehend written class room material, documents and settings on computer screens, medical documents, and institution procedures and policies
- Have the ability to write legibly in English in a style that is readable
- Must be able to move freely with full manual dexterity of both upper and lower extremities, have unrestricted movement of neck, shoulder, back and hips in order to assess, observe and perform emergency patient care, assist with all aspects of patient care, and be able to touch the floor for the removal of environmental hazards
- Must not be highly allergic to latex products, and film processing chemicals (developer or fixer)
- Distinguish colors and interpret color flow signals
- Cannot be dependent on any chemical or substance
- Have the ability to react appropriately and quickly in emergency situations
- Must be poised, well groomed and neat in appearance, discreet, tactful, diplomatic, professional, versatile, ethical and dependable
- Must be able to complete assigned tasks in reasonable and acceptable time frame
- Must have the ability to comprehend written and verbal instructions correctly in academic and clinical health care settings
- Must exhibit the capacity for reasoned judgment and calm in a health care environment
- Must not have physical or mental medical disorders that limit the ability to perform the duties of a diagnostic medical sonography student
- Must be stable emotionally; this type of work involves life and death situations
- Must show honesty and integrity in all matters with peers, faculty, staff and patients
- Must display compassion, empathy and concern for others
- Must demonstrate accountability, problem solving and listening skills at all times
- Enjoy working with people and patient contact
- Give and receive information over the phone
- Interpret audible Doppler Waveforms

Students will be removed from the program if a health, cognitive, psychomotor or behavioral condition significantly limits the student from performing the routine functions of a diagnostic medical sonography student and/or present a danger to the safety and health of patients and/or agency staff.

After starting the diagnostic medical sonography program, students will immediately notify the program director if any of these stated functions change. An evaluation may occur to determine if students are able to continue in the program.

### Final Admission Criteria

Accepted applicants will be required to attend a mandatory information session and orientation session as the final step in the admission process. Specific information regarding the following additional program requirements will be provided to applicants at that time. These include:

- Complete physical examination, lab tests, proof of immunizations, and urine drug screen
- CPR-Basic Life Support for Health Care Providers Annual Certification required
- Evidence of a student's liability insurance policy

All of the above must be submitted to the diagnostic medical sonography program by June 15 or program acceptance will be withdrawn.

**NOTE: Child abuse clearance, criminal record check, fingerprinting for FBI check and final admission criteria items are to be completed by students once they have been accepted into the Diagnostic Medical Sonography program.**

*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.*

# Diagnostic Medical Sonography, AAS

(CONTINUED)

Division of Health Professions/Natural Sciences

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 74)

Prerequisite		General Education		Major	
ALH 122	Medical Terminology 3	CPT 150	Microcomputer Concepts 3	DMS 103	Cross Sect. Anat. for Ultrasound* 2
BIO 171	Anatomy & Physiology I* 4	ENG 162	Technical Commun. 3	DMS 105	Abdominal I* 4
BIO 172	Anatomy & Physiology II* 4	HUM 156	Critical Thinking 3	DMS 106	Obstetrics I* 3
ENG 161	College Writing 3	SPC 156	Interpersonal Commun. 3	DMS 201	Patient Care/Legal/Ethical Issues* 2
MTH 157	College Algebra* 3		<b>12</b>	DMS 204	Gynecology* 4
PHY 130	Physics for Sonography* 3			DMS 205	Abdominal II* 4
	<b>20</b>			DMS 206	Obstetrics* 3
				DMS 207	Small Parts, Breast & Neuro.* 2
				DMS 208	Intro to Vascular* 2
				DMS 210	Clinical I* 3
				DMS 211	Clinical II* 3
				DMS 212	Clinical III* 3
				DMS 213	Acoustical Prin. & Instrument. I* 4
				DMS 214	Acoustical Prin. & Instrument. II* 3
					<b>42</b>

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## RECOMMENDED SEQUENCE

Prerequisite	Spring 1	Fall 2	Spring 2
ALH 122 3	CPT 150 3	DMS 206* 4	ENG 162 3
BIO 171* 4	DMS 106* 3	DMS 208 2	DMS 207 2
BIO 172* 4	DMS 201 2	DMS 211 3	DMS 212 3
ENG 161 3	DMS 205* 4	DMS 213 4	DMS 214 3
MTH 157* 3	<b>12</b>	<b>13</b>	HUM 156 3
PHY 130 3			<b>14</b>
<b>20</b>	<b>Summer 1</b>		
	DMS 210 3		
	<b>3</b>		
<b>Fall 1</b>			
DMS 103* 2			
DMS 105* 4			
DMS 204* 3			
SPC 156 3			
<b>12</b>			

\*These courses must be passed with a "C" or better.

# Dietetic Technology/Nutritional Services Management, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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Dietetic Technology/Nutritional Services Management is one of the majors included in the college's Center for Culinary Arts and 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 dietetic technicians, dietary managers or health 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.

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### 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 foodservice 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

# Dietetic Technology/Nutritional Services Management, AAS

(CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 63)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	BKP 141	Baking I 4	ACC 105	Financial Recordkeeping 3
ENG 161	College Writing 3	BKP 243	Healthy Cooking Trends 4	CUL 135	Speed Scratch Cooking 3
ENG 163	Business Commun. 3	DTT 111	Intro to Dietetics 3	DTT 199	Nutritional Services Mgmt. Practicum 3
or		DTT 114	Topics in Nutr. & Health 3	FSM 113	Customer Service 3
ENG 164	Advanced Composition 3	FSM 105	Foods I 4		
Humanities Elective		FSM 112	Quantity Foods 4		
or		FSM 118	Sanitation 2		
FSM 170	Food Culture & Religion 3	FSM 159	Nutrition 3		
Mathematics Elective	3	FSM 215	Food Purch. & Menu Mgmt. 3		
Social Science Elective	3	FSM 235	Supervision & Training 3		
	<u>18</u>		<u>33</u>		<u>12</u>

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## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	*Spring Semester
CPT 150 3	CUL 135 3	ACC 105 3	DTT 199 3
DTT 111 3	DTT 114 3	BKP 243 4	FSM 113 3
FSM 105 4	ENG 161 3	ENG 163 or 164 3	FSM 235 3
FSM 118 2	FSM 112 4	FSM 215 3	Humanities Elective or
FSM 159 3	Math Elective 3	Social Science Elective 3	FSM 170 3
<u>15</u>	<u>16</u>	<u>16</u>	<u>12</u>
	<b>Summer Semester</b>		
	BKP 141 4		
	<u>4</u>		

*\*It is recommended to take no more than 12 credits in this semester to allow time for the practicum experience.*

# Dining Room Management, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

Dining room management is one of the majors comprising the Center for Culinary Arts and 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

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### 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.

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 17)

FSM 103	Intro to Hospitality	3
FSM 113	Customer Service	3
FSM 117	Wait Staff/Din. Rm. Trng.	1
FSM 118	Sanitation	2
FSM 119	Beverage Mgmt.	1
FSM 120	Wine Apprecia. & Ser.	1
FSM 218	Hospitality Marketing	3
FSM 219	Hospitality Internship	3
		<b>17</b>

## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
FSM 103	3	FSM 119	1
FSM 113	3	FSM 120	1
FSM 117	1	FSM 218	3
FSM 118	2	FSM 219	3
	<b>9</b>		<b>8</b>

# Drafting and Design Technology, AAS

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

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education			Major			Other Required Courses		
DFT 258	Auto CAD	4	ARC 262	Piping, Structural Detail. & Elec. Drafting	4	CNC 111	CNC I	4
ENG 161	College Writing	3				CNC 112	CNC II	4
ENG 162	Technical Commun.	3	DFT 105	Technical Drafting I	4	EGR 220	Statics/Strength of Mat.	3
MTH 108*	Math for the Tech. I	4	DFT 106	Technical Drafting II	4	MTH 109*	Math for the Tech. II	4
PHY 107*	Applied Physics	4	DFT 112	Intro to Design Mat. & Pro.	3	MTT 111	Machining I	4
Social Science Elective		<u>3</u>	DFT 259	Advanced AutoCAD	4			<u>4</u>
		<b>21</b>	DFT 266	Autodesk Inventor	<u>4</u>			<b>19</b>
					<b>23</b>			

\*Students planning to transfer to a four-year institution should consult with their advisor for course substitutions.

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
DFT 105	4	CNC 111	3	CNC 112	4	ARC 262	4
DFT 112	3	DFT 106	4	DFT 259	4	DFT 266	4
ENG 161	3	DFT 258	4	EGR 220	3	ENG 162	3
MTH 108	<u>4</u>	MTH 109	<u>4</u>	MTT 111	4	PHY 107	<u>4</u>
	<b>14</b>		<b>15</b>	Social Science Elective	<u>3</u>		<b>15</b>
					<b>18</b>		



# Drafting and Design Technology, AAS

MECHANICAL DRAFTING AND DESIGN OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
DFT 258	AutoCAD	4	ARC 262	Piping, Structural Detail. & Elec. Drafting	4	EGR 110	Descriptive Geometry	3
ENG 161	College Writing	3	DFT 105	Technical Drafting I	4	EGR 220	Statics/Strength of Mat.	3
ENG 162	Technical Commun.	3	DFT 106	Technical Drafting II	4	MTH 109*	Math for the Tech. II	4
MTH 108*	Math for the Tech. I	4	DFT 112	Intro to Design, Mat. & Pro	3			<b>10</b>
PHY 107*	Applied Physics	4	DFT 207	Tool Design	3			
Social Science Elective		<u>3</u>	DFT 208	Product Design	3			
		<b>21</b>	DFT 259	Advanced AutoCAD	4			
			DFT 266	Autodesk Inventor	<u>4</u>			
					<b>29</b>			

\*Students planning to transfer to four-year institutions should consult with their advisor for course substitutions.

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
DFT 105	DFT 106	DFT 207	ARC 262
DFT 112	DFT 258	DFT 259	DFT 208
ENG 161	ENG 162	EGR 110	DFT 266
MTH 108	MTH 109	EGR 220	Social Science Elective
		PHY 107	
<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>
<b>14</b>	<b>15</b>	<b>17</b>	<b>14</b>

# Education/Pre-K–Grade 4, AAS

## Division of Public Service/Humanities/Social Sciences/Mathematics

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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education		Major		Other Required Courses	
ART 155	Intro to Art History	ECE 179	Infant & Toddler Dev.	3	Restricted Electives*
or		ECE 180	Child Growth & Dev.	3	<u>3</u>
MUS 155	Music Listening: A Survey	ECE 182	Early Childhood Ed. Curr.	3	<b>*Restricted Electives</b>
BIO 155	General Biology I	ECE 183	Creative Experiences	3	ASL 101 American Sign Language
EDU 250/	Teach. Eng. to Speaker/	ECE 185	Intro Early Chldhd. Ed.	3	CPT 150 Microcomputer Concepts
ENG 250	Other Langs.	ECE 186	Family and Society	3	ECE 187 Child Care Mgmt.
ENG 161	College Writing	ECE 188	Intro to Except. Dev.	3	ECE 190 Health/Safety/Nut.
ENG 255	Intro to Literature	ECE 189	Early Chldhd. Lan. & Literacy	3	ECE 194 Young. Children
HIS 255	Early U.S. & Pa. History	ECE 191	Assessment & Obser. Yng. Child.	3	w/Spec. Needs
MTH 180	Elements of Math I	ECE 284	Early Chldhd. Ed. Practicum	<u>4</u>	EDU 200 Intro to Educational Tech.
MTH 185	Elements of Math II			<b>31</b>	ENG 255 Intro to Literature
PSY 160	General Psychology				PSY 165 Educational Psychology
or					
SOC 155	Principles of Sociology				
or					
SOC 255	Cultural Anthropology				
	<u>28</u>				

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ECE 179	3	ECE 180	3	ART 155 or MUS 155	3	ECE 186	3
ECE 185	3	ECE 183	3	BIO 155	4	ECE 284	4
ENG 161	3	ECE 188	3	ECE 182	3	ENG 255	3
MTH 180	3	EDU/ENG 250	3	ECE 189	3	HIS 255	3
Social Science Elective	<u>3</u>	MTH 185	<u>3</u>	ECE 191	<u>3</u>	Restricted Elective	<u>3</u>
	<b>15</b>		<b>15</b>		<b>16</b>		<b>16</b>

# Education/Pre-K–Grade 4, Diploma

## Division of Public Service/Humanities/Social Sciences/Mathematics

This curriculum focuses on competencies for early childhood education students as identified by the National Association for the Education of Young Children. However, it does not require a supervised field experience. Credits earned in this program can be applied toward the requirements of the associate degree and will lead to entry level positions in early childhood education.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- develop plans that support and value relationships with families and communities
- demonstrate the use of systematic observations and other effective assessments to positively influence children's development
- identify and use ethical guidelines and other professional standards related to early childhood practices
- utilize their knowledge of child development to design and evaluate environments that are healthy, respectful, supportive, and challenging for all children
- design, implement and evaluate appropriate curriculum for all children ages birth to nine years

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Students enrolled in this diploma program must be certified in CPR and first aid prior to graduation.

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 33)

General Education			Major		
ENG 161	College Writing	3	ECE 179	Infant & Toddler Dev.	3
MTH 180	Elements of Math I	<u>3</u>	ECE 180	Child Growth & Dev.	3
		<b>6</b>	ECE 182	Early Chldhd. Ed. Curr.	3
			ECE 183	Creative Experiences	3
			ECE 185	Intro Early Chldhd. Ed.	3
			ECE 186	Family and Society	3
			ECE 188	Intro to Except. Dev.	3
			ECE 189	Early Child. Lang./Lit.	3
			ECE 191	Observ. & Assesmnt.	<u>3</u>
					<b>27</b>

### RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
ECE 179	3	ECE 180	3
ECE 182	3	ECE 183	3
ECE 185	3	ECE 186	3
ECE 191	3	ECE 188	3
ENG 161	3	ECE 189	<u>3</u>
MTH 180	<u>3</u>		<b>15</b>
	<b>18</b>		

## Education/Pre-K–Grade 4, Certificate

### Division of Public Service/Humanities/Social Sciences/Mathematics

Credits earned in this program can be applied toward the requirements of the diploma or associate degree.

#### Program Learning Outcomes

This curriculum is designed to prepare students to:

- demonstrate an understanding of child growth and development from birth to nine years by developing appropriate curriculum for children ages birth to nine years
- formulate a plan to support and value positive relationships with families

*Students enrolled in this diploma program must be certified in CPR and first aid prior to graduation.*

#### PROGRAM REQUIREMENTS (TOTAL CREDITS — 15)

Major		
ECE 179	Infant & Toddler Dev.	3
ECE 180	Child Growth & Dev.	3
ECE 183	Creative Experiences	3
ECE 185	Intro Early Chldhd. Ed.	3
ECE 186	Family & Society	3
		<b>15</b>

## Education/Early Childhood, Certificate

### DIRECTOR CREDENTIAL

### Division of Public Service/Humanities/Social Sciences/Mathematics

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.

#### 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.

#### PROGRAM RECOMMENDATIONS (Minimum credits – 9)

ECE 179	Infant & Toddler Dev.	3	ECE 189	Language & Literacy	3	BUS 258	Supervisory Mgmt.	3
ECE 180	Child Growth & Dev.	3	ECE 190	Child Hlth./Sfty./Nut.	3	CPT 150	Microcomputer Concepts	3
ECE 182	ECE Curriculum	3	ECE 191	Obv. & Assmnt./Yg. Ch.	3	CPT 151	Advanced Office Appl.	3
ECE 183	Creative Experiences	3	ECE 194	Ed. Yg. Child./Spec. Needs	3	ENG 163	Business Commun.	3
ECE 185	Intro Early Ch. Curr.	3	EDU 250	Teach Eng./Speakers of Oth. Langs.	3	EDU 156	Intro/Mid. & Sec.. Ed.	3
ECE 186	Family & Society	3	BUS 120	Math of Business	3	HMS 155	Intro to Human Serv.	3
ECE 187	Child Care Mgmt.	3	BUS 160	Intro to Business	3	PSY 165	Educat. Psychology	3
ECE 188	Intro to Except. Dev.	3	BUS 241	Human Resource Mgmt.	3	SOC 161	Marriage & Family	3

# Electrical Utility Technology, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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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.

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### 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.

# Electrical Utility Technology, AAS

(CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 63)

General Education			Major		
PDV 160	Strategies/Acad.Success	1	ELC 106	Intro to Circuit Analysis	4
CPT 150	Microcomputer App.	3	ELC 107	Circuit Analysis II	4
MTH 180	Math for Technologies I	4	ELC 191	Basic Prin. of Indus. Electricity	4
ENG 161	College Writing	3	ELC 192	Indus. Electrical Eqpmt.	4
ENG 162	Technical Commun.	3	ELC 223	Power Distribution	4
HUM 156	Critical Thinking	3	EUT 101	Overhead Line Tech.	5
BUS 249	Labor Relations	3	EUT 102	Overhead Line Tech.	5
PSY 160	General Psychology	<u>3</u>	EUT 201	Overhead Lines Tech.	<u>5</u>
		<b>23</b>	EUT 202	Overhead Lines Tech.	<u>5</u>
					<b>40</b>

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

*This program does not support part-time attendance.*

FALL SEMESTER		SPRING SEMESTER		FALL SEMESTER		SPRING SEMESTER	
CPT 150	3	ELC 107	4	ELC 192	4	BUS 249	3
ELC 106	4	ELC 191	4	ELC 223	4	EUT 202	5
EUT 101	5	ENG 161	3	EUT 201	5	HUM 156	3
MTH 108	4	EUT 102	<u>5</u>	ENG 162	<u>3</u>	PSY 160	<u>3</u>
PDV 160	<u>1</u>		<b>16</b>		<b>16</b>		<b>14</b>
	<b>17</b>						

# Electronics Engineering Technology, AAS

GENERAL OPTION

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 61)

General Education			Major			Other Required Courses		
DFT 258	AutoCAD	4	ELC 102	Electronic Devices	4	MTH 109**	Math for the Tech. II	4
ENG 161	College Writing	3	ELC 106	Circuit Analysis I	4	PHY 156	College Physics II	<u>4</u>
ENG 162	Technical Commun.		ELC 107	Circuit Analysis II	4			<b>8</b>
	or		ELC 114	Digital Techniques	4			
ENG 163	Business Commun.	3	ELC 202	Linear Electronics	4	<b>*Restricted Electives</b>		
	or		ELC 206	Microprocessors	4	Courses with an ELC prefix		
ENG 164	Advanced Composition		ELC 213	Microprocessor Appli.	4	**Students planning to transfer to four-		
MTH 108**	Math for the Tech. I	4	Restricted Electives*	<u>4</u>		year institutions should consult with		
PHY 155	College Physics I	4		<b>32</b>		their advisor for course substitutions.		
Social Science Elective		<u>3</u>						
		<b>21</b>						

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ELC 106	4	ELC 102	4	ELC 202	4	DFT 258	4
ENG 161	3	ELC 107	4	ELC 206	4	PHY 156	4
MTH 108	4	ELC 114	4	ENG 162, 163 or 164	3	ELC 213	4
Social Science Elective	<u>3</u>	MTH 109	<u>4</u>	PHY 155	<u>4</u>	Restricted Elective	<u>4</u>
	<b>14</b>		<b>16</b>		<b>15</b>		<b>16</b>

# Engineering Technology, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	EGR 104	Engineering Materials	3	DFT 105	Technical Drafting I	4
ENG 162	Technical Commun.		EGR 105	Manufacturing Proce.	3	DFT 106	Technical Drafting II	4
	or		EGR 110	Descriptive Geometry	3	DFT 258	AutoCAD	4
ENG 163	Business Commun.	3	EGR 210	Quality Control	3	MTH 109	Math for the Tech. II	4
	or		EGR 220	Statics/Strength of Mat.	3	MTH 172	Calculus I	4
ENG 164	Advanced Comoposition		EGR 227	Kinematics	3	PHY 156	College Physics II	4
MTH 108	Math for the Tech. I	4			<b>18</b>			<b>24</b>
PHY 155	College Physics	4						
	Computer Science Elective	3						
	Social Science Elective	3						
		<b>20</b>						

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
DFT 105	4	DFT 106	4	EGR 105	3	DFT 258	4
ENG 161	3	EGR 104	3	EGR 110	3	EGR 210	3
MTH 108	4	ENG 162, 163, or 164	3	MTH 172	4	EGR 220	3
Computer Science Elective	3	MTH 109	4	PHY 156	4	EGR 227	3
Social Science Elective	3	PHY 155	4		<b>14</b>		<b>13</b>
	<b>17</b>		<b>18</b>				



# Expanded Functions Dental Assisting, Certificate

## Division of Health Professions/Natural Sciences

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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. These functions include:

1. placing and removing rubber dams
2. placing and removing matrices
3. placing and removing wedges
4. applying cavity liners and bases
5. placing and condensing amalgam restorations
6. carving and contouring amalgam restorations
7. placing and finishing composite resin restorations and/or sealant material

Candidates for the certificate must have a CDA or RDH license prior to entrance to the program. On-the-job trained dental assistants must have at least three years experience as a dental assistant and successfully complete the Dental Assisting National Board Examination prior to entrance to the program.

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.

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### 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.

- 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.
- Applicants must complete and submit a WCCC Application for Admission Form and Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester in which enrollment is anticipated. The form must be accompanied by official transcripts from all secondary schools attended, GED programs and any other formal education program attended beyond high school.
- All applicants must have three years chairside dental assisting experience **plus** a letter verifying experience, including dates and hours from the employing dentist.
- 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.

### ADMISSION CRITERIA:

- Upon initial acceptance into the program, a criminal background check, child abuse history and drug screening must be obtained at the applicant's expense. The following admission criteria are required:
  - Pennsylvania State Police Request for Criminal Record Check (SP4-164). Positive records will be evaluated individually. If an applicant has not established residency in the state of Pennsylvania for more than one year, they will need to submit FBI cards for School Employees (FD258).
  - Pennsylvania Child Abuse History Clearance (CY-168). Any record results in denial of admission to the expanded functions dental assisting program.
  - Drug screening must be completed within 10 days of the start of the program. A positive drug screen will result in denial of admission to the expanded functions dental assisting program or continuation in the program. The program reserves the right to require random drug screens while the student is enrolled.
- Applicants must have successfully completed AHA CPR-BLS for Health Care Providers prior to the start of the second semester of program enrollment.
- Applicants must purchase student liability insurance.
- **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)

Division of Health Professions/Natural Sciences

## Program Learning Outcomes

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

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

## PROGRAM REQUIREMENTS (TOTAL CREDITS - 17)

General Education			Major			Other Required Courses
CPT 150	Microcomp. Concepts	3	DAE 100	Dental Anatomy	2	None
SPC 156	Interpersonal Comm.	<u>3</u>	DAE 101	EFDA I	6	
		<b>6</b>	DAE 102	EFDA II	<u>3</u>	
					<b>11</b>	

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Fall Semester		Spring Semester	
DAE 100	2	DAE 102	3
DAE 101	6	CPT 150	<u>3</u>
SPC 156	<u>3</u>		<b>6</b>
	<b>11</b>		

# Fire Science Technology, AAS

## MUNICIPAL FIRE SERVICE OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
CHM 105	Technical Chemistry	4	FST 101	Intro to Fire Science	3	PHY 107	Applied Physics	4
ENG 161	College Writing	3	FST 103	Fire Service Admin.	3	Mathematics Elective		3
ENG 162	Technical Commun.	3	FST 104	Fire Service Hydraulics	3	Social Science Elective		3
or			FST 105	Public Fire Education	3			<u>3</u>
ENG 163	Business Commun.	3	FST 109	Bldg. Codes/Standards	3			<b>10</b>
MTH 108	Math. for the Tech. I	4	FST 220	Firefighting Tactics I	3			
SOC 155	Prin. of Sociology	3	FST 222	Legal Asp./PA Fire Serv.	3			
Computer Technology Elective		<u>3</u>	Fire Science Electives		<u>9</u>			
		<b>20</b>			<b>30</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ENG 161	CHM 105	FST 103	FST 222
FST 101	ENG 162 or 163	FST 109	PHY 107
FST 105	FST 104	FST 220	SOC 155
MTH 108	Fire Science Elective	Fire Science Elective	Fire Science Elective
Computer Tech. Elective	Mathematics Elective	Social Science Elective	
<b>16</b>	<b>16</b>	<b>15</b>	<b>13</b>

# Fire Science Technology, Diploma

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 31)

General Education			Major			Other Required Courses
ENG 161	College Writing	3	FST 101	Intro to Fire Science	3	None Required
MTH 108	Math for the Tech. I	4	FST 103	Fire Service Admin.	3	
SOC 155	Prin. of Sociology	<u>3</u>	FST 104	Fire Service Hydraulics	3	
		<b>10</b>	FST 105	Public Fire Education	3	
			FST 107	Fire Protection Suppres.	3	
			FST 220	Firefighting Tactics I	3	
			Fire Science Elective	<u>3</u>		
				<b>21</b>		

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
ENG 161	3	FST 104	3
FST 101	3	FST 107	3
FST 103	3	FST 220	3
FST 105	3	SOC 155	3
MTH 108	<u>4</u>	Fire Science Elective	<u>3</u>
	<b>16</b>		<b>15</b>



# Fire Science Technology, Certificate

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 19)

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ENG 161	College Writing	3
FST 101	Intro to Fire Science	3
FST 103	Fire Service Admin.	3
FST 105	Public Fire Education	3
FST 107	Fire Protection Sup.	3
MTH 108	Math for the Tech. I	<u>4</u>
		<b>19</b>



# Forensic Science, Certificate

## FORENSIC SCIENCE INVESTIGATOR

### Division of Health Professions/Natural Sciences

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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 184.

### 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.)

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 21)

BIO 110	Intro/Forensic Biology	4
BIO 130	Intro/Forensic Pathology	4
BIO 160	Intro/Forensic Toxicology: Poisons, Drugs & Death	4
CRJ 160	Criminal Law I	3
CRJ 163	Criminal Procedure	3
CRJ 296	Intro to Criminalistics	<u>3</u>
		<b>21</b>

# Graphic Communications



The Graphic Communications program serves the community as an active learning environment providing knowledge and hands-on skills in keeping with the challenges of the communication environment and emerging technologies, and the contemporary issues and evolving workforce requirements as well as the ever-changing needs of the individual, business and industry. The curriculum provides a flexible, responsive educational experience for students to build communication and creative skills, digital literacy and interdisciplinary thinking required to evolve into innovative, perceptive and responsible designers, efficient production artists/technicians, and knowledgeable sales/technical support staff that are prepared to effectively collaborate with other creative/technical individuals and clients. At the same time, practical

hands-on activities emphasize critical conventional/digital production skills and techniques essential for reproducing a broad range of expressive communication concepts and media for print, interactive, and web and mobile devices within the current and evolving communications-based design field.

## Associate of Applied Science Degree

The graphic communications associate of applied science degree program provides students with the options of two distinct concentrations: graphics and publishing – production/technical skills for specialty graphics, publishing and print media; or web and mobile design – production/technical skills for web, smart phone and tablet content.

Based upon input from the graphic communications occupational advisory committee and statistics from the U.S. Bureau of Labor Statistics High-Priority Occupations, these options address the importance of career preparation, the potential and challenges of technology, rapidly evolving industry standards, and new types of positions and talents that are in demand for today's and tomorrow's technology-driven workforce.

The general education component of this program enhances the program's creative and technical learning outcomes by adding broad-based problem-solving and human relation insights (environment, people, economy and culture) from other academic disciplines.

Internships provide students the opportunity to work in a variety of offsite environments to explore career options, gain valuable work-related experience, establish contacts, and to participate in professional workshops on campus while enhancing their skills and techniques while designing an effective, compelling and memorable portfolio of their work.

## Graphic Design Certificate

WCCC offers two certificates to students active or interested in graphics and publishing or web and mobile design. These intensive certificates provide individuals the relevant knowledge, technical skills and hands-on experience to increase their value to their organization, earn credentials for proof or concentrated study, update/strengthen current knowledge and skills, explore or change careers, start a business venture or pursue an area of personal interest.



# Graphic Communications, AAS

## GRAPHICS & PUBLISHING OPTION

### Division of Computer Technology/Business

The graphics and publishing associate degree program is designed to develop a student's creative visual, technical and production skills for entry-level professional work. Students focus on incorporating design and layout, typography and color usage, digital imaging and vector illustration techniques along with desktop publishing and printing technology for creating effective, powerful visual communication art and designs for small and medium-sized business, advertising and promotional design. Students have the opportunity to become creative and technically proficient production artists/technicians for print and digital media/content for the evolving communications-based design field.

### Career Opportunities

Graduates of this program can expect to find entry-level employment as assistant art directors; computer support specialists; graphic designers; multimedia artists/animations; prepress technicians; printing press operators; print binding/finishing technicians within the copy, print, signage, environmental and vinyl graphics shops, and display and digital printing industries; in-store customer sales/service representative; or self-employed freelance artists/designer.

### Program Learning Outcomes

The curriculum is designed to prepare students to:

- define the needs of the audience/client, the message the design/product should portray, and its appeal to potential clients/customers
- plan, analyze and develop strategies to produce functional and aesthetically pleasing visual communications within set deadlines and budgets
- integrate traditional design skills and emerging technology into the production/publishing workflow
- communicate effectively, solve problems creatively, think laterally and apply computation skills
- function effectively as a member of a team or independently to develop appropriate attitudes and work habits
- employ effective decision-making, schedule production deadlines, research/test materials and ensure compliance within industry safety guidelines while meeting/exceeding the client/consumer's expectations

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	GCT 100	Design Technology	1	WEB 102	Acrobat Essentials	1
ENG 163	Business Communication	3	GCT 115	Design & Layout I	3	<b>Graphics Concentration</b>		
or		3	GCT 131	Type & Publishing I	3	ART 157	Contemporary Art	3
ENG 164	Advanced Composition	3	GCT 151	Art & Illustration I	3	GCT 155	Graphics & Lettering I	3
GCT 161	Digital Imaging I	3	GCT 231	Type & Publishing II	3	GCT 185	Print & Prepress I	3
HUM 156	Critical Thinking	3	GCT 261	Digital Imaging II	3	GCT 210	Design & Layout II	3
or		3	GCT 285	Print & Prepress II	3	GCT 245	Graphics & Lettering II	3
SPC 156	Interpersonal Comm.	3	GCT 290	Seminar in Graphics	3	GCT 251	Art & Illustration II	<u>3</u>
Mathematics Elective		3	GCT 299	Graphic Internship	<u>3</u>	<b>OR</b>		
Social Science Elective		<u>3</u>				<b>Publishing Concentration</b>		
		<b>18</b>				GCT 125	Emerging Technology I	3
						GCT 163	Emerging Technology II	3
						GCT 287	Digital Workflow	3
						WEB 110	Web Design	3
						WEB 140	Dreamweaver Basics	3
						WEB 190	Dreamweaver Adv.	<u>3</u>
						<b>19</b>		

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ENG 161	ENG 163 or 164	GCT 210 or WEB 110	GCT 251 or WEB 190
GCT 100	GCT 131	GCT 231	GCT 287 or ART 157
GCT 115	GCT 155 or 125	GCT 245 or WEB 140	GCT 290
GCT 151	GCT 185 or 163	GCT 261	GCT 299
GCT 161	HUM 156 or SPC 156	GCT 285	Mathematics Elective
Social Science Elective		WEB 102	
<u>3</u>	<u>3</u>	<u>1</u>	<u>3</u>
<b>16</b>	<b>15</b>	<b>16</b>	<b>15</b>



# Graphic Communications, AAS

WEB & MOBILE DESIGN OPTION

Division of Computer Technology/Business

The web and mobile design associate degree program is a solution-based learning, tightly sequenced curriculum that provides instruction in the principles, concepts, tools and techniques involved in the design, development, production/publication of time-based digital content. Coursework provides extensive hands-on education that emphasizes creativity, critical thinking, interactive design and teamwork. Students must apply designerly insights, technical knowledge and skills while incorporating industry-standard software in new ways that address today's challenging contexts of effective, elegant screen-based media.

## Career Opportunities

Graduates of this program can expect to find employment as assistant art directors; computer support specialists; graphic designers; multimedia artists/animators within in-house business and corporate communication departments, advertising and marketing agencies, broadcast media production houses or educational institutions; in-store customer sales/service representatives; or self-employment.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- plan and create effective, cohesive design solutions using a variety of skills, software and digital media
- create communications informed and inspired by design research into communities and cultural spaces
- create documents for media production such as proposals, scripts, story boards, budgets and schedules
- incorporate project management and teamwork skills to address digital media industry issues
- evaluate the technical proficiency of media production/delivery within the design disciplines, media trends, global market places and popular culture
- communicate effectively, solve problems creatively, be imaginative, think laterally, and apply computation skills
- function effectively as a member of a team or independently to develop appropriate attitudes and work habits
- employ effective decision making, schedule production deadlines, research materials while meeting/exceeding the client/ consumer's expectations

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	GCT 100	Design Technology	1	<b>Multimedia</b>		
ENG 163	Business Communica.	3	GCT 115	Design & Layout I	3	MED 103	Podcasting Basics	1
or		3	GCT 125	Emerging Technology I	3	MED 105	Multimedia for Web	3
ENG 164	Advanced Composition	3	GCT 151	Art & Illustration I	3	MED 205	Premiere Pro I	3
GCT 161	Digital Imaging I	3	GCT 163	Emerging Technology II	3	MED 260	Encore	3
HUM 156	Critical Thinking	3	GCT 299	Graphic Internship II	<u>3</u>	MED 270	Premiere Pro II	3
or		3			<b>16</b>	MED 290	After Effects	3
SPC 156	Interpersonal Commun.					<b>Web Publishing</b>		
Mathematics Elective		3				WEB 110	Web Design	3
Social Science Elective		<u>3</u>				WEB 140	Dreamweaver Basics	3
		<b>18</b>				WEB 190	Dreamweaver Adv.	3
						WEB 235	Interactive Design	<u>3</u>
								<b>28</b>

## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
GCT 100	1	GCT 115	3	ENG 161	3	ENG 163 or 164	3
GCT 125	3	GCT 163	3	MED 250	3	GCT 299	3
GCT 161	3	GCT 151	3	MED 260	3	MED 270	3
MED 105	3	HUM 156 or SPC 156	3	WEB 235	3	MED 290	3
WEB 110	3	MED 103	1	Social Science Elective	<u>3</u>	Mathematics Elective	<u>3</u>
WEB 140	<u>3</u>	WEB 190	<u>3</u>		<b>15</b>		<b>15</b>
	<b>16</b>		<b>16</b>				

# Graphic Communications, Certificate

## GRAPHICS AND PUBLISHING

### Division of Computer Technology/Business

The graphics and 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 print and publishing media.

### Career Opportunities

Graduates of the certificate can expect to find entry-level employment as assistant graphic designers and multimedia artists/animations or prepress technicians and print binding/finishing technicians within the printing/publishing industries as well as self-employed freelance artists.

### Program Learning Outcomes

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

- research, design and prepare various elements for print and web communications
- integrate traditional design skills and emerging technology in the production of basic print publications
- communicate effectively, solve problems creatively, think laterally and apply computation skills
- function effectively as a member of a team or independently to develop appropriate attitudes and work habits

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 23)

Major		
GCT 100	Design Technology	1
GCT 115	Design & Layout I	3
GCT 125	Emerging Technology I	3
GCT 131	Type & Publishing I	3
GCT 151	Art & Illustration I	3
GCT 161	Digital Imaging I	3
GCT 163	Emerging Technology II	3
WEB 102	Acrobat Essentials	1
WEB 140	Dreamweaver Basics	3
		<b>23</b>



# Graphic Communications, Certificate

WEB AND MOBILE DESIGN

Division of Computer Technology/Business

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The web and mobile design certificate provides students with hands-on experience in the design and delivery of cross-platform, animations, graphics, multimedia and basic web page design. The certificate focuses on web and mobile project design and structure, and stresses the importance of accessibility, usability, optimization and performance.

## Career Opportunities

Graduates of the certificate will have acquired the skills necessary for entry-level positions such as multimedia artists/animators, graphic/web designer, and computer support specialists within the fields of web design, content development for the web/mobile and tablet/smartphone marketplace as well as technical support and self-employment.

## Program Learning Outcomes

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

- effectively plan and implement static and motion content design, optimization and publishing or screen-based media
- function as a member of a creative team in the research, design and preparation of web and mobile communications
- communicate effectively, solve problems creatively, think laterally and apply computation skills
- function as a member of a team or independently to develop appropriate attitudes and work habits

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 23)

<b>Major</b>		
GCT 100	Design Technology	1
GCT 115	Design & Layout I	3
GCT 125	Emerging Technology I	3
GCT 151	Art & Illustration I	3
GCT 163	Emerging Technology II	3
MED 103	Podcasting Basics	1
MED 105	Multimedia for Web	3
WEB 110	Web Design	3
WEB 140	Dreamweaver Basics	<u>3</u>
		<b>23</b>

# Heating, Ventilation, Air-Conditioning and Refrigeration, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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 HVAC&R systems for residential and commercial applications.

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

## Career Opportunities

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

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- work as a team to solve problems with HVAC equipment
- use control logic to find and repair electrical problems in HVAC systems
- use computers and the internet to calculate HVAC loads, design ducts and hydronic systems
- identify and demonstrate proper use of HVAC hand tools, meters and gauges
- demonstrate ability to fabricate metal and fiberglass ductwork
- become certified in EPA Refrigerant Handling by passing the EPA Refrigeration Exam
- read and interpret electrical ladder and pictorial diagrams to wire and troubleshoot electrical components in HVAC systems
- communicate effectively verbal and written orders
- read and interpret charts, diagrams, installation and service manuals

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 62/64)

General Education			Major			Other Required Courses		
DFT 258	AutoCAD	4	HAC 101	Heating & Cooling Fund.	4	ELC 106	Circuit Analysis I	4
ENG 161	College Writing	3	HAC 150	Psychro. & Heat Load Est.	3	HAC 280	Residential Wiring	4
ENG 162	Technical Commun.		HAC 170	HAC&R Control Systems	3	HAC 290	Refrig. Recovery	3
or			HAC 230	Air Dist. Design & Code	3	Drafting Elective		<u>3/4</u>
ENG 163	Business Commun.	3	HAC 240	Sheet Metal for HAC&R	4			<b>14/15</b>
or			HAC 250	Air-Conditioning I	4			
ENG 164	Advanced Composition		HAC 255	Air-Conditioning II	4			
MTH 108	Math for the Tech. I	4	HAC 260	Hydronics	<u>4</u>			
Science Elective		3/4			<b>29</b>			
Social Science Elective		<u>3</u>						
		<b>20/21</b>						

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ELC 106	HAC 170	ENG 161	DFT 258
HAC 101	HAC 255	HAC 150	ENG 161, 163 or 164
HAC 240	HAC 260	HAC 280 or ELC 191	HAC 230
HAC 250	HAC 290	MTH 108	Science Elective
		Drafting Elective	Social Science Elective
<b>16</b>	<b>14</b>	<u>3/4</u>	<u>3</u>
		<b>17/18</b>	<b>16/17</b>

# Heating, Ventilation, Air-Conditioning and Refrigeration, Certificate

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The heating, ventilation, air-conditioning and refrigeration certificate program provides students the basic skills to work in an entry level position in the HVAC&R field. The class and lab experiences will help the student develop skills in installation, maintenance and troubleshooting for residential as well as commercial applications.

## Career Opportunities

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

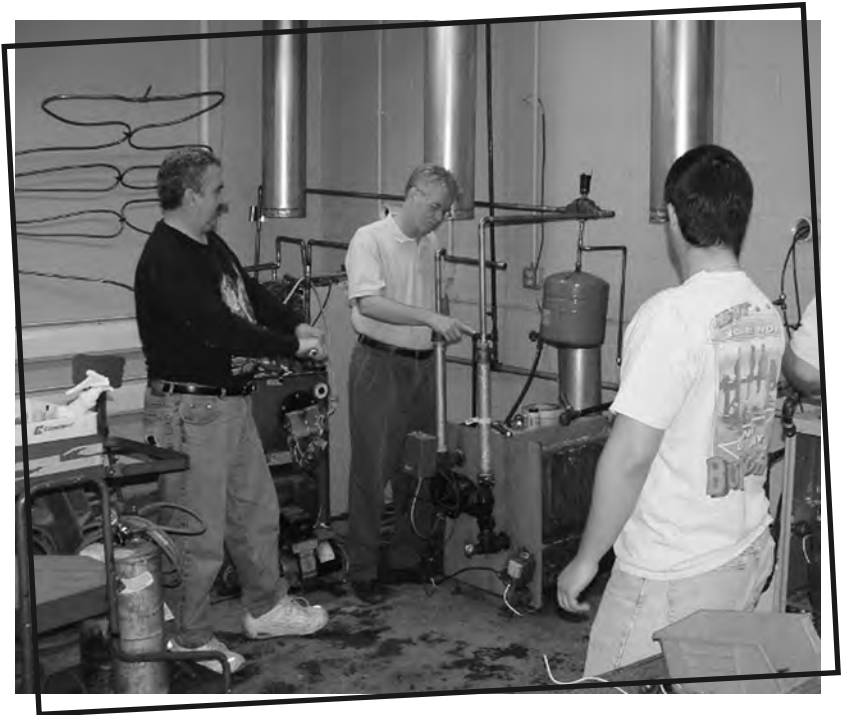
## Program Learning Outcomes

This curriculum is designed to prepare students to:

- enter the HVAC field as entry level installers and service people
- identify and demonstrate the proper use of HVAC hand tools, meters, gauges to install, troubleshoot and repair HVAC equipment

## 142 PROGRAM REQUIREMENTS (TOTAL CREDITS - 30)

HAC 101	Heating & Cooling Fund.	4
HAC 170	HVAC&R Control Sys.	3
HAC 240	Sheet Metal for HVAC&R	4
HAC 250	Air-Conditioning I	4
HAC 255	Air-Conditioning II	4
HAC 260	Hydronics	4
HAC 280	Residential Wiring	4
or		4
ELC 191	Basic Prin. of Ind. Elec.	3
HAC 290	Refrigeration Recovery	3
		<b>30</b>



## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
HAC 101	4	HAC 170	3
HAC 240	4	HAC 255	4
HAC 250	4	HAC 260	4
HAC 280 or ELC 191	4	HAC 290	3
	<b>16</b>		<b>14</b>

# Homeland Security, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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 associates 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	CIS 168	Prin. of Info. Security	3	CRJ 195	Intro to Private Sec.	
ENG 162	Technical Communica.	3	CRJ 155	Intro to Criminal Just.	3	or		3
CPT 150	Microcomputer Concepts	3	CRJ 225	Criminology of Terrorism	3	CRJ 287	Multiculturalism	
BUS 120	Math for Business	3	FST 101	Intro to Fire Science	3	CRJ 276	Community Relations	3
PSY 160	General Psychology	3	HSM 101	Orientation to Hmlnd Sec.	3	HUM 156	Critical Thinking	3
SPC 156	Interpersonal Comm	3	HSM 103	Intro to Physical Security	3	PSY 167	Death & Dying	3
		<b>18</b>	HSM 105	Hmlnd Sec. Grant Wrtg.	3			<b>12</b>
			HSM 107	Continuity of Op. Plan.	3			
			HSM 109	Emer. Med. Serv. & Hlth. Serv. Orient.	3			
			HSM 201	Hmlnd Sec. & Em. Mgmt.	3			
					<b>30</b>			

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CRJ 225	CIS 168	CRJ 155	BUS 120
ENG 161	HSM 105	FST 101	CRJ 195
HSM 101	HSM 107	HSM 109	CRJ 276
HSM 103	PSY 160	HUM 156	ENG 162
SPC 156			HSM 201
<b>15</b>		<b>12</b>	<b>15</b>
	<b>Summer</b>		
	CPT 150		
	PSY 167		
	<b>6</b>		

# Homeland Security, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS – 18)

CIS 168	Prin. of Info Security	3
CRJ 225	Criminology of Terrorism	3
HSM101	Orient. to Hmelnd. Sec. & Emer. Prep. Planning & Response	3
HSM 103	Intro to Physical Sec. & Deterr. to Terrorism	3
HSM 105	Hmelnd. Sec. Grant Wrting. & Grant Mgt.	3
HSM 107	Cont. of Oper. Planning	3
		<b>18</b>

## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
CRJ 225	3	CIS 168	3
HSM 101	3	HSM 105	3
HSM103	<u>3</u>	HSM107	<u>3</u>
	<b>9</b>		<b>9</b>

# Horticulture, AAS

## FLORICULTURE OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 61)

General Education			Major			Concentration		
CHM 107	Intro Concepts/Chem.	4	HOR 105	Intro to Horticulture	3	HOR 107	Landscape Drawing	3
CPT 150	Microcomp. Concepts	3	HOR 125	Ornamental Shrubs	3	HOR 170	Floral Dsgn. & Arranging	3
ENG 161	College Writing	3	HOR 126	Ornamental Trees	3	HOR 198	Floriculture Internship	3
ENG 163	Business Commun.	3	HOR 155	Soils and Soil Fertility	4	HOR 215	Annuals & Herb. Perennials	3
Mathematics Elective		3	HOR 157	Plant Pests	4	HOR 241	Greenhouse Oper. & Mgmt.	3
Social Science Elective		<u>3</u>	HOR 212	Pruning	<u>3</u>	HOR 250	Int. Plants & Plantscaping	4
		<b>19</b>			<b>20</b>	HOR 270	Greenhouse Production	<u>3</u>
								<b>22</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 150	CHM 107	ENG 161	ENG 163
HOR 105	HOR 107	HOR 157	HOR 170
HOR 125	HOR 126	HOR 198	HOR 270
Mathematics Elective	HOR 155	HOR 215	Social Science Elective
<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>
<b>12</b>	<b>14</b>	<b>16</b>	<b>12</b>
	<b>Summer Semester</b>		
	HOR 212		
	HOR 250		
	<u>3</u>		
	<u>4</u>		
	<b>7</b>		



# Horticulture, AAS

## LANDSCAPE DESIGN, INSTALLATION AND MAINTENANCE OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS – 61)

General Education				Major				Concentration			
CHM 107	Intro Concepts/Chem.	4		HOR 105	Intro to Horticulture	3		HOR 107	Landscape Drawing	3	
CPT 150	Microcomp. Concepts	3		HOR 125	Ornamental Shrubs	3		HOR 110	Intro to Turfgrass Mgmt.	3	
ENG 161	College Writing	3		HOR 126	Ornamental Trees	3		HOR 199	Internship	3	
ENG 163	Business Commun.	3		HOR 155	Soils and Soil Fertility	4		HOR 205	Residential Landscap.	3	
Mathematics Elective		3		HOR 157	Plant Pests	4		HOR 207	Adv. Landscaping	3	
Social Science Elective		3		HOR 212	Pruning	3		HOR 215	Annuals & Herb. Perennials	3	
		<b>19</b>				<b>20</b>		HOR 275	Landscp. Equip. Inst. & Maint.	4	
										<b>22</b>	

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 150	CHM 107	ENG 161	ENG 163
HOR 105	HOR 107	HOR 157	HOR 199
HOR 125	HOR 110	HOR 205	HOR 207
Mathematics Elective	HOR 126	HOR 215	Social Science Elective
<b>12</b>	HOR 155	<b>13</b>	<b>12</b>
	<b>17</b>		
	<b>Summer Semester</b>		
	HOR 212		
	HOR 275		
	<b>7</b>		

# Horticulture, AAS

## TURFGRASS MANAGEMENT OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS – 62)

General Education			Major			Concentration		
CHM 107	Intro Concepts/Chem.	4	HOR 105	Intro to Horticulture	3	HOR 110	Intro to Turfgrass Mgmt.	3
CPT 150	Microcomp. Concepts	3	HOR 125	Ornamental Shrubs	3	HOR 120	Turfgrass Equip. Mech.	4
ENG 161	College Writing	3	HOR 126	Ornamental Trees	3	HOR 150	Spec. Turfgrass Mgmt.	3
ENG 163	Business Commun.	3	HOR 155	Soils and Soil Fertility	4	HOR 275	Landsc. Equip. Inst. & Maint.	4
Mathematics Elective		3	HOR 157	Plant Pests	4	HOR 289	Turfgrass Internship I	3
Social Science Elective		<u>3</u>	HOR 212	Pruning	<u>3</u>	HOR 299	Turfgrass Internship II	<u>3</u>
		<b>19</b>			<b>20</b>			<b>20</b>
						<b>Other Required Coures</b>		
						BUS 158	Principles of Mgmt.	<u>3</u>
								<b>3</b>

#### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 150	CHM 107	ENG 161	ENG 163
HOR 105	HOR 110	HOR 120	BUS 158
HOR 125	HOR 126	HOR 157	HOR 150
Mathematics Elective	HOR 155	HOR 289	HOR 299
<u>3</u>	<u>4</u>	<u>3</u>	Social Science Elective
<b>12</b>	<b>14</b>	<b>14</b>	<u>3</u>
			<b>15</b>
	<b>Summer Semester</b>		
	HOR 212		
	HOR 275		
	<u>3</u>		
	<u>4</u>		
	<b>7</b>		

# Horticulture, Certificate

## FLORICULTURE

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

This certificate program provides students with the necessary skills for working in garden centers, greenhouses and floral shops.

#### Career Opportunities

Graduates of this program can be self-employed or obtain jobs as technicians in garden centers greenhouses, floral shops and related businesses.

#### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify and properly utilize important species of annuals and herbaceous perennials
- design, install and maintain interior landscaping
- schedule and produce common greenhouse crops
- make floral arrangements for general use and special occasions

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#### PROGRAM REQUIREMENTS (TOTAL CREDITS – 19)

HOR 105	Intro to Horticulture	3
HOR 170	Floral Dsgn. & Arranging	3
HOR 215	Annuals & Herb. Peren.	3
HOR 241	Greenhouse Operations Mgmt.	3
HOR 250	Interior Plantscaping	4
HOR 270	Greenhouse Production	<u>3</u>
		<b>19</b>

#### RECOMMENDED SEQUENCE

<b>Fall Semester</b>		<b>Summer Semester</b>	
HOR 105	<u>3</u>	HOR 250	<u>4</u>
	<b>3</b>		<b>4</b>
<b>Spring Semester</b>		<b>Fall Semester</b>	
HOR 170	3	HOR 215	3
HOR 270	<u>3</u>	HOR 241	<u>3</u>
	<b>6</b>		<b>6</b>

# Horticulture, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS – 20)

HOR 105	Intro to Horticulture	3
HOR 125	Ornamental Shrubs	3
HOR 126	Ornamental Trees	3
HOR 155	Soils & Soil Fertility	4
HOR 157	Insects & Dis. of Plants	4
HOR 215	Annuals & Herb. Peren.	<u>3</u>
		<b>20</b>

#### RECOMMENDED SEQUENCE

<b>Fall Semester</b>		<b>Fall Semester</b>	
HOR 105	3	HOR 157	3
HOR 125	<u>3</u>	HOR 215	<u>4</u>
	<b>6</b>		<b>7</b>
<b>Spring Semester</b>			
HOR 126	3		
HOR 155	<u>4</u>		
	<b>7</b>		

## Horticulture, Certificate

### LANDSCAPE DESIGN

#### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The landscape design certificate program provides students with the necessary skills for developing landscape designs for residential, commercial and other properties. It also prepares students for estimating landscape cost for various properties and doing bidding packages.

### Career Opportunities

Graduates of this program can obtain jobs as landscape designers for landscaping companies, landscape consultants, and landscape technicians overseeing the installation of landscape designs.

### Program Learning Outcomes

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

- develop landscape design programs
- prepare landscape designs for residential properties
- prepare landscape designs for commercial properties and other non residential properties
- estimate costs of landscaping based on different designs
- prepare bidding packages based on different designs

#### PROGRAM REQUIREMENTS (TOTAL CREDITS - 18)

HOR 105	Intro to Horticulture	3
HOR 107	Landscape Drawing	3
HOR 125	Ornamental Shrubs	3
HOR 126	Ornamental Trees	3
HOR 205	Residential Landscaping	3
HOR 207	Adv. Landscaping	<u>3</u>
		<b>18</b>

#### RECOMMENDED SEQUENCE

<b>Fall Semester</b>		<b>Fall Semester</b>	
HOR 105	3	HOR 205	<u>3</u>
HOR 125	<u>3</u>		<b>3</b>
	<b>6</b>	<b>Spring Semester</b>	
<b>Spring Semester</b>		HOR 207	<u>3</u>
HOR 107	3		<b>3</b>
HOR 126	<u>3</u>		
	<b>6</b>		

## Horticulture, Certificate

### LANDSCAPE INSTALLATION AND MAINTENANCE

#### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

#### PROGRAM REQUIREMENTS (TOTAL CREDITS - 23)

HOR 105	Intro to Horticulture	3
HOR 110	Intro o Turfgrass Mgmt.	3
HOR 125	Ornamental Shrubs	3
HOR 126	Ornamental Trees	3
HOR 157	Insects & Disease of Plants	4
HOR 212	Pruning	3
HOR 275	Landsc. Equip. Inst. & Main.	<u>4</u>
		<b>23</b>

#### RECOMMENDED SEQUENCE

<b>Fall Semester</b>		<b>Summer Semester</b>	
HOR 105	3	HOR 212	3
HOR 125	<u>3</u>	HOR 275	<u>4</u>
	<b>6</b>		<b>7</b>
<b>Spring Semester</b>		<b>Fall Semester</b>	
HOR 110	3	HOR 157	<u>4</u>
HOR 126	<u>4</u>		<b>4</b>
	<b>7</b>		

# Horticulture, Certificate

## TURFGRASS MANAGEMENT

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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This certificate program provides students with the necessary skills for starting and maintaining lawns, athletic fields, and golf courses.

#### Career Opportunities

Graduates of this program may obtain jobs as technicians in golf courses, athletic fields, and landscaping companies taking care of a variety of turfs.

#### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify and properly utilize imporatrn species of turfgrass
- start lawns or other types of turf with seed or sod
- identify important insects, diseases, and weeds that infest turf
- properly operate and maintain turf equipment
- apply pesticides safely

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#### PROGRAM REQUIREMENTS (TOTAL CREDITS - 17)

HOR 105	Intro to Horticulture	3
HOR 110	Intro to Turfgrass Mgmt.	3
HOR 120	Turfgrass Equip. Mech.	4
HOR 150	Spec. Turfgrass Mgmt.	3
HOR 155	Soils & Soil Fertility	<u>4</u>
		<b>17</b>

#### RECOMMENDED SEQUENCE

##### Fall Semester

HOR 105	<u>3</u>
	<b>3</b>

##### Fall Semester

HOR 120	<u>4</u>
	<b>4</b>

##### Spring Semester

HOR 110	3
HOR 155	<u>4</u>
	<b>7</b>

##### Spring Semester

HOR 150	<u>3</u>
	<b>3</b>

# Hotel/Motel Management, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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The certificate in hotel/motel management is designed to provide entry and intermediate level skills for employment within the lodging industry. Customer service and computer applications are emphasized. Courses within this program also include information on front office skills, housekeeping management, and lodging and property management.

Business attire may be required for some class assignments.

### Career Opportunities

Students earning a certificate in this program may be employed in positions such as hotel assistant managers; food, beverage and banquet assistants; convention and special event coordinators; sales representatives, department managers or assistants for lodging facilities.

### Program Learning Outcomes

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

- identify and satisfy diverse customer expectations
- utilize interpersonal and personal skills in a lodging facility
- practice technical skills needed for front office management which includes preparation of daily reports
- identify housekeeping practices within the lodging industry
- utilize computer technology to manage lodging systems
- identify procedures and responsibilities of departmental teams within a lodging operation

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 17)

ACC 105	Fin. Recordkeeping	3
CPT 150	Microcomputer Concepts	3
FSM 113	Customer Service	3
FSM 118	Sanitation	2
HMT 160	Exec. Houskpg./Front Office	3
HMT 262	Lodg. & Property Mgmt.	3
		<b>17</b>

# Human Services, AAS

## Division of Public Service/Humanities/Social Sciences/Mathematics

The human services program prepares students for employment in agencies that provide many kinds of support to people in need. The course of study permits students classroom instruction and firsthand knowledge in a human service setting. Students choosing a human service major are motivated by a sincere concern and desire to help others.

As part of the AAS degree in human services, students are required to complete two semesters of field placement known as a practicum (HMS 258 and HMS 259). It is through this experience that human services students acquire some of their most valuable education and experience. The practicums are an opportunity for students to test and use the knowledge and skills they have gained in the classroom and through their own life experiences. It is also very common for students to be offered a job by their practicum placements.

### 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 service positions in nonprofit agencies.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- use their local human services system to access services for themselves and others
- identify target populations according to their need for services
- provide basic casework services to clients
- access and use the appropriate technology for providing services to clients
- use appropriate and effective communication skills in the helping environment
- conduct an information-gathering interview with those seeking service
- prepare an assessment of client needs
- use a basic problem-solving method to help individuals address their needs
- organize and facilitate a support, educational or task group
- write a basic social history report
- organize a standard social services record of information and services
- devise an action plan for services for clients
- identify client strengths and weaknesses
- work with clients from a variety of cultures and abilities
- utilize a basic knowledge of substance abuse issues when identifying and treating client problems
- understand how human services are funded and the impact of the political process on programs and services

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	HMS 155	Intro to Human Services	3	PSY 160	General Psychology	3
ENG 164	Advanced Composition	3	HMS 156	Comm. for HMS Workers	3	PSY 161	Human Growth & Dev.	3
SOC 155	Principles of Sociology	3	HMS 157	Intvwing./Recrdkpg. Sk.	3	or		3
SPC 155	Effective Speech	3	HMS 160	Group Process	3	PSY 270	Abnormal Psychology	
Computer Technology Elective		3	HMS 170	Racial & Ethnic Minorities	3	Restricted Electives*		12
Mathematics Elective		3	HMS 172	Drug/Alcohol Depend.	3			18
		<b>18</b>	HMS 258	HMS Practicum I	4			
			HMS 259	HMS Practicum II	4			
					<b>26</b>			
						<b>*Restricted Electives</b>		
						ECE 186	Cult./Soc./Dev. of Child	
						ECE 188	Exceptional Development	
						CRJ 255	Juvenile Delinquency	
						HMS 162	Prob. Solving/Couns. Sk.	
						HMS 171	Intro to Gerontology	
						PSY 167	Death & Dying	
						PSY 260	Social Psychology	
						PSY 265	Child Psychology	
						PSY 268	Adolescent Psychology	
						PSY 270	Abnormal Psychology	
						SOC 161	Marriage and Family	
						SOC 162	Contemp. Soc. Problems	

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ENG 161	3	ENG 164	3	HMS 160	3	HMS 170	3
HMS 155	3	HMS 157	3	HMS 258	4	HMS 259	4
HMS 156	3	HMS 172	3	SPC 155	3	Mathematics Elective	3
PSY 160	3	PSY 161 or 270	3	Computer Tech. Elective	3	Restricted Elective*	6
SOC 155	3	Restricted Elective*	3	Restricted Elective*	3		16
	<b>15</b>		<b>15</b>		<b>16</b>		

# Industrial Electricity Technology, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

ELC 191	Basic Prin. of Ind. Elec.	4
ELC 192	Indus, Electrical Equi.	4
ELC 221	Industrial Motor Cntrl.	4
ELC 222	Adv. Indus. Motor Cntrl.	<u>4</u>
		<b>16</b>



# Library Science, Certificate

## Division of Public Service/Humanities/Social Sciences/Mathematics

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The library science certificate program provides students with the knowledge and skills to work in entry level positions in libraries in a variety of settings.

### Career Opportunities

Graduates of this program can expect to obtain employment in libraries or information centers, schools, government agencies, hospitals, corporations, law firms, museums, and professional associations. Individuals who hold a bachelor's degree in any field and complete this certificate program will be eligible to apply for certification as Provisional Librarians in Pennsylvania.

### Program Learning Outcomes

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

- assist library users in locating and evaluating information resources in print and online
- utilize computer and information technology skills to perform tasks associated with the acquisition and preparation of materials for library collections
- perform tasks associated with the circulation of materials, administrative services, and programming for special populations

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### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

CPT 120	Intro to the Internet	1
LIS 100	Intro to Library Science	3
LIS 110	Cataloging & Classifi.	3
LIS 120	Info Sources & Services	3
LIS 130	Materials Sel. (Coll. Dev.)	3
LIS 140	Library Administration	3
		<b>16</b>

# Machine Technology, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 64)

General Education		Major		Other Required Courses		
DFT 258 AutoCAD	4	CNC 111	CNC 1	4	DFT 112 Intro Des., Mat. & Process	3
ENG 161 College Writing	3	MTT 111	Machining I	4	DFT 207 Tool Design	4
ENG 162 Technical Commun.	3	MTT 112	Machining II	5	MTT 101 Blueprints	4
MTH 108* Math for the Tech. I	4	MTT 213	Machining III	5	MTT 201 Inspection	4
MTH 109* Math for the Tech. II	4	MTT 214	Machining IV	<u>6</u>	MTT 202 Maintenance	<u>4</u>
Social Science Elective	<u>3</u>			<b>24</b>		<b>19</b>
	<b>21</b>					

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students should consult their advisor.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CNC 111	4	DFT 112	3	DFT 207	4	ENG 162	3
MTH 108	4	DFT 258	4	ENG 161	3	MTT 202	4
MTT 101	4	MTH 109	4	MTT 201	4	MTT 214	6
MTT 111	<u>4</u>	MTT 112	<u>5</u>	MTT 213	<u>5</u>	Social Science Elective	<u>3</u>
	<b>16</b>		<b>16</b>		<b>16</b>		<b>16</b>

\*Students planning to transfer to a four-year institution should consult with their advisor for course substitutions.

# Machine Technology I, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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 first of four certificate programs for students studying manual machining. 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.

### Career Opportunities

Production machinists produce large quantities of one part, especially parts requiring the use of complex operations and great precision. Since many modern machine tools are computer numerically controlled (CNC), an introductory course in computer numeric control will be an integral part of this certificate. Many machinists must be able to use both manual and computer controlled machinery in their job.

### Program Learning Outcomes

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

- safely work in a machine shop using standard hand tools
- produce simple parts and tooling using basic shop equipment
- use reference materials to calculate basic feeds and speeds
- demonstrate the operation of mills, lathes and grinders

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

<b>Major</b>		
CNC 111	CNC I	4
MTH 108	Math for Technologies	4
MTT 101	Blueprints	4
MTT 111	Machining I	<u>4</u>
		<b>16</b>

### RECOMMENDED SEQUENCE

<b>Fall</b>		
CNC 111		4
MTH 108		4
MTT 101		4
MTT 111		<u>4</u>
		<b>16</b>

# Machine Technology II, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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 second of four certificate programs for students studying manual machining. 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.

### 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:

- manufacture simple parts from prints using shop equipment
- perform basic operations on mills including facing, contouring, and hole-making
- perform basic operations on lathes including facing, turning, and threading
- perform basic operations on grinders including roughing, finishing, and sizing

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

<b>Major</b>		
DFT 112	Intro to Design Mat. & Processing	4
DFT 258	AutoCAD	4
MTH 109	Math for Technologies II	4
MTT 112	Machining 2	<u>4</u>
		<b>16</b>

### RECOMENDED SEQUENCE FOR FULL-TIME STUDENTS

<b>Spring</b>	
DFT 112	4
DFT 258	4
MTH 109	4
MTT 112	<u>4</u>
	<b>16</b>

# Machine Technology III, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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 third of four certificate programs for students studying manual machining. 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.

### 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:

- manufacture complex parts from prints using standard shop equipment
- perform advanced operations on mills including angular and pocket machining
- perform advanced operations on lathes including internal and radii turning
- perform advanced operations on grinders including cylindrical grinding

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## PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

		<b>Major</b>	
DFT 207	Tool Design		4
ENG 161	College Writing		3
MTT 113	Machining 3		5
MTT 201	Inspection		<u>4</u>
			<b>16</b>

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

		<b>Fall</b>	
DFT 207			4
ENG 161			3
MTT 113			5
MTT 201			<u>4</u>
			<b>16</b>

# Machine Technology IV, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

## PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

<b>Major</b>		
ENG 162	Technical Communica.	3
MTT 201	Maintenance	4
MTT 214	Machining 4	6
Social Science Elective		<u>3</u>
		<b>16</b>

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

<b>Spring</b>	
ENG 162	3
MTT 201	4
MTT 214	6
Social Science Elective	<u>3</u>
	<b>16</b>

# Magnetic Resonance Imaging, Certificate

## Division of Health Professions/Natural Sciences

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The MRI certificate program offers continuing education and clinical training needed for a career as a MRI technologist. While many MRI technologists provide services in a hospital setting, others provide services in standalone medical imaging centers, and mobile MRI providers. The program includes clinical experience in an off campus locations that provide MRI imaging services.

Students who complete the MRI Certificate program satisfactorily are eligible to apply to take the ARRT post primary certificate for MRI.

**Note: Students who wish to take the ARRT MRI post primary certification must satisfy all ARRT stated requirements and have the appropriate documentation signed by clinical site personnel. The requirements can be found on the ARRT website. [https://www.arrt.org/education/compReqs/MRI\\_CX.pdf](https://www.arrt.org/education/compReqs/MRI_CX.pdf)**

In addition, students may take the didactic portion of the program for the purpose of earning CE's for continued licensure for their ARRT certification/registration. Current MRI technologist may complete only the didactic portion in preparation for taking the ARRT post primary certification in MRI.

### Career Opportunities

160 Students completing this program will be qualified to enter the work world as an entry-level MRI technologist. MRI technologists may find employment opportunities with hospitals, stand alone medical imaging centers, and mobile imaging providers.

### 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 MRI course requirements. Students will be required to obtain a clinical site on their own time and expense. Specific criteria for admission and selection are listed below.

- Applicants must be graduates of an ARRT sanctioned school.
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application directly to the MRI program director. Official transcripts from all secondary schools attended, GED programs, and any other formal education program attended beyond high school must accompany the forms. Applications will be accepted on a rolling basis and classes may be scheduled at any time when a sufficient applicant pool is filled.
- Applicants to the MRI 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 web site <http://www.arrt.org>.
- For students participating in the MRI clinical course, the student will be required submit information regarding criminal conviction and/or crimes of moral turpitude. Prior to participating in clinical activities, a criminal record check, FBI finger print check, and child abuse history must be obtained at the applicant's expense. These records must be submitted to the radiology program director before the start of the clinical

### Child Abuse Clearance

Any record results in denial of admission to the radiology program.

### Criminal Record Check

Any felony conviction may result in denial of admission to the MRI program. Any misdemeanor will be individually evaluated. Conviction of a felonious act may result in the American Registry of Radiologic Technologist denying the applicant to sit for certification examination.

### Urine Drug Screen

- A positive drug screen may result in denial of the student to attend clinical or continuation in the clinical portion of the MRI program.

### Essential Cognitive, Physical, and Behavior Functions for the Radiology Technology program

MRI students must be able to meet the following physical and mental abilities for successful completion of the radiology technology program:

- must have the physical ability to move/manipulate MRI accessory equipment and pt support equipment
- lift and/or support at a minimum 75 pounds in order to lift and carry x-ray accessories
- have the ability to appropriately position patients for MRI procedures and safely transfer patients who may weigh in excess of 300 pounds
- ability to articulate clear verbal commands to the patient while the patient is being positioned for a procedure from a distance of 7-12 feet
- have the ability to select and calculate proper x-ray exposure factors based on exam type and patient body habitus
- must be able to manage stressful situations that relate to patient care, procedure, and technical standards

# Magnetic Resonance Imaging, Certificate

CONTINUED

## Division of Health Professions/Natural Sciences

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- must be able to evaluate MRI images for proper patient positioning, proper pulse sequence, and other essential factors for the purpose of image quality control
- have sight corrected, to observe patients from a distance of 5-20 feet, ability to read and adjust the MRI equipment, and position patients correctly
- have hearing corrected, with the ability to hear patients at a distance of 5-12 feet
- have sufficient tactile ability in order to assess a patient's pulses, in addition to changes in a patient's physiologic status (i.e. changes in edema, skin temperature, etc.)
- have the ability to smell odors that may signify a change in the physiologic status of a patient or an unsafe environmental condition
- have the ability to read and comprehend written class room material, medical documents, and institution procedures and policies
- have the ability to write legible in English in a style that is readable
- must be able to accurately calculate in order to prepare medications, administer proper dosage of radiographic contrast material, and count pulse and respirations
- must be able to move freely with full manual dexterity of both upper and lower extremities, have unrestricted movement of neck, shoulder, back, and hips in order to assess, observe and perform emergency patient care, assist with all aspects of patient care, and be able to touch the floor for the removal of environmental hazards
- must not be highly allergic to contrast media, latex products, and film processing chemicals (developer or fixer)
- cannot be dependent on any chemical or substance
- have the ability to react appropriately and quickly in emergency situations
- must be poised, well groomed and neat in appearance, discreet, tactful, diplomatic, professional, versatile, ethical, and dependable
- must have the ability to comprehend written and verbal instructions correctly in academic and clinical health care settings
- must exhibit the capacity for reasoned judgment and calm in a health care environment
- must not have physical or mental medical disorders that limit the ability to perform the duties of a MRI technology student
- must be stable emotionally, this type of work involves life and death situations
- must show honesty and integrity in all matters
- enjoy working with people and patient contact

Students will be removed from the program if a health condition significantly limits the student from performing the routine functions of a radiology technology student and/or present a danger to the safety and health of patients.

After starting the MRI program, students shall immediately notify the program director if any of these stated functions change. An evaluation may occur to determine if students are able to continue in the program.

### Program Learning Outcomes

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

- provide MRI imaging services within a health care setting for a diverse patient population with an awareness of cultural diversity within the community
- operate all MRI imaging equipment safely, effectively, and efficiently
- expose, process, and evaluate all types of MRI images
- 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 MRI scanning 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 MRI program provides students with an educational experience for those who wish to become health-care providers. The MRI 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 MRI technologist. Integrated educational activities include lecture and hands-on clinical training.



# Magnetic Resonance Imaging, Certificate

CONTINUED

Division of Health Professions/Natural Sciences

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## 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 MRI technologist.

## Program Goals

- To produce graduates who have demonstrated the skills, professional values and ethics to function as a MRI Technologist
- 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 Post-Primary MRI American Registry of Radiologic Technologist examination

## PROGRAM REQUIREMENTS (TOTAL CREDITS 12)

162

### Program Prerequisites

ARRT Registered Radiologic Technologist RT (R)

### Certificate Requirements

MRI 105	MRI Data Acq., Processing and Prin, of Image Formation	4
MRI 110	MRI Patient Care, Sfty. and Cross-Sectional Anatomy	4
MRI 115	Clinical Ed. for MRI	4
		<b>12</b>

## RECOMMENDED SEQUENCE

MRI 105	4
MRI 110	4
MRI 115	4
	<b>16</b>

# Manufacturing Technology, AAS

## MANUFACTURING PROCESS TECHNOLOGY OPTION

### Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education				Major				Other Required Courses			
CHM 107	Intro to Con. Chem. I	4		ELC 100	Prog. Logic Control I	4		EGR 180	Prin. of Ind. Hydraulics	4	
DFT 258	AutoCAD	4		DFT 112	Intro to Dsgn. Mat. Pro.	3		EGR 210	Quality Control	3	
ENG 161	College Writing	3		MPT 199	MPT Internship			ELC 106	Circuits I	4	
ENG 162	Technical Commun.	3			or	3		MTH 160	Intro to Statistics	3	
MTH 108*	Math for Tech. I	4		ELC 201	Prog. Logic Control III			PHY 107	Applied Physics	4	
Social Science Elective		<u>3</u>		ELC 200	Prog. Logic Control II	4		PHY 150	Energy & Society	<u>3</u>	
		<b>21</b>		ELC 209	Man. Process Control	4					<b>21</b>
				MPT 240	Intro to Auto Manufac.	<u>3</u>					
						<b>21</b>					

\*Students planning to transfer to a four-year institution should consult their advisor for course substitutions.

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
DFT 112	3	CHM 107	4	PHY 107	4	EGR 210	3
ELC 106	4	DFT 258	4	EGR 180	4	MPT 199 or ELC 201	3
ENG 161	3	ENG 162	3	ELC 200	4	MPT 240	3
MTH 108	<u>4</u>	ELC 100	4	ELC 209	<u>4</u>	MTH 160	3
	<b>14</b>	PHY 150	<u>3</u>		<b>16</b>	Social Science Elective	<u>3</u>
			<b>18</b>				<b>15</b>



# Mechatronics System, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

This course is a study of basic electrical, mechanical and computerized components in an industrial mechatronics system. Topics covered will include basic functions and physical properties of electrical components; AC and DC drives; materials, lubrication requirements and surface properties; 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. Students will study basic digital logic and programmable logic controllers (PLCs) in a mechatronics system. Topics covered will include basic PLC functions, testing and identification of malfunctioning PLCs.

### Career Opportunities

Students successfully completing this certificate program will be prepared to enter the mechatronics working environment with a nationally recognized Level 1 Siemens Mechatronics System Certification. They will be able to configure and troubleshoot mechatronics systems throughout the industry.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- describe and apply safety rules while working on a mechatronics system
- explain the physical operation of electromagnetic and electrostatic components such as coils, solenoids, relays and various sensors used in a mechatronics system
- explain what a mechatronics system is and the interrelationships of components and modules within a complex mechatronics system with a focus on (electro) pneumatic and hydraulic control systems.
- describe troubleshooting, maintenance and safety issues revolving around (electro) pneumatic and hydraulic circuits within a mechatronics system

### PROGRAM REQUIREMENTS (TOTAL CREDITS-16)

<b>Major</b>		
EMA 110	Electrical Components	4
EMA 120	Mechanical Components & Electric Motors	4
EMA 130	Electro-pneumatic & Hydraulic Control. Cir.	4
EMA 140	Digital Fund. & Prog. Logic Controllers	<u>4</u>
		<b>16</b>

### RECOMMENDED DEQUENCE FOR FULL-TIME STUDENTS

<b>Fall Semester</b>	
EMA 110	4
EMA 120	4
EMA 130	4
EMA 140	<u>4</u>
	<b>16</b>

# Medical Assisting, Diploma

## Division of Health Professions/Natural Sciences



The medical assisting program prepares the graduate to assist the physician with the care and treatment of patients in both administrative and clinical procedures. Some of these administrative functions include patient reception and scheduling appointments, word processing and forms preparation, ordering and maintaining supplies and equipment, and maintaining patient records. Examples of clinical functions include assisting with general physical examination and related patient procedures, collection and processing of laboratory specimens, administering medications, and instructions to patients as specified by the physician.

### Career Opportunities

In this role, the medical assistant may be employed in doctor's offices, clinics and health maintenance organizations.

### Special Admission and Selection Criteria

- Applicants must be graduates of an accredited secondary school program or hold a GED equivalency certificate prior to selection. Evidence of proficiency in keyboarding and word processing are program prerequisites. This requirement can be met by successfully completing OFT 110 Document Processing I.
- Applicants must complete and submit a WCCC Application for Admission and an Allied Health Programs Application to the Admissions Office by January 5 prior to the fall semester for which enrollment is anticipated to be guaranteed consideration. Since this program requires a supervised clinical placement, enrollment may be limited.
- Applicants must also take the 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 prior to program acceptance. (C minus grade not accepted.)
- Applicants who have completed credit courses must have a 2.0 GPA. Only courses necessary to meet the Medical Assisting program requirements are considered when calculating GPA. 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.
- Applicants who are accepted must have successfully completed CPR/Basic Life Support for Health Care Providers Annual Certification and a first aid training program prior to program enrollment.
- Applicants who are accepted must submit satisfactory results from pre-entrance physical examinations obtained at the applicant's expense. Specific information regarding the examination will be provided to selected applicants.
- Applicants who are accepted must purchase student liability insurance coverage upon program enrollment.
- Applicants must provide evidence of Pennsylvania State Police Request for Criminal Record Check (SP4-164) and Pennsylvania Child Abuse History Clearance (CY-113) at the candidate's expense. Any child abuse record results in denial of admission to the medical assisting program. FBI Fingerprinting is required through the Department of Public Welfare, at the applicant's expense. These records must be submitted to the medical assisting program within two weeks of the date of notification of initial acceptance. Any felony conviction may result in denial of admission to the medical assisting program. Any misdemeanor is conditional pending receipt and evaluation of the background information to determine whether there is a conviction which may bar the student from admission to the medical assisting program.
- Urine drug screening is required at applicant's expense. A positive drug screen may result in denial of admission to the medical assisting program or continuation in the medical assisting program. The program reserves the right to require random drug screening while the student is enrolled.

Upon completion of MAS 120, practicum students will be eligible to sit for the CMA (AAMA) credential.

### 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, 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

# Medical Assisting, Diploma

(CONTINUED)

## Division of Health Professions/Natural Sciences

### Functional Abilities Guidelines

Functional abilities are physical, mental and attitudes needed to practice safely, with or without accommodations. Accommodations must be first evaluated and documented by a behaviors physician and then evaluated by the college's counselor for special populations and individual healthcare programs.

- move freely to observe and assess patients
- full manual dexterity of upper extremities, including neck and shoulders, and unrestricted movement of both upper and lower extremities in order to position to complete tasks
- lift and support at least 75 pounds
- visually able to perform tasks safely
- hear sounds of spoken word and verbal communications
- demonstrate tactile ability to assess blood draw procedures and assess pulses
- ability to speak to patients and communicate essential directions
- write in legible manner and be able to document concise information
- exercise proper judgment and insight
- ability to complete task after verbal or written instructions
- ability to demonstrate new procedures in clinical application
- demonstrate respect, honesty and integrity at all times
- demonstrate privacy and confidentiality at all times
- ability to perform gross and fine motor skills in order to complete procedures
- ability to adapt to changing environmental/stress and deal with the unexpected
- perform multiple responsibilities concurrently
- establish rapport with patients and coworkers
- effectively and accurately speak on telephone and convey information through writing and verbal manner
- able to follow directions from others
- demonstrate math skills to calculate within metric system

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 41)

General Education			Major			Other Required Courses		
BIO 107	Human Biology	3	MAS 100	Intro to Med. Assisting	4	ALH 120	General Pharmacology	3
PSY 160	General Psychology	<u>3</u>	MAS 105	Adminis. Procedures	3	ALH 122	Medical Terminology	3
		<b>6</b>	MAS 110	Clinical Procedures	4	CPT 150	Microcomputer Concepts	3
			MAS 120	Practicum	<u>3</u>	OFT 130	A & P for Medical Offic.	3
					<b>14</b>	OFT 150	Medical Billing Mgmt.	3
						OFT 250	Diagnostic Med. Coding	3
						OFT 260	Procedural Med. Cod.	<u>3</u>
								<b>21</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Fall Semester		Spring Semester		Summer Semester	
ALH 122	3	ALH 120	3	MAS 120	3
BIO 107	3	MAS 105	3	PSY 160	3
CPT 150	3	MAS 110	4	OFT 250	<u>3</u>
MAS 100	4	OFT 130	3		<b>9</b>
OFT 150	<u>3</u>	OFT 260	<u>3</u>		
	<b>16</b>		<b>16</b>		

# Multimedia and Photography, AAS

## MULTIMEDIA TECHNOLOGY OPTION

### Division of Computer Technology/Business

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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 64)

General Education			Major		
ENG 161	College Writing	3	MED 103	Podcasting & Soc. Media 1	
ENG 162	Technical Commun.		MED 105	Multimedia for Web	3
or			MED 150	Editing Techniques	3
ENG 163	Business Commun.	3	MED 155	Intro to Multimedia	3
or			MED 156	Television Production I	3
ENG 164	Advanced Composition		MED 158	History of Cinema	3
MED 110	Digital Presentation	3	MED 170	Digital Photography	3
SPC 155	Effective Speech		MED 240	Audio Production	3
or		3	MED 255	Public Relations	3
SPC 156	Interpersonal Comm.		MED 256	Advertising	3
Mathematics Elective		3	MED 257	Television Production II	3
Social Science Elective		<u>3</u>	MED 260	Interactive Multimedia	3
		<b>18</b>	MED 270	Adv. Editing Techniques	3
			MED 271	Adv. Digital Photography	3
			MED 290	Video Special Effects	3
			MED 299	Internship	<u>3</u>
					<b>46</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ENG 161	3	MED 110	3	ENG 162, 163 or 164	3	MED 270	3
MED 103	1	MED 150	3	MED 260	3	MED 290	3
MED 105	3	MED 156	3	MED 256	3	MED 271	3
MED 155	3	MED 158	3	MED 257	3	MED 299	3
MED 170	3	MED 255	3	Mathematics Elective	<u>3</u>	Social Science Elective	<u>3</u>
MED 240	<u>3</u>	SPC 155 or 156	<u>3</u>		<b>15</b>		<b>15</b>
	<b>16</b>		<b>18</b>				

# Multimedia and Photography, AAS

## PHOTOGRAPHY OPTION

### Division of Computer Technology/Business

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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 64)

General Education			Major		
ENG 161	College Writing	3	MED 103	Podcasting & Soc. Media 1	
ENG 162	Technical Commun.		MED 105	Multimedia for Web	3
	or		MED 150	Editing Techniques	3
ENG 163	Business Commun.	3	MED 159	Basic Video Prod.	3
	or		MED 160	Basic Photography	3
ENG 164	Advanced Composition		MED 161	Portrait Photography	3
MED 110	Digital Presentation	3	MED 170	Digital Photography	3
SPC 155	Effective Speech		MED 199	Internship	3
	or		MED 200	Portfolio Development	3
SPC 156	Interpersonal Comm.	3	MED 255	Public Relations	3
Mathematics Elective		3	MED 256	Advertising	3
Social Science Elective		3	MED 260	Interactive Media	3
		<b>18</b>	MED 263	Photojournalism	3
			MED 265	Color Photography	3
			MED 266	Studio/Location Photog.	3
			MED 271	Adv. Digital Photography	3
					<b>46</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ENG 161	3	ENG 162, 163 or 164	3	MED 150	3	MED 199	3
MED 103	1	MED 159	3	MED 256	3	MED 200	3
MED 105	3	MED 161	3	MED 260	3	MED 263	3
MED 110	3	MED 255	3	MED 265	3	MED 266	3
MED 160	3	SPC 155 or 156	3	MED 271	3	Social Science Elective	3
MED 170	3			Mathematics Elective	3		
	<b>16</b>		<b>15</b>		<b>18</b>		<b>15</b>



## Multimedia and Photography, Certificate

ADOBE VIDEO STUDIO

Division of Computer Technology/Business

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The Adobe Video Studio certificate option provides students with an intensive experience in Windows-based video, audio and DVD digital software.

### Career Opportunities

Graduates of the Adobe Video Studio certificate program can expect to 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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

MED 103	Podcasting & Soc. Media	1
MED 150	Editing Techniques	3
MED 240	Audio Production	3
MED 260	Interactive Media	3
MED 270	Adv. Editing Techniques	3
MED 290	Video Special Effects	3
		<b>16</b>

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## Multimedia and Photography, Certificate

PHOTOGRAPHY

Division of Computer Technology/Business

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The photography certificate option provides students with an intensive experience in traditional and digital photographic techniques and processes.

### Career Opportunities

Graduates of the photography certificate program can expect to 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

GCT 100	Macintosh OS	1
MED 160	Basic Photography	3
MED 170	Digital Photography	3
MED 265	Color Photography	3
MED 266	Studio/Location Photo.	3
MED 271	Adv. Digital Photography	3
		<b>16</b>

# Multimedia and Photography, Certificate

VIDEO/TELEVISION

Division of Computer Technology/Business

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The video/television certificate option provides students with an intensive experience in video and television production techniques and processes.

## Career Opportunities

Graduates of the video/television certificate program can expect to 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

MED 103	Podcasting & Soc. Media 1	
MED 150	Editing Techniques	3
MED 156	Television Prod. I	3
MED 240	Audio Production	3
MED 257	Television Prod. II	3
MED 290	Video Special Effects	3
		<b>16</b>



# Natural Gas and Oil Technology, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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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. Students must pass the PEC Safeland Basic safety exam with a minimum score of 80%.

### 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.

### 172 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 18)

ELC 191	Basic Prin. of Ind. Elect.	4
NGT 100	Comm. Teamwork & Conflict Res. in Ind.	1
NGT 101	Intro to Natural Gas & Oil Industry	4
NGT 110	Environmental Protection, Methods & Devices for Natural Gas Industry	2
NGT 209	Intro to Main, & Troub.	3
NGT 210	Mainte. & Troubles. II	4
		<b>18</b>

# Nursing, AAS

## Division of Health Professions/Natural Sciences

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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 National League for Nursing Accrediting Commission, Inc. (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326; phone 1-800-669-1656, ext. 153. The NLNAC is responsible for the specialized accreditation of nursing education programs: Associate Degree. The NLNAC is nationally recognized as a specialized accrediting agency for both postsecondary and higher degree programs in nursing education.

### 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

- Complete and submit a WCCC Application for Admission
- Submit official transcript from all secondary schools attended, graduate equivalency degree (GED) programs, and any other formal educational programs beyond high school
- Submit all required documents to the Admissions Office by the following deadlines:

ADN Program	Day Programs: Evening/ Weekend Greene	Evening/Weekend Program ADN Students
Application Deadline	January 5 prior to fall start	May 15 prior to spring start
Testing Dates	February	July
Acceptance Notification	Mid-March	Mid-August
Start Nursing Classes	Fall Semester	Spring Semester

- Applicants must take a preadmission examination administered by WCCC; eligible candidates will be notified of the testing dates once all required information has been submitted.

### 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, CHM 107, and BIO 107 and must attain a "C" grade or better
- Applicants must also take the computerized placement test (Accuplacer)
- Students who test into developmental courses must complete them with a "C" 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" or better in all nursing and corequisite courses to progress in the program and to graduate
  - Transfer courses are not calculated into the GPA

### Final Admission Criteria

Accepted applicants are to submit proof of the following requirements, at the applicants expense:

- Physical examination, laboratory studies, proof of immunizations, and urine drug screen. A positive urine drug screen will result in denial of admission to the program
- CPR Basic Life Support for Health Care Providers; certification is valid for two years
- Evidence of a nursing liability insurance policy by date specified
- Act 33-34 Clearance, PA Criminal Record and Child Abuse Clearance; and FBI fingerprinting through the Department of Public Welfare, at the applicant's expense

# Nursing, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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- All records must be received by the nursing program prior to the stated deadlines or program acceptance will be withdrawn
- Students must earn a "C" or better in all nursing and corequisite courses to graduate

### Criminal Conviction and/or Crimes of Moral Turpitude

Pennsylvania State Board of Nursing reserves the right to deny a license to any candidate who has been convicted of any felonious act. Conviction includes a judgment, and admission of guilt or a plea of nolo contendere, probation without verdict or incomplete Accelerated Rehabilitative Disposition (ARD). Further, the Board shall not issue a license to any applicant who has been:

1. Convicted of a felonious act prohibited by the act of April 14, 1972 (P.L. 233, No. 64) known as The Controlled Substance Drug, Device and Cosmetic Act; or
2. Convicted of a felony relating to a controlled substance in a court of law of the United States or any other state, territory, or country unless:
  - a. at least 10 years have elapsed from the date of the conviction;
  - b. the applicant satisfactorily demonstrates to the Board, significant progress in personal rehabilitation since the conviction such that the licensure should not create a substantial risk of further violations; and
  - c. the applicant otherwise satisfies the qualifications contained in this act.

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Additionally, charges and/or convictions with offense codes on the Prohibited Offenses Contained in Act 169 of 1996 as Amended by Act 13 of 1997 Criminal Offenses will result in withdrawal of seat in the nursing program. Any record of child abuse results in denial of admission to the nursing program.

**NOTE: Admission decisions consider three factors which contribute to the overall admission score: GPA, Nursing Entrance Exam Score, and pattern of success in courses already taken. Admission to the nursing program is highly competitive and there are a limited number of seats.**

### Graduate/Program Learning Outcomes – (Associate Degree Nursing)

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)

## Division of Health Professions/Natural Sciences

### PROGRAM REQUIREMENTS (ADN PROGRAM CREDITS – 72)

General Education		Major	Other Required Courses					
BIO 171	Anatomy & Physiology I	4	NSG 112	Intro/Prof. Nsg. & Hlth. Care Acr. Lifespan	3	BIO 172	Anatomy & Physiology II	4
CPT 150	Microcomp. Concepts	3	NSG 114	Hlth. & Phys. Assmnt.	3	BIO 265	Microbiology	4
ENG 161	College Writing	3	NSG 116	Found. of Nsg. Care	7	ALH 120	Pharmacology	3
ENG 164	Advanced Composition	3	NSG 124	Med-Surg. Nsg. Care/Ad.9				<b>11</b>
PSY 160	General Psychology	3	NSG 225	Nsg. Care/Chldbrng. Fam./Infant & Child	4			
Mathematics Elective		<u>3</u>	NSG 240	Psych./Mntl. Hlt. Nsg. Care	3			
		<b>19</b>	NSG 255	Adv. M/S Aging Adult Chronic	3			
			NSG 260	Adv. Care/Chronically Ill	3			
			NSG 270	Adv. Care/Acutely Ill	3			
			NSG 280	Manager of Nsg. Care	<u>4</u>			
					<b>42</b>			

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### RECOMMENDED SEQUENCE FOR DAY & GREENE EVENING/WEEKEND

All course work must be completed prior to or during corequisite semester with a "C" or better.

LEVEL I		LEVEL II	
Prerequisite	Spring Semester	Fall Semester	Spring Semester
BIO 171	4	BIO 265	4
CPT 150	<u>3</u>	ENG 161	3
	<b>7</b>	NSG 225	4
		NSG 240	3
		NSG 255	<u>3</u>
			<b>17</b>
<b>Fall</b>			
BIO 172	4		
NSG 112	3		
NSG 114	3		
NSG 116	<u>7</u>		
	<b>17</b>		

### RECOMMENDED SEQUENCE FOR PART-TIME EVENING/WEEKEND PROGRAM

\*Students would need to complete BIO 171, BIO 172, PSY 160, ENG 161 prior to testing for the Evening/ Weekend Program. BIO 265 completed during spring or summer of first year. All other course work completed prior to or during corequisite semester with a "C" or better.

**Program prerequisites prior to testing into Evening/Weekend Program with a GPA of 2.5 and "C" or better for each course**

*BIO 171	4
*BIO 172	4
*CPT 150	3
*ENG 161	3
*PSY 160	<u>3</u>
	<b>17</b>

LEVEL I		LEVEL II	
Spring Semester	Fall Semester	Spring Semester	Fall Semester
NSG 112	3	ENG 164	3
NSG 114	3	NSG 225	4
NSG 117	<u>7</u>	NSG 240	3
	<b>13</b>	NSG 255	<u>3</u>
			<b>13</b>
<b>Summer Semester</b>			
*BIO 265	<u>4</u>		
	<b>4</b>		

**NOTE: The Nursing AAS program of study is currently under curriculum review. Implementation of the new curriculum is due spring of 2013. Updates will be published when available on the WCCC nursing website located at [www.wccc.edu/nursing](http://www.wccc.edu/nursing).**

# Nursing, Advanced Standing to AAS for LPNs

## Division of Health Professions/Natural Sciences

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 National League for Nursing Accrediting Commission, Inc. (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326; phone 1-800-669-1656, ext 153. The NLNAC is responsible for the specialized accreditation of nursing education programs: Associate Degree. The NLNAC is nationally recognized as a specialized accrediting agency for both postsecondary and higher degree programs in nursing education.

### 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.

**176 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
- Must have at least one year of acute care clinical practice experience
- LPN applicants who do not have acute care clinical practice experience within the past five years prior to application must provide documentation of successful completion of an LPN refresher course
- LPN applicants must submit a WCCC Application for Admission Form and Allied Health Programs Application to the Admissions Office by:

Level 2 (LPNs)	Day Programs: Evening/Weekend Greene	Evening/Weekend Program
Application Deadline	January 5 prior to fall start	May 15 prior to spring start
LPN Transition Course: NSG 200/NSG 114	Summer semester prior to fall start	Fall semester prior to spring start
Start Nursing Classes	Fall Semester	Spring Semester

- Applicants must take the *Nursing ACE I PN-RN Foundations of Nursing* and the *ACE I PN-RN Childbearing/Care of Child* examinations administered by WCCC; 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, 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
- 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

# Nursing, Advanced Standing to AAS for LPNs

(CONTINUED)

## Division of Health Professions/Natural Sciences

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### 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.
- WCCC 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
- 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
  - Evidence of successful completion of state board approved intravenous (IV) therapy course within the past two years of application, or validation by current employer for LPNs currently practicing IV skills

### After Notice of Acceptance the Following Conditions Must be Satisfied:

#### Final Admission Criteria

- Accepted applicants are required to attend a mandatory group interview and information session as the final step in the admission process
- At the mandatory session, information regarding the following additional program requirements will be provided:
- Physical examination, laboratory studies, proof of immunizations, and urine drug screen. A positive urine drug screen will result in denial of admission to the nursing program
- CPR Basic Life Support for Health Care Providers current certification
- Evidence of a nursing liability insurance policy
- All of these required documents must be submitted to the nursing program prior to stated deadlines or program acceptance will be withdrawn
- Students must earn a "C" or better in all nursing and corequisite courses to progress and graduate
- Students must complete the NSG 200-Transition to the ADN Program course and NSG 104-Health and Physical Assessment with a "C" or better to progress into the nursing courses.

#### Criminal Record Check, Child Abuse Clearance, Federal Bureau of Investigation (FBI) Check Requirements:

- Applicants must submit information regarding criminal conviction and/or crimes of moral turpitude
- Act 33-34 Clearance: PA Criminal Record and Child Abuse Clearance; and FBI fingerprinting through the Department of Public Welfare, at the applicant's expense
- All records must be received by the nursing program prior to the stated deadline
- Admission is conditional pending receipt and evaluation of criminal background check to determine if there is any conviction that may bar the applicant from admission to the nursing program
  - Any record of child abuse results in denial of admission to the nursing program
  - According to federal sentencing guideline, any punishment over one year indicate a felony
  - Any felony conviction within the past 10 years results in denial of admission to the nursing program; any misdemeanor will be evaluated based on the nature of the offense, length of time since the offense, and explanatory letter/materials submitted by the applicant

The PA State Board of Nursing reserves the right to deny a license to any candidate who has been convicted of any felonious act. Conviction includes a judgment, an admission of guilt or a plea of nolo contendere, probation without verdict, or incomplete Accelerated Rehabilitative Disposition (ARD). Further, the board shall not issue a license to any applicant who had been:

1. Convicted of a felonious act prohibited by the act of April 14, 1972 (P. L. 233, No. 64) known as The Controlled Substance Drug, Device and Cosmetic Act; or
2. Convicted of a felony relating to a controlled substance in a court of law of the United States or any other state, territory, or country unless;
  - a. at least 10 years have elapsed from the date of the conviction;
  - b. the applicant satisfactorily demonstrates to the board, significant progress in personal rehabilitation since the conviction such that licensure should not create a substantial risk of further violations; and
  - c. the applicant otherwise satisfies the qualifications contained in this act.

Additionally, charges and/or convictions with offense codes on the Prohibited Offenses contained in Act 169 as Amended Act 13 of 1997 Criminal Offenses will result in withdrawal of seat in the nursing program. Any record of child abuse results in denial of admission to the nursing program.

**NOTE: Admission decisions consider three factors which contribute to the overall admission score: GPA, Nursing Entrance Exam Score and pattern of success in the courses already taken. Admission to the Nursing program is highly competitive and there are a limited number of seats.**



# Nursing, Advanced Standing to AAS for LPNs

(CONTINUED)

## Division of Health Professions/Natural Sciences

### Graduate/Program Learning Outcomes – (Associate Degree Nursing)

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.

### PROGRAM REQUIREMENTS FOR ADVANCED STANDING LPNs

General Education			Credit for LPN Coursework			Major – Level II Courses		
ALH 120	Pharmacology	3	NSG 110	Intro/Nsg. & Hlth. Care	CR	NSG 114	Hlth./Phys. Assess.	3
BIO 171	Anatomy & Physiology I	4	NSG 111	Found. of Nsg. Care	CR	NSG 225	Nsg. Care/Chldb. Fam./	
BIO 172	Anatomy & Physiology II	4	NSG 112	Intro Prof. Nsg. Hlth.			Infant.Child.	4
BIO 265	Microbiology	4		Care	CR	NSG 240	Psych./Mental	
CPT 150	Microcomputer Concepts	3	NSG 116	Found of NSG Care	CR		Hlth. Nsg. Care	3
ENG 161	College Writing	3	NSG 124	Med-Surg. Nsg. Care		NSG 255	Adv. M/S Aging Adult	
ENG 164	Advanced Composition	3		of Adults	CR		Chronic	3
PSY 160	General Psychology	3	NSG 120	Basic Care/Acute Stgs.	CR	NSG 260	Adv. Care/Chronically Ill	3
Mathematics Elective		3	NSG 121	Basic Care/Sel. Stgs.	CR	NSG 270	Adv. Care/Acutely Ill	3
		<b>30</b>	NSG 122	Mental Hlth. Concepts	CR	NSG 280	Manager of Nsg. Care	4
								<b>23</b>

\*NSG 200-Transition to the ADN Program and NSG 114- Health and Physical Assessment will be scheduled after final acceptance.

### RECOMMENDED SEQUENCE FOR ADVANCED STANDING LPNs

All course work must be completed prior to or during corequisite semester with a "C" or better.

First Semester		Second Semester	
BIO 265	4	ENG 164	3
NSG 225	4	NSG 260	3
NSG 240	3	NSG 270	3
NSG 255	3	NSG 280	4
	<b>14</b>	Mathematics Elective	3
			<b>16</b>

# Occupational Health and Safety, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

This curriculum is designed to prepare students for positions as health and safety professionals in various industries including manufacturing, oil and gas, service professions, logistics and facilities management. Students who complete this program will develop a comprehensive understanding of the principles of safety management, the organizations that govern industry safety standards, compliance and recordkeeping requirements, hazard identification and mitigation and safety auditing.

### Career Opportunities

Graduates of the occupational health and safety certificate program, depending upon existing education and qualifications, may be accept positions such as: safety manager, safety technician, quality/risk manager, EH&S coordinator, corporate safety coordinator, safety specialist, safety inspector, loss control consultant, safety analyst and/or health and safety consultant.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- identify health and safety hazards
- develop and implement programs and hazard mitigation plans that isolate, remove or repair a potential hazard
- apply an understanding of rules and regulations that govern health and safety in various industry clusters including General Industry, Construction, Transportation, Nuclear, Mining and Agriculture
- identify and interpret rules, regulations and standards under OSHA, ANSI, DOT, MSHA, NRC, NFPA and others
- apply effective oral and written communication skills to develop and deliver safety training programs, conduct an accident investigation, and/or a health and safety audit
- conduct an accident investigation or be a member of an accident investigation team
- conduct a health and safety audit or be a member of a health and safety audit team
- identify, record and report accidents, injuries, hazards and/or violations as required by OSHA and/or other regulatory agencies

## PROGRAM REQUIREMENTS (TOTAL CREDITS-17)

Major		
FST 201	Hazardous Materials	3
HSS 101	Health & Safety in the Workplace	3
HSS 105	Health & Safety for General Industry	4
HSS 120	Accident Investigation Techniq. for Industry	3
HSS 160	Safety Mgmt. & Auditing	3
HSS 180	TEchnical Training Meth. for Adult Learner	<u>2</u>
		<b>17</b>

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	
FST 201	3
HSS 101	3
HSS 105	4
HSS 120	2
HSS 160	3
HSS 180	<u>2</u>
	<b>17</b>

**Office Technology, AAS**  
**MEDICAL ADMINISTRATION OPTION**  
**Division of Computer Technology/Business**

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 administration AAS degree program can expect to find employment as front office personnel, medical registrars, medical secretaries, billing specialists, insurance verifiers, 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 keyboarding, word processing, written communication, medical terminology, medical billing, coding and reimbursement
- proofread and edit copy with a high degree of accuracy and speed. Transcribe written, printed and voice-recorded dictation
- use appropriate office procedures in public relations, records information management, telephone communication, electronic and hard copy mail, routine financial matters, and principles of management for office efficiency

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**PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)**

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	OFT 110	Document Processing I	3	BUS 140	Intro to Business	3
CPT 150	Microcomputer Concepts	3	OFT 130	A & P for Medical Off.	3	BIO 107	Human Biology	<u>3</u>
ENG 161	College Writing	3	OFT 145	Medical Office Proced.	3			<b>6</b>
ENG 163	Business Commun.	3	OFT 150	Med. Billing Mgmt.	3			
SOC 155	Prin. of Sociology	3	OFT 155	Electronic Health Rec.	3			
SPC 156	Interpersonal Comm.	<u>3</u>	OFT 165	Law & Ethics/Hlthcare	3			
		<b>18</b>	OFT 199	Internship I	3			
			OFT 230	Medical Transcription I	3			
			OFT 250	Diag. Medical Coding	3			
			OFT 260	Procedural Med. Coding	3			
			OFT 285	Adv. Medical Coding	<u>3</u>			
					<b>33</b>			
			<b>Outpatient Coding</b>					
			OFT 151	Adv. Office Applica.	3			
			OFT 225	Proofreading	<u>3</u>			
					<b>6</b>			
			OR					
			<b>Facility Coding</b>					
			OFT 235	Customer Service	3			
			OFT 270	Hosp. Billing/Coding	<u>3</u>			
					<b>6</b>			

**RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS**

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BIO 107	3	OFT 130	3	BUS 120	3	ENG 163	3
BUS 140	3	OFT 145	3	OFT 150	3	OFT 199	3
CPT 150	3	OFT 151 or 235	3	OFT 165	3	OFT 225 or 270	3
ENG 161	3	OFT 155	3	OFT 230	3	OFT 285	3
OFT 110	<u>3</u>	OFT 250	<u>3</u>	OFT 260	3	SOC 155	<u>3</u>
	<b>15</b>		<b>15</b>	SPC 156	<u>3</u>		<b>15</b>
					<b>18</b>		

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 can expect to find employment as administrative assistants, executive office managers, office managers, executive secretaries, 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:

- demonstrate skill in office coordination and administration
- develop advanced keyboarding, document processing and information management skills
- develop competency in word processing, spreadsheets, database applications and personal information manager software
- 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
- demonstrate knowledge of professional behavior and ethics

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	OFT 110	Document Processing I	3	ACC 105	Financial Rcrdkpg.	3
CPT 150	Microcomputer Concepts	3	OFT 120	Document Processing II	3	ACC 120	Quickbooks - Basic	1
ENG 161	College Writing	3	OFT 140	Office Procedures	3	BUS 140	Intro to Business	3
ENG 163	Business Commun.	3	OFT 185	PowerPoint	1	CPT 230	Integrated Office Apps.	3
SPC 156	Interpersonal Comm.	3	OFT 190	Word for Windows	3	WEB 102	Acrobat Essentials	1
Social Science Elective		<u>3</u>	OFT 195	Excel for Windows	3	WEB 140	Dreamweaver - Basic	<u>3</u>
		<b>18</b>	OFT 196	Access for Windows	3			<b>14</b>
			OFT 220	Transcription & Filing	3			
			OFT 225	Proofreading	3			
			OFT 235	Customer Service	3			
			OFT 280	Office Management♦				
			or		3			
			OFT 299	Office Internship	<u>3</u>			
					<b>31</b>			

♦capstone course

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BUS 120	3	BUS 140	3	ACC 105	3	ACC 120	1
CPT 150	3	ENG 163	3	OFT 140	3	CPT 230	3
ENG 161	3	OFT 120	3	OFT 196	3	OFT 220	3
OFT 110	3	OFT 185	1	OFT 225	3	OFT 280 or 299	3
OFT 190	<u>3</u>	OFT 195	3	WEB 102	1	SPC 156	<u>3</u>
	<b>15</b>	Social Science Elective	<u>3</u>	WEB 140	<u>3</u>		<b>16</b>
			<b>16</b>		<b>16</b>		

# Office Technology, Diploma

MEDICAL ADMINISTRATION

Division of Computer Technology/Business

The medical administration diploma combines course work in human biology, medical terminology, transcription, front office duties, electronic health record and billing processes. During the last semester, students apply their skills in a simulated medical work setting to develop professional and technical competencies.

## Career Opportunities

Graduates of the medical administration diploma program can expect to find employment as administrative assistants, front office personnel, medical records assistants, unit secretaries, ward clerks and medical records technicians.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- develop skills in keyboarding, 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 30)

General Education			Major			Other Required Courses		
BUS 120	Math of Business	3	OFT 110	Document Processing I	3	BIO 107	Human Biology	<u>3</u>
CPT 150	Microcomputer Concepts	3	OFT 130	A & P for Medical Office	3			<b>3</b>
ENG 161	College Writing	3	OFT 155	Electronic Health Rec.	3			
ENG 163	Business Commun.	<u>3</u>	OFT 225	Proofreading	3			
		<b>12</b>	OFT 230	Medical Transcription	<u>3</u>			
					<b>15</b>			

## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
BIO 107	3	ENG 163	3
BUS 120	3	OFT 130	3
CPT 150	3	OFT 155	3
ENG 161	3	OFT 225	3
OFT 110	<u>3</u>	OFT 230	<u>3</u>
	<b>15</b>		<b>15</b>

# Office Technology, Diploma

OFFICE ADMINISTRATION

Division of Computer Technology/Business

The office administration diploma program offers course work in office administration, office procedures and computer applications.

## Career Opportunities

Graduates of the office administration diploma program can expect to 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 spreadsheets, word processing, database applications, presentation and desk-top publishing software applications
- compose and edit business correspondence, reports and forms
- provide ethical service to a diverse customer base

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 31)

General Education			Major		
BUS 120	Math of Business	3	OFT 110	Document Processing I	3
CPT 150	Microcomputer Concepts	3	OFT 120	Document Processing II	3
ENG 161	College Writing	3	OFT 140	Office Procedures	3
ENG 163	Business Commun.	<u>3</u>	OFT 185	PowerPoint	1
		<b>12</b>	OFT 190	Word for Windows	3
			OFT 195	Excel for Windows	3
			OFT 235	Customer Service	<u>3</u>
					<b>19</b>

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
CPT 150	3	BUS 120	3
ENG 161	3	ENG 163	3
OFT 110	3	OFT 120	3
OFT 140	3	OFT 195	3
OFT 185	1	OFT 235	<u>3</u>
OFT 190	<u>3</u>		<b>15</b>
	<b>16</b>		

# Office Technology, Certificate

## CUSTOMER SERVICE

### Division of Computer Technology/Business

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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. Coursework 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.

### Career Opportunities

Graduates of this program can expect to find employment as customer service assistants, customer service representative, 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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BUS 120	Math of Business	3
BUS 140	Intro to Business	3
CPT 150	Microcomputer Concepts	3
OFT 110	Document Pro. I	3
OFT 235	Customer Service	3
SPC 156	Interpersonal Comm.	3
		<b>18</b>

## Office Technology, Certificate

MEDICAL ADMINISTRATION

Division of Computer Technology/Business

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The medical administration certificate program is designed for students who are interested in office administration in the medical field. Course work combines medical terminology, medical office procedures, keyboarding and billing management software.

### Career Opportunities

Graduates of the medical administration certificate can expect to find employment as administrative assistants, front 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 document 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 18)

BIO 107	Human Biology	3
OFT 110	Document Processing I	3
OFT 130	A & P for Med. Office	3
OFT 145	Medical Office Proc.	3
OFT 150	Medical Billing Mgmt.	3
OFT 155	Electronic Health Rec.	<u>3</u>
		<b>18</b>

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## Office Technology, Certificate

OFFICE ADMINISTRATION

Division of Computer Technology/Business

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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.

### Career Opportunities

Graduates of the office administration certificate program can expect to find employment as administrative office support, receptionists, personnel clerks and word processors.

### 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

OFT 110	Document Processing I	3
OFT 120	Document Processing II	3
OFT 140	Office Procedures	3
OFT 185	PowerPoint	1
OFT 190	Word for Windows	3
OFT 195	Excel for Windows	<u>3</u>
		<b>16</b>



# Paralegal, AAS

## Division of Public Service/Humanities/Social Sciences/Mathematics

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, 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.

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 60)

General Education			Major			Other Required Courses		
ENG 161	College Writing	3	LAS 101	The Legal Assistant	3	CRJ 160	Criminal Law I	3
ENG 163	Business Commun.		LAS 111	Legal Analysis	3	Restricted Electives*		<u>6</u>
or		3	LAS 115	Torts	3			<b>9</b>
ENG 164	Advanced Composition		LAS 120	Estates and Trusts	3	<b>*Restricted Electives</b>		
HUM 156	Critical Thinking		LAS 125	Litigation I	3	ACC 155	Accounting I	
or		3	LAS 140	Domestic Relations	3	BUS 205	Business Law I	
SPC 155	Effective Speech		LAS 175	Property Law	3	BUS 249	Labor Relations	
Computer Technology Elective		3	LAS 210	Legal Writing	3	CRJ 163	Criminal Procedure	
Mathematics Elective		3	LAS 215	Legal Research	3	CRJ 261	Criminal Law II	
Social Science Elective		<u>3</u>	LAS 293	Internship	3	CRJ 263	Investigative Concepts	
		<b>18</b>	OFT 140	Office Procedures	<u>3</u>	LAS 200	Constit. Power & Civ. Lib.	
					<b>33</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
ENG 161	3	ENG 163 or 164	3	LAS 120	3	CRJ 160	3
LAS 101	3	HUM 156 or SPC 155	3	LAS 175	3	LAS 140	3
LAS 111	3	LAS 115	3	LAS 215	3	LAS 293	3
Computer Tech. Elective	3	LAS 125	3	OFT 140	3	Restricted Elective*	<u>6</u>
Mathematics Elective	<u>3</u>	LAS 210	<u>3</u>	Social Science Elective	<u>3</u>		<b>15</b>
	<b>15</b>		<b>15</b>		<b>15</b>		

# Paralegal, Diploma

## Division of Public Service/Humanities/Social Sciences/Mathematics

The paralegal diploma program is designed to provide a solid foundation in the principles and practices involved in performing certain paraprofessional services.

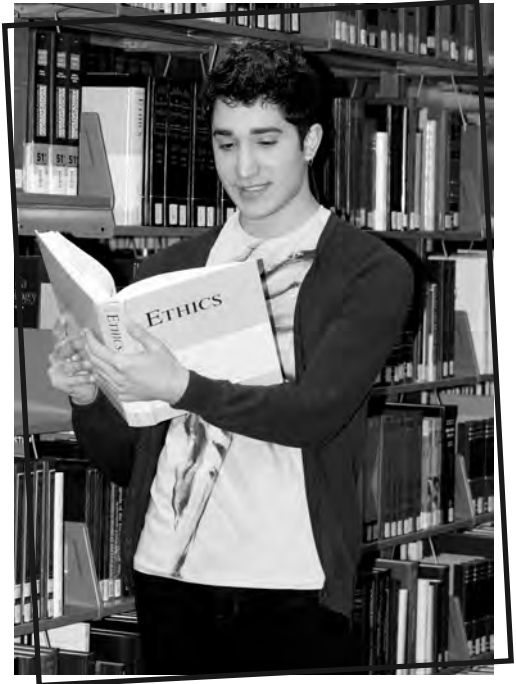
### Career Opportunities

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



## PROGRAM REQUIREMENTS (TOTAL CREDITS — 33)

General Education		Major		Other Required Courses	
ENG 161 College Writing	3	LAS 101 The Legal Assistant	3	Restricted Elective*	3
Computer Technology Elective	3	LAS 111 Legal Analysis	3		3
Mathematics Elective	3	LAS 125 Litigation I	3	*Restricted Electives	
Social Science Elective	3	LAS 175 Property Law	3	These are listed in the legal assisting associate degree program.	
	<b>12</b>	LAS 210 Legal Writing	3		
		LAS 215 Legal Research	3		
			<b>18</b>		

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester
ENG 161 3	LAS 125 3	LAS 215 3
LAS 101 3	LAS 210 3	
LAS 111 3	Mathematics Elective 3	
LAS 175 3	Restricted Elective* 3	
Computer Elective 3	Social Science Elective 3	
<b>15</b>	<b>15</b>	

# Petroleum and Industrial Process Operation Technology, Certificate

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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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 blueprint reading, hydraulics/pneumatics, robotics, 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 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.

## 188 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

## PROGRAM REQUIREMENTS (TOTAL CREDITS – 16)

EMA 120	Mechanical Comp. & Electric Motors	4
NGT 140	Gas Plant Processing	4
NGT 150	Gas Compression & Flow Dynamics	4
NGT 160	Petroleum Instrumen.	4
or		
NGT 170	Corrosion Basics	4
		<b>16</b>

# Phlebotomy/Specimen Processing, Certificate

WITH PHLEBOTOMY ONLY OPTION

Division of Health Professions/Natural Sciences

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The purpose of the program is twofold. First the student must function as a phlebotomist in a hospital or non-acute healthcare setting (ex. clinic, lab, skilled nursing facility). The second purpose is to prepare the student to function as a laboratory specimen processor in a clinical laboratory setting.

Admission to the program is limited by the availability of clinical sites. A separate application is required. Students with previous credit or noncredit phlebotomy certificates and documented two years of clinical experience may apply to test out of the phlebotomy specific courses.

The Phlebotomy Only option is for those students who desire to only be a phlebotomist and not to learn the laboratory specimen processor skills.

## Career Opportunities

As a phlebotomist, the graduate may draw blood in physicians office, blood banks, hospitals, and phlebotomy units. In addition to phlebotomy, a specimen processor will collect, evaluate and process various laboratory samples for hospital laboratories, physician office groups, and free-standing surgical facilities.

## 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. **Medical Terminology, ALH 122** is a program prerequisite.
- Applicants must complete and submit a WCCC Application for Admission and a separate Allied Health Programs Application to the Admissions Office. Since this program requires a clinical placement, enrollment may be limited.
- Applicants who are accepted must have successfully completed CPR/Basic Life Support for Health Care Providers Annual Certification prior to program enrollment and maintain current status during program.
- Applicants who are accepted must submit satisfactory results from pre-entrance medical examination and immunizations obtained at the applicant's expense. Specific information regarding the examination is provided to applicants.
- Applicants who are accepted must purchase student liability insurance coverage upon program enrollment.
- Applicants must provide evidence of Pennsylvania State Police Request for Criminal Record Check (SP4-164) and Pennsylvania Child Abuse History Clearance (CY-113) at the candidate's expense. Any child abuse record results in denial of admission to the phlebotomy/lab specimen processing program. FBI fingerprinting is required through the Department of Public Welfare, at the applicant's expense. These records must be submitted to the phlebotomy/lab specimen processing program within two weeks of the date of notification of initial acceptance. Any felony conviction may result in denial of admission to the phlebotomy/lab specimen processing program. Any misdemeanor is conditional pending receipt and evaluation of the background information to determine whether there is a conviction which may bar the student from admission to the phlebotomy/lab specimen processing program.
- Urine Drug Screening is required at applicant's expense. A positive drug screen may result in denial of admission to the phlebotomy/lab specimen processing program continuation in the phlebotomy/lab specimen processing program. The program reserves the right to require random drug screening while the student is enrolled.
- Applicants must be able to meet the Functional Abilities Guidelines of the Program.
- Students are expected to conduct themselves according the general professional guidelines when representing the college. In addition, students are expected to follow applicable institutional guidelines and policies when in the course setting.
- Students must notify the program director immediately, in writing, if there is any change in physical, mental, criminal, child abuse or drug screening results status.
- Protection of privacy/confidentiality is essential at all times. Violation of privacy/confidentiality acts or policies will result in dismissal of student from program and/or college.
- All prerequisite and program course work must be completed with a C grade or better. Those students who have taken developmental courses three or more times will not be considered for admission to the program.
- Student must have a college level grade point average of 2.0 or above.

## Fall Admission

Applicants must complete and submit a WCCC Application for Admission and an Allied Health Programs Application to the Admissions Office by **January 5** prior to the fall semester for which enrollment is anticipated to be guaranteed consideration.

## Spring Admission

Applicants must complete and submit a WCCC Application for Admission and an Allied Health Programs Application to the Admissions Office by **May 15** prior to the spring semester for which enrollment is anticipated to be guaranteed consideration.

# Phlebotomy/Specimen Processing, Certificate

WITH PHLEBOTOMY ONLY OPTION (CONTINUED)

Division of Health Professions/Natural Sciences

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## 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, 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

## Functional Abilities Guidelines

Functional abilities are physical and mental attitudes and behaviors needed to practice safely, with or without accommodations. Accommodations must be first evaluated and documented by a physician and then evaluated by the college's counselor for special populations and individual healthcare programs.

- move freely to observe and assess patients
- full manual dexterity of upper extremities, including neck and shoulders, and unrestricted movement of both upper and lower extremities in order to position to complete tasks
- lift and support at least 75 pounds
- visually able to perform tasks safely
- hear sounds of spoken word and verbal communications
- demonstrate tactile ability to assess blood draw procedures
- ability to speak to patients and communicate essential directions
- write in legible manner and be able to document concise information
- exercise proper judgment and insight
- ability to complete task after verbal or written instructions
- ability to demonstrate new procedures in clinical application
- demonstrate respect, honesty and integrity at all times
- demonstrate privacy and confidentiality at all times
- ability to perform gross and fine motor skills in order to complete procedures
- ability to adapt to changing environmental/stress and deal with the unexpected
- perform multiple responsibilities concurrently
- establish rapport with patients and coworkers
- effectively and accurately speak on telephone and convey information through writing and verbal manner
- able to follow directions from others

**\*There is the option for students to take the Phlebotomy Only Option certificate program. The following information applies just to the Phlebotomy Only Option Program:**

- Student must declare that they are enrolled for this option at the time of application for admission to the program.
- Once students begin PHB 101, they cannot change and enroll in the Phlebotomy/Specimen Processing Certificate additional courses and/or prerequisites until another semester.
- Upon successful completion of the Phlebotomy Only Option, the student may be able to seek employment as a phlebotomist only.
- Students must follow and complete all requirements to enter the Phlebotomy Only Option as identified in the Phlebotomy/Specimen Processing Certificate Program (such as: criminal check, child abuse check, health examination and immunization, etc).
- The Functional Abilities Guidelines and CPR/BLS requirements also apply to the Phlebotomy Only Option program.
- Students who have specific questions related to this program option should call either their advisor or the program director before classes begin to clarify the differences between the two programs.
- Students who have successfully completed the Phlebotomy Only Option cannot represent themselves as having experience or competence in the lab specimen processing knowledge and/or skills.
- Students who successfully complete the Phlebotomy Only Option may apply to return in another semester to take the additional required prerequisites and program courses for the Phlebotomy/Specimen Processing Certificate Program.
- Upon completion of practicum experience students may sit for phlebotomy technician PBT (ASCP) from the American Society of Clinical Pathologists

# Phlebotomy/Specimen Processing, Certificate

WITH PHLEBOTOMY ONLY OPTION (CONTINUED)

Division of Health Professions/Natural Sciences

## Phlebotomy/Specimen Processing Certificate Program

### PROGRAM REQUIREMENTS (TOTAL CREDITS - 16)

Prerequisite			Major			General Education		
ALH 122	Medical Terminology	<u>3</u>	PHB 101	Clinical Phlebotomy	4	OFT 110	Document Proc. I	<u>3</u>
		<b>3</b>	PHB 105	Specimen Processing	4			<b>3</b>
			PHB 110	Spec. Proc. Practicum	<u>5</u>			
					<b>13</b>			

## Phlebotomy ONLY Option Certificate Program\*

### PROGRAM REQUIREMENTS (TOTAL CREDITS - 12)

Prerequisite		Major		
191	None	ALH 122	Medical Terminology	3
		PHB 101	Clinical Phlebotomy	4
		PHB 111	Phlebotomy Practicum	<u>5</u>
				<b>12</b>

# Radiology Technology, AAS

## Division of Health Professions/Natural Sciences

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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.

## 192 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 site preference is not guaranteed. 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, 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.)
- Applicants must complete and submit a WCCC Application for Admission and Allied Health Programs Application to the Admissions Office by **January 5** prior to the fall semester in which enrollment is anticipated. The forms must be accompanied by official transcripts from all secondary schools attended, GED programs, and any other formal education program attended beyond high school.
- 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.rrt.org>.
- Admission to the radiology technology program requires the applicant to submit information regarding criminal conviction and/or crimes of moral turpitude. Upon initial acceptance into the program, a criminal record check and child abuse history must be obtained at the applicant's expense. These records must be submitted to the radiology program. Admission is conditional pending receipt and evaluation of the background information to determine whether there is any conviction which may bar the student from admission to the radiology program.

**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.**

### Child Abuse Clearance

Any record results in denial of admission to the radiology program.

### Criminal Record Check

Any felony conviction may result in denial of admission to the radiology technology program. Any misdemeanor will be individually evaluated. Conviction of a felonious act may result in the American Registry of Radiologic Technologist denying the applicant to sit for certification examination.

### Drug Screen

A positive drug screen may result in denial of admission to the radiology technology program or continuation in the radiology technology program.

# Radiology Technology, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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### Essential Cognitive, Physical and Behavior Functions for the Radiology Technology Program

Radiology technology students must be able to meet the following physical and mental abilities for successful completion of the radiology technology program:

- Must have the physical ability to move radiography equipment and manipulate the X-ray tube, which is located 70-80 inches above the floor
- Lift and/or support at a minimum 50 pounds in order to lift and carry X-ray accessories
- Have the ability to appropriately position patients for radiographic procedures and safely transfer patients who may weigh in excess of 300 pounds
- Must be able to push a portable X-ray machine for bedside radiography
- Ability to articulate clear verbal commands to the patient while the patient is being positioned for a procedure from a distance of 7-12 feet
- Have the ability to select and calculate proper X-ray exposure factors based on exam type and patient body habitus
- Must be able to manage stressful situations that relate to patient care, procedure and technical standards
- Must be able to evaluate radiographs for proper patient positioning, proper exposure factors, and other essential factors for the purpose of image quality control
- Have sight corrected, to observe patients from a distance of 5-20 feet, ability to read and adjust the X-ray control panel, and position patients correctly
- Have hearing corrected, with the ability to hear patients at a distance of 5-12 feet
- Have sufficient tactile ability in order to assess a patient's pulses, in addition to changes in a patient's physiologic status (i.e. changes in edema, skin temperature, etc.)
- Have the ability to smell odors that may signify a change in the physiologic status of a patient or an unsafe environmental condition
- Have the ability to read and comprehend written classroom material, medical documents, and institution procedures and policies
- Have the ability to write legibly in English
- Must be able to accurately calculate in order to prepare medications, administer proper dosage of radiographic contrast material, and count pulse and respirations
- Must be able to move freely with full manual dexterity of both upper and lower extremities, have unrestricted movement of neck, shoulder, back and hips in order to assess, observe and perform emergency patient care, assist with all aspects of patient care, and be able to touch the floor for the removal of environmental hazards
- Cannot be dependent on any chemical or substance
- Have the ability to react appropriately and quickly in emergency situations
- Must be poised, well groomed and neat in appearance, discreet, tactful, diplomatic, professional, versatile, ethical and dependable
- Must have the ability to comprehend written and verbal instructions correctly in academic and clinical health care settings
- Must exhibit the capacity for reasoned judgment and calm in a health care environment
- Must not have physical or mental medical disorders that limit the ability to perform the duties of a radiology technology student
- Must be stable emotionally; this type of work involves life and death situations
- Must show honesty and integrity in all matters
- Enjoy working with people and patient contact

Students will be removed from the program if a health condition significantly limits the student from performing the routine functions of a radiology technology student and/or presents a danger to the safety and health of patients.

After starting the radiology technology program, students will immediately notify the program director if any of these stated functions change. An evaluation may occur to determine if students are able to continue in the program.

### Student Pregnancy

#### Voluntary Declaration

Students who become pregnant during their enrollment in the radiology technology program have the ability to decide whether or not to notify the program. Students who decide to notify the program must do so in writing to the program director. Students who do not voluntarily disclose their pregnancy are considered not pregnant.

Upon disclosure of pregnancy, students may:

- Remain in the program on a full-time basis without modification, as requested by the student
- Withdraw from the radiology technology program



# Radiology Technology, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

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### Safety Practices for the Pregnant Radiation Worker

The American Society of Radiologic Technologist states, "Customary radiation safety practices for pregnant radiation workers shall be followed." The recommendation suggests referencing the following:

- 10 CFR Part 20.1208
- NRC Regulatory guides #8.2, 8.7, 8.13, 8.29, 8.34, 8.36, may be obtained from the NRC via the Public Document room at 1-800-397-4209 or via the Electronic Reading room ADAMS access system on their website at [www.nrc.gov](http://www.nrc.gov)
- Pregnancy Disability Law, P.L. 95-555
- EEOC "Guidelines on sex discrimination and questions and answers"
- ICRP Publication #84. Pregnancy and Medical Radiation
- NCRP report #116

*Note: The WCCC Library holds the above reference material*

In compliance with NCR regulation 10 CFR Part 20.1208, "Dose to an Embryo/Fetus," requires licensees to "ensure that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 mSv)."

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These exposure limits will apply until:

- The student gives birth
- The student revokes in writing to the program director her previously declared pregnancy
- The student informs the program director in writing that she is no longer pregnant

### For students who formally declare their pregnancy

- Past dosimetry reports will be reviewed
- Pregnant students will be required to purchase a second film badge to be worn at waist level and under any radiation protective apparel
- Review of radiation safety practices for pregnant radiation workers
- Notification to clinical instructors of pregnancy
- If students choose, they have the opportunity for clinical assignments that do not include fluoroscopy and portable radiography during their first trimester
- Students will submit a statement from the physician stating that the student is cleared to continue on in the program
- Students will submit monthly statements from their physician to continue after the sixth month
- Review of student's monthly radiation dosimetry report

If the student makes the decision to withdraw from the radiology technology program, she may be reinstated the following year providing space is available and she continues to meet admission criteria of the radiology technology program.

### Final Admission Criteria

Accepted applicants will be required to attend a mandatory information session as the final step in the admission process. Specific information regarding the following additional program requirements will be provided to applicants at that time. These include:

- Complete physical examination, lab tests, proof of immunizations, and urine drug screen
- CPR-Basic Life Support for Health Care Providers Annual Certification required
- Evidence of a student's liability insurance policy

**All of the above must be submitted to the radiology program by June 15 or program acceptance will be withdrawn.**

### 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

# Radiology Technology, AAS

(CONTINUED)

## Division of Health Professions/Natural Sciences

### Purpose

The radiology technology program provides students with a complete educational experience for those who wish to become health-care providers. The radiology technology program provides each student opportunities to learn and develop competence in patient care, communication skills, critical thinking, and technical skills that will permit the student to become a Diagnostic Radiologic Technologist. Integrated educational activities include lecture, laboratory activities, case studies, and hands-on clinical training.

### Program Mission

Our mission is to provide students with a variety of educational activities and experiences that will prepare them with a level of expertise required to become competent and successful radiographers.

### Program 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS - 73)

Prerequisite		Major		Other Required Courses	
BIO 171	Anatomy & Physiology I <u>4</u>	PHY 125	Physics for Radiology 3	AIH 122	Medical Terminology 3
	<b>4</b>	RAD 111	Intro to Rad. Tech., Pat. Care, Pharm. & Pos, I 4	BIO 172	Anatomy & Physiology II <u>4</u>
					<b>7</b>
General Education		RAD 121	Prin. of Radiologic Image Capture & Display I 3		
CPT 150	Microcomputer Concepts 3	RAD 131	Prin. of Digital Imaging 3		
ENG 161	College Writing 3	RAD 141	Pharm, Ethics, Law & Positioning II 4		
ENG 162	Technical Commun. 3	RAD 146	Clinical Education I 4		
MTH 157	College Algebra 3	RAD 211	Rad. Imaging Equip., QC, IM, Aha. Pro. Bio & Pos. III 4		
PSY 160	General Psychology 3				
Humanities Elective	<u>3</u>	RAD 215	Clinical Education II 3		
	<b>18</b>	RAD 216	Clinical Education IV 4		
		RAD 221	Radiation Path., Com. Tomo. & Career Sea 3		
		RAD 226	Clinical Education V 5		
		RAD 231	Radiology Technology Capstone 1		
		RAD 255	Clinical Education III <u>3</u>		
			<b>44</b>		

## RECOMMENDED SEQUENCE

Prerequisite	Spring Semester	Fall Semester	Semester Semester
BIO 171 <u>4</u>	MTH 157 3	CPT 150 3	ENG 162 3
<b>4</b>	PHY 125 3	ENG 161 3	RAD 221 3
	RAD 131 3	PSY 160 3	RAD 226 5
<b>Fall Semester</b>	RAD 141 4	RAD 211 4	RAD 231 1
ALH 122 3	RAD 146 <u>4</u>	RAD 216 <u>4</u>	Humanities Elective <u>3</u>
BIO 172 4			<b>15</b>
RAD 111 4			
RAD 121 <u>3</u>	<b>Summer Semester</b>		
<b>14</b>	RAD 215 3		
	RAD 255 <u>3</u>		
	<b>6</b>		

# Restaurant/Culinary Management, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

Restaurant/culinary management is one of the majors comprising the college's Center for Culinary Arts and 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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 65/66)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Concepts	3	FSM 103	Intro. to Hospitality Ind.	3	BKP 141	Baking I	4
ENG 161	College Writing	3	FSM 105	Foods I	4	CUL 135	Speed Scratch Ckg.	3
ENG 163	Business Commun.	3	FSM 112	Quantity Foods	4	FSM 157	Catering	3
or		3	FSM 113	Customer Service	3			<u>10</u>
ENG 164	Adv. Composition		FSM 117	Wait Staff/Din. Rm. Trng.	1			
Humanities Elective			FSM 118	Sanitation	2			
or		3	FSM 119	Beverage Mgmt.	1			
FSM 170	Food Culture & Religion		FSM 159	Nutrition				
Mathematics Elective		3	or		3/4			
Social Science Elective		<u>3</u>	BKP 243	Healthy Cooking Trends				
		<b>18</b>	FSM 213	A la Carte Kitchen	4			
			FSM 215	Food Pur. & Menu Mgt.	3			
			FSM 218	Hospitality Marketing	3			
			FSM 219	Hospitality Internship	3			
			FSM 235	Supervision & Trng.	<u>3</u>			
					<b>37/38</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CPT 150	3	BKP 141	4	ENG 163 or 164	3	FSM 157	4
ENG 161	3	CUL 135	3	FSM 157 or BKP 243	3/4	FSM 218	3
FSM 103	3	FSM 112	4	FSM 213	4	FSM 219	3
FSM 105	4	FSM 113	3	FSM 215	3	FSM 235	3
FSM 117	1	Mathematics Elective	<u>3</u>	Humanities Elective or		Social Science Elective	<u>3</u>
FSM 118	2		<b>17</b>	FSM 170	<u>3</u>		<b>15</b>
FSM 119	<u>1</u>				<b>16/17</b>		
	<b>17</b>						

# Restaurant/Culinary Management, Diploma

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

Restaurant/culinary management is one of the majors comprising the college's Center for Culinary Arts and 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

### PROGRAM REQUIREMENTS (TOTAL CREDITS – 32)

General Education		Major	
CPT 150 Microcomputer Concepts	<u>3</u>	FSM 105 Foods I	4
	<b>3</b>	FSM 112 Quantity Foods	4
		FSM 113 Customer Service	3
		FSM 117 Wait Staff/Din. Rm. Trng.	1
		FSM 118 Sanitation	2
		FSM 159 Nutrition	3
		FSM 215 Food Pur. & Menu Mgmt.	3
		FSM 218 Hospitality Marketing	3
		FSM 219 Hospitality Internship	3
		FSM 235 Supervision & Trng.	<u>3</u>
			<b>29</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Summer Semester
FSM 113	CPT 150	FSM 112
FSM 117	FSM 105	FSM 159
FSM 118	FSM 219	FSM 218
FSM 235	FSM 215	
<u>3</u>	<u>3</u>	<u>3</u>
<b>9</b>	<b>13</b>	<b>10</b>

# Restaurant/Culinary Management, Certificate

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

Restaurant/culinary management is on the majors comprising the college's Center for Culinary Arts and Hospitality. This curriculum is designed to prepare students for entry 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 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 certificate program may accept positions as: sales representative, assistant restaurant manager, assistant food service director, party planner, 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 within a food service operation
- identify and satisfy diverse customer expectations
- prepare, season and cook according to recipe: soups, sauces, meats, salads, meats, fish, poultry, game, vegetables and desserts
- demonstrate sanitation and safety
- utilize technology to maintain systems of operation
- utilize personal and interpersonal skills as a team member

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 19)

General Education		Major	
CPT 150	Microcomputer Concepts <u>3</u>	FSM 105	Foods I 4
	<b>3</b>	FSM 113	Customer Service 3
		FSM 117	Wait Staff/Din. Rm. Trng. 1
		FSM 118	Sanitation 2
		FSM 219	Hospitality Internship 3
		FSM 235	Supervision & Trng. <u>3</u>
			<b>16</b>

### RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
FSM 113	3	FSM 105	4
FSM 117	1	FSM 219	3
FSM 118	2	CPT 150	<u>3</u>
FSM 235	<u>3</u>		<b>10</b>
	<b>9</b>		

# Robotics Technology, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The Robotics Technology program is designed to provide students with the knowledge they need to assist manufacturing, mechanical and electronics engineers in all phases of robotic design, development, production, testing and operations. A new and growing sector, robotics technology develops agile robotics systems to remotely perform complex tasks in dynamic environments.

### Career Opportunities

Engineering technology jobs in robotics and automated systems are found in many industries. Graduates of the Robotics Technology program are able to design, troubleshoot, manufacture, maintain and repair robots. These technologists are also involved in the research and design of applications from other science areas for robots to perform. A growing job market is emerging in the defense robotics market. Robotics technicians are also involved in the development of intelligent vehicle highway systems and robotic aids for the handicapped. Robotics technology jobs are also found in the food processing and pharmaceutical industries.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- design agile robotics systems capable of remotely performing complex tasks
- discuss the various roles of a robotics technician in the workforce
- demonstrate the use of electronics in robotics technology
- demonstrate design and use of controllers
- apply agile robotics to engineering processes
- demonstrate the use of C programming as applied to robotics
- apply the characteristics of teaming behavior to agile robotics
- work effectively as part of a technology team
- demonstrate all aspects of project planning and management as applied to agile robotics
- construct an agile robotics project

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major Courses			Other Courses		
ENG 161	College Writing	3	ELC 106	Circuit Analysis I	4	DFT 258	AutoCAD	4
ENG 162	Technical Comm.	3	ELC 107	Circuit Analysis II	3	ELC 213	Microprocessor Appli.	4
MTH 108*	Math for Technologies I	4	ELC 114	Digital Techniques	4	MTH 109*	Math for Technologies II	4
PHY 155	College Physics	4	ELC 206	Microprocessors	4			<b>12</b>
Social Science Elective		<u>3</u>	MPT 240	Intro to Auto. Manufac.	3			
		<b>17</b>	RBT 110	Agile Robotics I	4			
			RBT 120	Agile Robotics II	4			
			RBT 210	Robotic Teaming	4			
			RBT 280	Robotic Sys. Project♦	<u>3</u>			
					<b>33</b>			
			♦capstone course					
						*Students planning to transfer to a four-year institution should consult their advisor for course substitutions.		

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
ELC 106	ELC 107	ELC 206	DFT 258
ENG 161	ELC 114	ENG 162	ELC 213
MTH 108	MTH 109	PHY 155	MPT 240
RBT 110	RBT 120	RBT 210	RBT 280
			Social Science Elective
<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>
<b>15</b>	<b>15</b>	<b>15</b>	<b>17</b>

# Science Technology, AAS

## BIOLOGY OPTION

### Division of Health Professions/Natural Sciences

This option of the Science Technology degree is designed to provide students with the skills, knowledge and hands-on experience to prepare them for work as a technician in the biotech industries.

### Career Opportunities

Graduates of this program can work as a biological technician in product development, research, industrial hygiene, pharmaceutical production, food production, waste water management, sales representative, microbiology, genetics, cell biology, and many other fields of the biotech industry.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- investigate biological molecular properties
- perform standard biological testing
- utilize the mechanisms of mutation, DNA repair and recombination
- perform genetic testing procedures
- determine how environmental factors affect biological pathways
- handle chemicals safely with proper health and environmental considerations
- handle laboratory equipment safely
- perform analytical tests

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 67)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts	BIO 102	Careers Lab Technology	ALH 120	Pharmacology
ENG 161	College Writing	BIO 155	General Biology I	MTH 160	Statistics
ENG 162	Technical Comm.	BIO 156	General Biology II		
MTH 157	College Algebra	BIO 171	A & P I		
PHL 165	Social Ethics	BIO 172	A & P II		
	<u>3</u>	BIO 265	Microbiology		
	<b>15</b>	BIO 275	Biochemistry		
		BIO 285	Molecular Genetics		
		CHM 120	Chemical & Lab Safety		
		CHM 155	General Chemistry I		
		CHM 156	General Chemistry II		
		CHM 199	Chemistry Internship I		
		CHM 250	Organic Chemistry I		
			<u>4</u>		
			<b>46</b>		
					<u>3</u>
					<b>6</b>

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BIO 102	1	BIO 156	4	BIO 172	4	ALH 120	3
BIO 155	4	BIO 171	4	BIO 285	4	BIO 265	4
CHM 120	2	CHM 156	4	CHM 250	4	BIO 275	4
CHM 155	4	ENG 162	3	PHL 165	<u>3</u>	CHM 199	3
ENG 161	3	MTH 160	<u>3</u>		<b>15</b>	CPT 150	<u>3</u>
MTH 157	<u>3</u>		<b>18</b>				<b>17</b>
	<b>17</b>						

# Science Technology, AAS

## CHEMISTRY OPTION

### Division of Health Professions/Natural Sciences

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 technician in the chemical industries.

### Career Opportunities

Graduates of this program can work as a chemical technician in product development, chemical processing, industrial hygiene, chemical manufacturing, pharmaceutical production, food production, waste water analysis, sales representative, and many other fields of wet bench chemistry.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- perform chemical interactions
- investigate chemical properties
- perform standard chemical testing
- identify individual chemicals within mixtures
- design chemicals with specific properties
- determine how environment factors affect chemicals
- handle chemicals safely with proper health and environmental considerations
- handle laboratory equipment safely
- perform analytical tests

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 62)

General Education			Major			Other Required Courses		
ENG 161	College Writing I	3	CHM 102	Careers Lab Technology	1	EGR 210	Quality Control	3
ENG 162	Technical Comm.	3	CHM 120	Chemical & Lab Safety	2	HUM 156	Critical Thinking	3
SPC 157	Fund. of Small Group Comm.	3	CHM 155	General Chemistry I	4	MTH 160	Statistics	3
MTH 108	Math for the Technolo.	4	CHM 156	General Chemistry II	4	PHL 165	Social Ethics	3
CPT 150	Microcomputer Conc.	3	CHM 199	Chemistry Internship I	3			12
		<b>16</b>	CHM 200	Unit Operations	4			
			CHM 250	Organic Chemistry I	4			
			CHM 251	Organic Chemistry II	4			
			CHM 240	Analytical Chemistry	4			
			CHM 275	Biochemistry	4			
					<b>34</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
CHM 102	1	CHM 156	4	CHM 240	4	CHM 199	3
CHM 120	2	EGR 210	3	CHM 250	4	CHM 251	4
CHM 155	4	ENG 162	3	HUM 156	3	CHM 275	4
CPT 150	3	MTH 160	3	CHM 200	4	PHL 165	3
ENG 161	3	SPC 157	3		<b>15</b>		<b>14</b>
MTH 108	4		<b>16</b>				
	<b>17</b>						



# Science Technology, AAS

## FORENSICS LAB TECHNICIAN OPTION

### Division of Health Professions/Natural Sciences

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 122.

### 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

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### PROGRAM REQUIREMENTS (TOTAL CREDITS — 64)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Conc.	3	BIO 110	Intro to Forensic Bio	4	ALH 120	Pharmacology	3
ENG 161	College Writing I	3	BIO 130	Intro to Pathology	4	MTH 160	Statistics	<u>3</u>
ENG 162	Technical Comm.	3	BIO 160	Intro to Forensic Toxic.	4			<b>6</b>
MTH 157	College Algebra	3	BIO 171	A & P I	4			
PHL 165	Social Ethics.	<u>3</u>	BIO 172	A & P II	4			
		<b>15</b>	BIO 265	Microbiology	4			
			CHM 102	Careers Lab Tech.	1			
			CHM 120	Chemical & Lab Safety	2			
			CHM 199	Chemistry Internship I	3			
			CHM 264	Chem for Health Sci.	4			
			CRJ 155	Intro to Criminal Just.	3			
			CRJ 220	Research Meth. Crim. Jus.	3			
			CRJ 296	Intro to Criminalistics	<u>3</u>			
					<b>43</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BIO 110	4	ALH 120	3	BIO 160	4	BIO 265	4
CHM 102	1	BIO 130	4	BIO 172	4	CHM 199	3
CHM 120	2	BIO 171	4	CRJ 155	3	CHM 264	4
CPT 150	3	ENG 162	3	CRJ 220	<u>3</u>	CRJ 296	3
ENG 161	3	MTH 160	<u>3</u>		<b>14</b>	PHL 165	<u>3</u>
MTH 157	<u>3</u>		<b>17</b>				<b>17</b>
	<b>16</b>						

# Science Technology, AAS

## MEDICAL APPLICATIONS OPTION

### Division of Health Professions/Natural Sciences

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 technician in the medical research and clinical areas.

### Career Opportunities

Graduates of this program can work as a technician in medical product development, clinical testing, genetics technician, medical sales representative, or pharmaceutical sales representative.

### Program Learning Outcomes

This curriculum is designed to prepare students to:

- perform chemical testing
- investigate chemical properties of drugs
- perform standard biological testing
- determine how environmental factors affect biochemicals
- handle chemicals safely with proper health and environmental considerations
- handle biological materials with proper health and safety considerations
- handle laboratory equipment safely
- perform analytical tests on biological specimens

### PROGRAM REQUIREMENTS (TOTAL CREDITS — 66)

General Education			Major			Other Required Courses		
CPT 150	Microcomputer Conc.	3	BIO 155	General Biology I	4	ALH 120	Pharmacology	3
ENG 161	College Writing I	3	BIO 171	A & P I	4	MTH 160	Statistics	3
ENG 162	Technical Comm.	3	BIO 172	A & P II	4	PHL 165	Social Ethics	3
SPC 157	Fund. of Small Group Comm.	3	BIO 265	Microbiology	4			<u>9</u>
MTH 157	College Algebra	<u>3</u>	BIO 275	Biochemistry	4			
		<b>15</b>	BIO 285	Molecular Genetics	4			
			CHM 102	Careers Lab Tech.	1			
			CHM 107	Intro to Concepts in Chem.	4			
			CHM 108	Intro to Concepts in Chem. II	4			
			CHM 120	Chem. & Lab Safety	2			
			CHM 199	Chemistry Internship I	3			
			CHM 264	Chemistry for Health Sci.	<u>4</u>			
					<b>42</b>			

### RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BIO 155	4	BIO 171	4	BIO 172	4	ALH 120	3
CHM 102	1	CHM 108	4	BIO 285	4	BIO 265	4
CHM 107	4	CPT 150	3	CHM 264	4	BIO 275	4
CHM 120	2	ENG 162	3	SPC 157	<u>3</u>	CHM 199	3
ENG 161	3	MTH 160	<u>3</u>		<b>15</b>	PHL 165	<u>3</u>
MTH 157	<u>3</u>		<b>17</b>				<b>17</b>
	<b>17</b>						

# Travel, Tourism and Lodging Management, AAS

## Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

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Travel, Tourism and Lodging Management is one of the majors comprising the college's Center for Culinary Arts and Hospitality. This curriculum is designed to prepare students for various positions with the travel, tourism and hotel/lodging industry. Emphasis is given to the development of knowledge and skills in such essential areas such as, social and economic tourism, salesmanship, marketing, food and beverage, event management, lodging management, amusement and property management, recreation, geography and travel planning. 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 tourism and lodging 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; travel wholesalers; customer service representatives; tour guides; and tourist promotion representatives.

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### 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 tourism and lodging systems
- satisfy diverse customer expectations

# Travel, Tourism and Lodging Management, AAS

(CONTINUED)

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 67)

General Education			Major		
BUS 120	Business Math	3	FSM 105	Foods I	4
CPT 150	Microcomputer Concepts	3	FSM 113	Customer Service	3
ENG 161	College Writing	3	FSM 117	Wait Staff/Din.Rm.Trng.	1
ENG 163	Business Commun.		FSM 118	Sanitation	2
or		3	FSM 157	Catering	3
ENG 164	Adv. Composition		FSM 215	Food Puch. & Menu Mgmt.	3
Humanities Elective			FSM 218	Hospitality Marketing	3
or		3	FSM 219	Hospitality Internship	3
FSM 170	Food Culture & Religion		FSM 235	Supervision & Training	3
Social Science Elective		<u>3</u>	HMT 160	Exec. Houskpg./Front Off.	3
		<b>18</b>	HMT 161	Rec. Facilities Mgmt.	3
			HMT 170	Gaming & Casino Oper.	3
			HMT 262	Lodg. & Property Mgmt.	3
			HMT 264	Convention/Meet. Mgmt.	3
			TRV 171	Travel/Tourism Princ.	3
			TRV 273	Travel Destinations	3
			TRV 274	Tour Planning & Sales	<u>3</u>
					<b>49</b>

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## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 150	BUS 120	FSM 117	FSM 218
3	3	1	3
ENG 161	ENG 163 or ENG 164	FSM 157	FSM 219
3	3	3	3
FSM 113	FSM 105	FSM 215	FSM 235
3	4	3	3
FSM 118	HMT 160	HMT 161	HMT 264
2	3	3	3
TRV 171	HMT 170	HMT 262	TRV 274
<u>3</u>	<u>3</u>	3	<u>3</u>
<b>14</b>	<b>16</b>	<u>3</u>	<b>15</b>
		<b>16</b>	
	<b>Summer Semester</b>		
	Humanities Elective or		
	FSM 170		
	3		
	Social Science Elective		
	<u>3</u>		
	<b>6</b>		

# Web Technology, AAS

WEB PUBLISHING OPTION

Division of Computer Technology/Business

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 an ever-more-important position in the operation of business, from commerce to communication, Web publishers play an increasingly 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 master, technical support and corporate communications.

## Program Learning Outcomes

The curriculum is designed to prepare students to:

- demonstrate knowledge of design principles in the creation of images and Web pages for the Internet
- demonstrate proficiency in the design, development and administration of database systems to support workplace needs
- 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
- blend Web design, computer technology and business commerce expertise for delivery over the Internet

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 61)

General Education		Major		Other Required Courses	
CPT 150	Microcomputer Concepts 3	WEB 102	Acrobat Essentials 1	GCT 125	Emerging Techs. I 3
ENG 161	College Writing 3	WEB 110	Web Design 3	MKT 254	Advert. and Promo. 3
ENG 162	Technical Comm.	WEB 140	Dreamweaver - Basic 3	OFT 196	Access for Windows <u>3</u>
or		WEB 162	Fireworks 3		<b>9</b>
ENG 163	Business Comm. 3	WEB 188	Social Media/Business 3		
SPC 155	Effective Speech 3	WEB 190	Dreamweaver Adv. 3		
or		WEB 203	XHTML & CSS 3		
SPC 156	Interpersonal Comm. 3	WEB 206	Javascript 3		
Mathematics Elective	3	WEB 235	Interactive Design 3		
Social Science Elective	<u>3</u>	WEB 271	PHP and SQL 3		
	<b>18</b>	WEB 277	E-Commerce Technology 3		
		WEB 295	Web Architecture♦ 3		
		or			
		WEB 199	Web Internship <u>3</u>		
			<b>34</b>		

♦capstone course

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
CPT 150 3	OFT 196 3	ENG 162 or 163 3	MKT 254 3
ENG 161 3	WEB 162 3	SPC 155 or 156 3	WEB 206 3
GCT 125 3	WEB 190 3	WEB 102 1	WEB 235 3
WEB 110 3	WEB 277 3	WEB 188 3	WEB 295 or 199 3
WEB 140 <u>3</u>	Mathematics Elective <u>3</u>	WEB 203 3	Social Science Elective <u>3</u>
<b>15</b>	<b>15</b>	WEB 271 <u>3</u>	<b>15</b>
		<b>16</b>	

# Web Technology, Certificate

WEB PUBLISHING

Division of Computer Technology/Business

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The Web design certificate program provides students with the technical and creative skills needed for a quality educational background. Students learn a range of production skills including interface design, motion graphics, Web coding, Web graphics, production and interactive design. Students also master industry-standard software and often work in a team-based environment to create content collaboratively.

## Career Opportunities

Graduates will have acquired the skills necessary for entry-level positions as a Web designer with Web design and Internet companies, and advertising and design agencies.

The Web Design certificate is available as either a classroom or completely online program of study.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- plan and create effective, cohesive design solutions using a variety of Web communications
- use current software and technology to create Web site layouts while applying color theory and graphic design principles
- plan and design interactive projects that demonstrate navigational and organizational methodologies
- apply project management and teamwork skills to address industry issues
- develop skills for effective oral and written communication, presentation and critical thinking

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

GCT 125	Emerging Techn. I	3
WEB 102	Acrobat Essentials	1
WEB 110	Web Design	3
WEB 140	Dreamweaver - Basic	3
WEB 162	Fireworks	3
WEB 235	Interactive Design	<u>3</u>
		<b>16</b>

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# Web Technology, Certificate

WEB DEVELOPMENT

Division of Computer Technology/Business

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The Web development certificate offers the student exposure to a variety of Web page development tools and modern programming languages.

## Career Opportunities

Graduates of the Web development certificate program can expect to find employment as computer programmers, systems analysts, PC technicians, programmer analysts, technical sales representatives, technical support analysts or Web developers.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- design and create Internet and intranet-based Web solutions
- enhance Web sites with interactivity for real-time processing
- identify and correct problems associated with Web sites

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 16)

WEB 102	Acrobat Essentials	1
WEB 110	Web Design	3
WEB 201	Web Dsgn./Web Stndrds.	3
WEB 203	XHTML and CSS	3
WEB 206	JavaScript	3
WEB 277	E-Commerce Tech.	<u>3</u>
		<b>16</b>

# Welding Engineering Technology, AAS

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture



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
- 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

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## PROGRAM REQUIREMENTS (TOTAL CREDITS — 63)

General Education		Major		Other Required Courses	
CHM 107	Intro Concepts in Chem. I 4	WEL 125	Welding I 4	DFT 110	Blueprint Reading 2
DFT 258	AutoCAD 4	WEL 135	Welding II 4	MET 105	Welding Metallurgy 4
		WEL 207	Advanced Welding I 4	PHY 107	Applied Physics 4
ENG 161	College Writing 3	WEL 208	Advanced Welding II 4		<b>10</b>
ENG 162	Technical Commun. or	WEL 209	Industrial Maintenance 3		
ENG 163	Business Commun. 3	WEL 220	Inspec. & Code Weld Spcs. 3	*Students planning to transfer to a four-year institution should consult their advisor for course substitutions.	
ENG 164	Advanced Composition	WEL 221	Metal Fabrication 4		
MTH 108*	Math for the Tech. I 4	WEL 222	Fund. of Aluminum 3		
Social Science Elective	<u>3</u>	WEL 224	Materials Evaluation <u>3</u>		
	<b>21</b>		<b>32</b>		

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester	Spring Semester	Fall Semester	Spring Semester
DFT 110 2	CHM 107 4	DFT 258 4	WEL 208 4
ENG 161 3	ENG 162, 163 or 164 3	MET 105 4	WEL 209 3
MTH 108 4	WEL 135 4	PHY 107 4	WEL 224 3
WEL 125 4	Social Science Elective <u>3</u>	WEL 207 <u>4</u>	WEL 221 4
WEL 220 <u>3</u>	<b>14</b>	<b>16</b>	WEL 222 <u>3</u>
<b>16</b>			<b>17</b>

# Welding Engineering Technology, Certificate

Division of Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture

The welding certificate program is a short-term program option that provides students with entry level training for work in welding and flame cutting occupations. Welding 125 and Welding 135 emphasize skill development as well as applied theory and oxy-fuel welding/cutting and shield metal arc welding. Metallurgy and technical drafting courses round out the program of study by emphasizing metal properties, weldability and understanding detail and assembly work drawings. All credits earned can be applied toward the requirements of the degree program in welding engineering technology.

## Program Learning Outcomes

This curriculum is designed to prepare students to:

- accurately perform oxy-fuel and plasma cutting
- SMAW in all positions using various electrodes
- weld and fabricate to blueprint specifications

## PROGRAM REQUIREMENTS (TOTAL CREDITS — 24)

DFT 110	Blueprint Reading	2
MET 105	Welding Metallurgy	4
WEL 125	Welding I	4
WEL 135	Welding II	4
WEL 209	Industrial Maintenance	3
WEL 220	Inspection & Code Weld. Specs.	3
WEL 221	Metal Fabrication	4
		<b>24</b>

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## RECOMMENDED SEQUENCE

Part-time students can complete this program by taking one or more courses each semester.

Fall Semester		Spring Semester	
DFT 110	2	WEL 135	4
MET 105	4	WEL 209	3
WEL 125	4	WEL 221	4
WEL 220	3		<b>11</b>
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# COURSE DESCRIPTIONS

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# COURSE DESCRIPTIONS

## Index of Courses

All academic courses offered by WCCC are listed below. Course numbers, titles and descriptions are WCCC 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.

Before each registration period, the college publishes a schedule of the courses that will be offered in the upcoming semester. Not all courses are offered each semester.

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 105—FINANCIAL RECORDKEEPING 3-0-3

Introduces accounting and recordkeeping practices for a service enterprise and a merchandising concern. Emphasis is on analyzing and recording financial transactions and preparing financial statements. Not open to accounting and computer technology majors.

### 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 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 3-0-3

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—TAX PREPARATION SOFTWARE 3-0-3**

This course builds upon the concepts introduced in ACC 250 regarding the taxation of individuals. The course progresses from preparation by hand to preparation on the computer using professional grade software. The outcome is designed to be a true integration of tax theory and preparation. The second part of the course encompasses partnership and corporate taxation. Prerequisite(s): ACC 250 or Permission of Instructor

**ACC 255—INTERMEDIATE ACCOUNTING I 3-0-3**

Examines the theory and concepts underlying the mechanics of accounting, including a review of the accounting process. Topics covered include: conceptual framework; income statement; balance sheet; cash flow statement; revenue recognition; cash and receivables; inventories-cost and estimation; plant and intangible assets-acquisition, use and retirement. Prerequisite(s): ACC 156

**ACC 256—INTERMEDIATE ACCOUNTING II 3-0-3**

Continuation of Intermediate Accounting I. Topics covered include: debt financing; equity financing; long-term investments; leases; pensions; income taxes; contingencies; business segments; accounting changes and error analysis; earnings per share. Prerequisite(s): ACC 156

**ACC 260—ADVANCED ACCOUNTING ISSUES 3-0-3**

This course refines and integrates those issues identified in various accounting courses into one comprehensive unit. Emphasis is shifted from "preparation" to "analysis." The core concept is to teach students to make decisions in uncertain and complex situations. Focus is on critical thinking, research skills and identifying answers to complex questions. Business values and ethics are a vital component of all decisions and are explored in this course. This capstone course encompasses all of the student outcomes found in each of the program's courses. Prerequisite(s): ACC 255 or ACC 256

**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 health-care 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 150—AIRBRUSH TECHNIQUES 1-4-3**

An introductory course that explores the basic principles of airbrush illustration. Provides a basic overview of the nature of light and color, modulation of values, basic geometric rendering and color illustration techniques. Course projects include custom lettering and illustration for T-shirts, signs and license plates. Students are encouraged to explore various applications of airbrush rendering. Technical concerns as well as aesthetic and legal aspects are covered.

**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 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 164—COLOR CONCEPTS 1-4-3**

An introduction to the analysis and application of basic color and light theories, from early theoretical development with paint application, to more recent technological applications. Students develop a working knowledge of the expressive potential of color through numerous theoretical and compositional exercises, and are introduced to color physics, psychology and technology and its broad applications.

**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 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 dyeing, batikting, 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 setting 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.

**BIO-BIOLOGY****BIO 102—CAREERS IN LABORATORY TECH 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 experienced laboratory personnel when available.

**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 over population. 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 RDG 080 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

**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, RDG 080 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

**BIO 285—MOLECULAR GENETICS** 3-3-4

Although the course begins with an introduction to heredity and classical Mendelian genetics, this material will emphasize current ideas in molecular biology including the transfer and expression of genetic information, the interaction and hybridization of genes, and molecular mutagens. The course will focus on the transmission and expression of genetic information, predominantly through eukaryotic molecular genetics. Prokaryotic molecular genetics and the variations from the eukaryotic model will also be discussed. The structure and function of the genetic material at the molecular level, replication and repair of the genetic material, and the regulation and expression of genetic information will be considered. Prerequisite(s): BIO 110, BIO 155, BIO 171 or BIO 210

**BKP—BAKING AND PASTRY**

**BKP 141—BAKING I** 2-4-4

The student learns the fundamentals of baking which involves preparation of yeast rolls, breads, pies, cakes, cookies tarts and doughnuts. The properties of baking ingredients, use and care of commercial bake shop equipment, and storage and sanitation of baked products are studied. Uniforms and program tool kit are required.

**BKP 142—BAKING II** 1-4-3

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

**BKP 144—BAKING III** 1-4-3

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

**BKP 242—BAKERY/DELI MERCHANDISING TECHNIQUES** 1-4-3

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

**BKP 243—HEALTHY COOKING TRENDS** 2-4-4

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

**BKP 245—DECORATING TECHNIQUES** 1-4-3

Emphasizes the application of design principles to the art of decorating cakes, petit fours, centerpieces, confectionery and specialty pastry items. Uniforms and program tool kit are required.

**BKP 247—SPECIALTY/ARTISTIC TECHNIQUES** 2-4-4

Involves the student in the study and preparation of advanced hot and cold specialty dessert items. Emphasis is placed on both classical and contemporary dishes. Students are also provided with the knowledge and understanding of the utilization of artistic principles to effect chocolate and sugar work for consumption and display. Uniforms and program tool kit are required. Prerequisite(s): BKP 142

**BKP 249—ADVANCED DECORATING TECHNIQUES** 1-4-3

Emphasizes advanced decorating techniques. Design cakes using advanced techniques which are appropriate to the theme, occasion and level of formality. Utilizes principles of sanitation and safety in decorative work and design. Evaluate final products based on artistic design principles, uniformity and neatness. Develop a level of professional proficiency in advanced decorating techniques. Uniforms and program tool kit are required. Prerequisite(s): BKP 245

**BUS—BUSINESS**

**BUS 120—MATHEMATICS OF BUSINESS** 3-0-3

Provides a basic knowledge and skill in the calculations necessary for a business career, including trade discounts, commissions, sales, payrolls, statistics, depreciation, interest, insurance, annuities, investment, credit and taxes. Prerequisite(s): MTH 052 or satisfactory placement test score

**BUS 140—INTRODUCTION TO BUSINESS** 3-0-3

Survey of the structure of business, its principle activities and typical problems. The course is designed to provide the student with a working knowledge of business terminology. It covers such facets of business as ownership, management, marketing, purchasing, production, human resources, finance, accounting and government regulation.

**BUS 158—PRINCIPLES OF MANAGEMENT 3-0-3**

Theory and principles of organization and management with an emphasis on the management processes of planning, organizing, leading, controlling, and the business functions, concepts, and applications related to the manager's role in a decision-making environment.

**BUS 188—SOCIAL MEDIA IN BUSINESS 3-0-3**

This course examines the current trends in social media and how these popular Internet-based social networking sites can be a powerful marketing tool for businesses and organizations. Through a combination of selected readings and hands-on projects, students will learn which prominent social media tools are best suited for various businesses and organizations in order to maintain a current online profile. Upon completion of the course, students will have the knowledge to develop a basic social media marketing plan for businesses or organization.

**BUS 199—INTERNSHIP 3-0-3**

A coordinated period of supervised work experience in organizations that will offer students the opportunity to acquire competence in their chosen area of specialization. Prerequisite(s) Permission of instructor

**BUS 205—BUSINESS LAW 3-0-3**

Basic principles of law applicable to business action including sources of law, adversary system, crimes, torts, negligence, strict liability, common law essentials of contract law and basic general legal principles.

**BUS 210—INTRODUCTION TO OPERATIONS MANAGEMENT 3-0-3**

This course is an introduction to the key operations management functions within manufacturing and service oriented industries. Emphasis will be on product and service design, strategic capacity management, processes analysis, forecasting, aggregate planning and scheduling, and lean and sustainable operations.

**BUS 220—INTRODUCTION TO SUPPLY CHAIN MANAGEMENT 3-0-3**

An introduction to how supply chain management impacts all the areas of the firm and how managers can improve their competitive position by employing the specific quantitative methodologies within supply chain management. Topics covered include: project management, demand management and forecasting, sales and operations planning, inventory control, lean and sustainable supply chains, domestic and global sourcing and Enterprise Resource Planning Systems.

**BUS 230—PROCUREMENT 3-0-3**

The study of purchasing materials, supplies and equipment for industry, government and other institutions. In examining domestic and global strategic procurement, the course will explore the topics of procurement and supply processes; supplier selection, relation, and negotiation; price/cost management; quality, quantity and delivery management; and the legal and ethical aspects of procurement. Prerequisite(s): BUS 210

**BUS 240—TECHNIQUES OF SELLING 3-0-3**

Retail, wholesale and specialty selling with emphasis on mastering and applying the fundamentals of selling. Sales presentations are required.

**BUS 241—HUMAN RESOURCE MANAGEMENT 3-0-3**

Considers the role of human resource management as it relates to recruiting and selection procedures, equal employment opportunity orientation and training. Emphasis is placed on performance appraisals, job evaluations and the motivation of employees.

**BUS 244—BUSINESS STATISTICS 3-0-3**

Principles of statistics as applied to business problems. Presentation and analysis of quantitative data in tabular forms; frequency distributions; measures of central tendency and dispersion; probability theory; sampling; tests of significance and regression analysis. It is advised that students have a background in algebra. Prerequisite(s): MTH 052 or satisfactory Placement Test score

**BUS 245—PRINCIPLES OF MARKETING 3-0-3**

Principles and functions of marketing. Topics include: marketing research, target marketing, marketing segmentation and marketing-mix strategies. Special emphasis is placed on topics such as: product, pricing, distribution and promotion decisions.

**BUS 248—LOGISTICS 3-0-3**

This course provides an overview of how firms use distribution intermediaries to gain a competitive advantage in domestic and global markets through the integration of logistics and supply chain management. The management of the physical flow of products and information throughout the entire supply chain is examined, including physical distribution transportation, warehousing, customer service, materials management, third-party and global logistics, systems planning, and operations and management of the supply chain.

**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—EFFECTIVE 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 II 3-0-3**

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 job placement and cooperative education.

**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 job placement and cooperative education.

**CHM—CHEMISTRY****CHM 010—PREPARATORY CHEMISTRY 3-0-3**

Designed for people with little or no background in chemistry. This course will prepare the student for General Chemistry. Includes topics such as: how to study the discipline of chemistry, basic math concepts used in chemistry, and introductory chemical principles.

**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 105—TECHNICAL CHEMISTRY 3-2-4**

Designed to meet the needs of the technically oriented student. Basic atomic and molecular structure along with periodic relationships are considered. Emphasis is placed on properties, reactivities and reactions in relation to periodic properties. The approach is con-

ceptual in nature with quantitative discussions of stoichiometry and equations. Laboratory exercises are practical applications of the lecture material.

**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 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; Material Safety Data Sheets (MSDS); 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**

Studies the concepts of atomic structure, chemical periodicity, chemical bonding, molecular geometry, quantum chemistry and principles of chemical reactivity. Stoichiometry, thermodynamics and solution chemistry are presented using a quantitative approach. Gases and the structure of solids and liquids are also studied. Prerequisite(s): High school chemistry, MTH 052

**CHM 156—GENERAL CHEMISTRY II 3-2-4**

Uses chemical kinetics, thermodynamics and equilibrium to study the behavior of chemical systems. Electrochemical principles are used throughout the course. Ionic equilibria with emphasis on acid-base and solubility equilibria are a major consideration. 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 200—UNIT OPERATIONS 3-2-4**

Designed to acquaint students with basic processes used in the chemical industry. Laboratory work involves the operation of pilot plants. Course topics include: process operations, piping and instrument diagrams, process equipment, process control, plant safety and analytical procedures associated with each pilot plant.

**CHM 240—ANALYTICAL CHEMISTRY 3-3-4**

The theory and practice of quantitative chemical analysis. This course provides the theoretical and practical knowledge, skills, and attitudes that are particularly important to the study of analytical chemistry. The key concepts in the course are the methodologies for: determining the accuracy, precision, and confidence level of analytical data; reviewing and evaluating selected analytical techniques for choosing the optimum analysis tool to use in a particular situation; developing the knowledge, skills and experience necessary to solve analytical problems in a quantitative manner; utilizing spreadsheets to determine the values, data analysis statistics, standard curves, trend lines and produce reports/presentations. The laboratory part of the course will additionally focus on handling chemicals and chemical instrumentation safely utilizing proper health and environmental considerations. Prerequisite(s): MTH 160 and CHM 108 or CHM 156, CHM 250 or CHM 264



**CHM 250—ORGANIC CHEMISTRY I 3-4-4**

Presents organic chemistry by using concepts of chemical and physical properties, the reactions and reaction mechanisms to explore several classes of organic compounds. Kinetics studies are used where appropriate to verify the reaction mechanisms. Hydrocarbon families are used to introduce generalized organic reactions, with group reactions of other families presented as well. Prerequisite(s): CHM 156

**CHM 251—ORGANIC CHEMISTRY II 3-4-4**

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. Additional material dealing with mechanisms of reactions is also presented. 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 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

**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. Prerequisite(s): Must obtain a current criminal record check

**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. Prerequisite(s): Must obtain a current criminal record check

**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. Prerequisite(s): Must obtain a current criminal record check

**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. Prerequisite(s): Must obtain a current criminal record check

**CIS 250—NETWORK INTRUSION DETECTION 3-0-3**

This course will introduce the student to the vulnerabilities of specific types of network services that are the most hacked, including remote access services (RAS), e-mail, Web-hosting, wireless networking and file transfer protocol (FTP). Students will gain an appreciation of the major areas of vulnerabilities and the measures that can be taken to protect the system from outside intrusion. Prerequisite(s): CPT 183 and must obtain a current criminal record check

**CIS 252—DIGITAL FORENSICS I 3-0-3**

This course will examine the advanced technical aspects of digital computer evidence detection, collection, identification and preservation. Emphasis will be placed on specific tools and methods for extracting deleted or destroyed computer related evidence. Methods and practices that should be applied by the digital forensic professional are presented. The dynamic process of conducting a successful forensics investigation will be covered from inception to fruition. Prerequisite(s): CPT 182 and must obtain a current criminal record check

**CIS 253—COMMUNICATIONS SECURITY 3-0-3**

This capstone course will continue to examine security within a wide area network environment as well as reinforce competencies covered in lower level security courses. Students will find out how Websites and servers are vulnerable and they will explore the various ways network technologies can be subverted to allow abusers to steal data while in transit. Topics include: node and service authentication, address spoofing, hijacking, SYN floods, smurfing, sniffing, routing tricks, buffer overruns and other exploitation of software development errors. Prerequisite(s): CPT 238 and must obtain a current criminal record check

**CLT—CLINICAL LABORATORY TECHNOLOGY****CLT 101—INTRODUCTION TO CLINICAL LABORATORY 4-4-5**

This course introduces the student to clinical laboratory science. Basic techniques and quality assessment are covered. All departments of the clinical laboratory are described with focus on phlebotomy and hematology theory and testing techniques. Hemostasis, standard precautions and OSHA bloodborne pathogens standards are defined. Prerequisite(s): ALH 122; Corequisite(s): BIO 171, CHM 155

**CLT 103—URINALYSIS, BODY FLUIDS & PARASITES 2-4-3**

This course introduces the student to routine analysis, the clinical significance and identification of microscopic elements of urine. Other body fluids such as fecal specimens, vaginal secretions, cerebrospinal, synovial, seminal, amniotic, pleural, pericardial and peritoneal fluids are covered. Human parasites, including classification, life cycles and differential morphology of medically important parasites are also covered. Prerequisite(s): CLT 101 Corequisite(s): BIO 172 and CHM 156

**CLT 111—CLINICAL PRACTICUM I 0-16-2**

This course provides a supervised clinical laboratory placement to correlate cognitive and technical skills necessary to function as an entry-level clinical laboratory technician in a clinical laboratory and other designated medical settings. Clinical skills include specimen collection and processing, performing fundamental urinalysis and hematology procedures within the respective laboratory departments. Laboratory safety, quality assurance, HIPPA and OSHA regulations, and ethical standards are stressed. Prerequisite(s): CLT 101, BIO 171, CHM 155; Corequisite(s): CLT 103, BIO 172, CHM 156

**CLT 200—PROFESSIONAL ISSUES IN CLINICAL LABORATORY** 3-0-3

This course is a study of professional and conduct issues for the clinical laboratory technician. Both legal and ethical issues and role with be presented. Leadership characteristics and communication skills necessary in the hospital environment are discussed. Students create a cover letter, resume and follow-up letters for job searches along with interview skills review. Continuing education and professional development are stressed. Prerequisite(s): CLT 103, CLT 111; Corequisite(s): CLT 201, CLT 203, CLT 211

**CLT 201—CLINICAL MICROBIOLOGY** 2.5-2-3

This course introduces the student to significant bacteria of the human body. Basic principles and concepts to identification of etiologic agents of infectious diseases are covered. Course is focused on the most medically significant and commonly encountered diseases. Prerequisite(s): CLT 103, CLT 111, BIO 172, BIO 265, CHM 156; Corequisite(s): CLT 200, CLT 203, CLT 211

**CLT 203—CLINICAL CHEMISTRY** 2-4-3

This course introduces basic clinical chemistry including principles, analytical procedures and measurements. Chemical elements and compounds found in the human body in relation to physiology and pathophysiology, disease processes and organ function are introduced. Concentration is on the correlation of specimen processing, analysis of test results, and quality-control data in routine manual and automated clinical chemistry procedures. Prerequisite(s): CLT 103, CLT 111, BIO 172, CHM 156; Corequisite(s): CLT 211, CLT 200, CLT 201

**CLT 205—IMMUNOHEMATOLOGY AND IMMUNOLOGY** 3.5-2-4

This course examines the principles of immunology including the organization and function of the immune system, antigens and antibodies, humoral and cell-mediated immunity, hypersensitivity, complement system and disorders of the immune system. The course also presents an introduction to the theoretical and practical concepts of immunohematology/blood banking and transfusion medicine. Topics include donor screening and selection, basic blood group serology, component selection and therapeutic use, hemolytic disease of the newborn and transfusion reactions. Laboratory exercises in immunology emphasize and serological methods for infectious disease diagnosis. Laboratory exercises in blood banking include ABO/Rh (Rhesus) grouping, antibody screening, compatibility testing and single antibody identification. Prerequisite(s): CLT 200, CLT 201, CLT 203, CLT 211; Corequisite(s) CLT 207, CLT 213

**CLT 207—LABORATORY INFORMATION SYSTEMS** 3-0-3

This course introduces the student to various laboratory information systems. The systems generate patient results, manage and help to eliminate errors with laboratory data. Laboratory systems are an efficient tool to decrease turnaround time for patient results. Instruments verification, quality assurance and quality control. data reporting and billing information generation are taught. Physician services integration, specimen tracking and patient reporting are stressed. Prerequisite(s): CLT 200, CLT 201, CLT 203, CLT 211; Corequisite(s): CLT 205, CLT 213

**CLT 211—CLINICAL PRACTICUM II** 0-24-3

This course provides a supervised clinical laboratory placement to correlate cognitive and technical skills necessary to function as an entry-level clinical laboratory technician in a clinical laboratory and other designated medical settings. Clinical skills include specimen collection and processing, performing chemistry and microbiology procedures within the respective laboratory departments. Laboratory safety, quality assurance and ethical standards are stressed. Prerequisite(s) CLT 101, CLT 103, CLT 111, BIO 172, BIO 265, CHM 156; Corequisite(s): CLT 201, CLT 203, CLT 200

**CLT 213—CLINICAL PRACTICUM III** 0-32-4

This course provides a supervised clinical laboratory placement to correlate cognitive and technical skills necessary to function as an entry-level clinical laboratory technician in a clinical laboratory and other designated medical settings. Clinical skills include specimen collection and processing, immunohematology and immunology/serology procedures within the respective laboratory departments. Laboratory safety, quality assurance and ethical standards are stressed. Prerequisite(s): CLT 200, CLT 201, CLT 203, CLT 211, BIO 172, BIO 265, CHM 156; Corequisite(s) CLT 205, CLT 207

**CNC-COMPUTER NUMERICAL CONTROL**

**CNC 111—COMPUTER NUMERICAL CONTROL I** 3-2-4

This is 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 199—COMPUTER NUMERICAL CONTROL INTERNSHIP** 1-12-3

Students will obtain experience in the computer numerical control 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

**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 113

**CPT-COMPUTER TECHNOLOGY**

**CPT 050—TECHNOLOGY AT WCCC** 1-0-1

This course introduces students to the technology used in classrooms and online environments at Westmoreland County Community College. The goal of the course is to provide a foundation and develop skills needed to function and learn in a 21st Century educational environment.

**CPT 143—IP TELEPHONY** 3-0-3

This course focuses on the design, installation, configuration and management of IP Telephony system in the corporate data network environment. Students will learn the underlying theories and protocols of IP Telephony in addition to learning how to set-up, configure and administer an IP Telephony system.

**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. Prerequisite(s): CPT 050 or satisfactory Placement Test score

**CPT 151—ADVANCED OFFICE APPLICATIONS** 3-0-3

This course provides word processing, spreadsheet, database and presentation instruction. Students use the Microsoft Office components: Word, Excel, Access and PowerPoint to create, edit, format and store documents, worksheets, databases and presentations. Prerequisite(s): CPT 150

**CPT 160—INTRODUCTION TO PROGRAMMING 3-0-3**

This course introduces students to programming logic, design, and development by applying programming logic to creating applications using the object-oriented system of programming-ALICE. 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 171—TELECOMMUNICATIONS FUNDAMENTALS 5-0-5**

This course focuses on the prerequisite knowledge required for individuals desiring to work in the field of telecommunications. The major topics are the OSI reference model and how it is utilized in data communications, IP addressing and subnetting, and TCP/IP and how it functions with the network-layer protocols. This course is the first course in a four-course sequence that is designed to prepare students for the Cisco Certified Network Administrator (CCNA) certification exam.

**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. Prerequisite(s): CPT 145 or CPT 151

**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 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. Prerequisite(s): CPT 181

**CPT 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 presentations. File management, editing and Web-based presentations are also covered.

**CPT 188—SOCIAL MEDIA IN BUSINESS 3-0-3**

This course examines the current trends in social media and how these popular Internet-based social networking sites can be a powerful marketing tool for businesses and organizations. Through a combination of selected readings and hands-on projects, students

will learn which prominent social media tools are best suited for various businesses and organizations in order to maintain a current online profile. Upon completion of the course, students will have the knowledge to develop a basic social media marketing plan for businesses or organization.

**CPT 190—WORD FOR WINDOWS 3-0-3**

Focuses on Microsoft Word software, ranging from the most basic word processing tasks to more complicated procedures. Topics include text entry, editing, formatting, cutting and pasting, fonts, glossaries, tables, file merging, graphics, document templates, macros, and overall document design.

**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, mathematic and financial functions. The course will introduce dynamic linking, macros and importing/exporting data. Prerequisite(s): CPT 150

**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. Prerequisite(s): CPT 150

**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 DESIGN WITH WEB STANDARDS 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—XHTML 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 211—ROUTING TECHNOLOGIES 5-0-5**

This course is designed to develop the skills students need to design, build and maintain a small to medium sized network. This course builds upon the course material presented in Telecommunications Fundamentals (CPT 171). The course provides students with knowledge of router operations, and will cover the configuration of CISCO routers to operate independently in an enterprise environment. This is the second in a four-course sequence designed to prepare students for the Cisco Certified Network Associate (CCNA) professional certification exam. Prerequisite(s): CPT 171

**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 230—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 is introduced. Prerequisite(s): CPT 185, CPT 190, CPT 195 and CPT 196

**CPT 235—DATABASE MANAGEMENT SYSTEMS 3-0-3**

Explore the theory behind data management through the use of a database management system and stressing the importance of good database design. Topics include controlling redundancy, entity-relationship diagrams, normalization and an introduction to SQL. Prerequisite(s): CPT 151 or CPT 196

**CPT 242—VISUAL BASIC II 3-0-3**

This course covers techniques needed to write advanced Windows programs using Visual Basic. Advanced programming projects include error handling, graphics, procedures, multiple forms, processing with files, object linking and embedding (OLE), dynamic data exchange (DDE), and how to control and interact with most PC databases. Prerequisite(s): CPT 162

**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 257—SWITCHING TECHNOLOGIES 5-0-5**

This course focuses on the basics of switching and switch configuration. The major topics covered in this class are switching technologies; configuring switches for Ethernet networks; configuring VLANs advanced LAN and LAN switched design as well as advanced coverage on router configuration. Students will also be introduced to Variable Length Subnet Masking (VLSM) and various intermediate routing protocols including RIPv2, single-area OSPF and EIGRP. This course is the third course in a four-course series offered in partnership with CISCO Systems Inc. Prerequisite(s): CPT 211

**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 151 or CPT 196

**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 or CPT 235

**CPT 277—ELECTRONIC COMMERCE TECHNOLOGY 3-0-3**

This course focuses on analyzing 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.

**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. Prerequisite(s): CPT 151 or CPT 196

**CPT 291—WAN TECHNOLOGIES 5-0-5**

This course focuses on the theory and design of wide area networks (WANs). The major topics covered are WAN theory and design, WAN technologies such as PPP, Frame Relay and ISDN, and network troubleshooting as well as coverage in NAT/PAT, and DHCP router configuration. This is the final course offered in partnership with Cisco Systems Inc. Prerequisite(s): CPT 257

## **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 criminal law relevant to attaining the preservation and protection of life and property; structure, definitions and most applicable pertinent sections of criminal statutes.

### **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 criminal justice research sources will be investigated. Prerequisite(s): CPT 150

### **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 1-40-2**

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 1-40-2**

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 1-40-2**

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, breadng 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 1-40-2**

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 WCCC Dental Assisting or Dental Hygiene programs are not required to take this course. DAS 101 or DAH 104 will be substituted for DAE 100)

**DAE 101—EXPANDED FUNCTIONS DENTAL ASSISTING I 3-6-6**

This course is designed to provide students with the knowledge and skills necessary to perform the EFDA functions as delegated by the PA State Board of Dentistry. Lecture and laboratory sessions will present each function in detail and provide students with the opportunity to become competent in the EFDA functions.

**DAE 102—EXPANDED FUNCTIONS DENTAL ASSISTING II 1-8-3**

This course is designed to provide students with the opportunity to perform EFDA functions and evaluate their performance through journal writing and class discussion. Clinical experience is arranged through approved dental practices. Liability insurance must be maintained by the student while enrolled in the program. Clinical sessions include a wide variety of restorative experiences on many patients. Two four-hour clinical sessions are required per week for 15 weeks. Students who are able to schedule more than eight hours per week may complete the clinical rotation in less than 15 weeks. Prerequisites(s): DAE 100, DAE 101

**DAH—DENTAL HYGIENE**

**DAH 101—INTRODUCTION TO DENTISTRY 2-2-3**

Designed to give the student an in-depth study of dental terminology, medical/dental histories, charting, dental instruments, infection control, sterilization, pain control and patient management. Lecture and laboratory sessions introduce the student to each of the dental specialties and provide the student with the knowledge and skills required for application in the clinical setting. Prerequisite(s): BIO 171, CHM 264, SOC 160; 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, SOC 160; 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, SOC 160; Corequisite(s): DAH 101, DAH 102, BIO 172

**DAH 105—DENTAL RADIOLOGY 2-2-3**

Provides an overview of dental radiology principles and techniques. Topics include X-ray production, radiation safety, exposure technique, film processing, landmark identification and client management. The student will apply didactic concepts in a supervised clinical laboratory setting. Prerequisite(s): DAH 104; Corequisite(s): DAH 103, DAH 111, DAH 112, DAH 113, DAH 114

**DAH 106—NUTRITIONAL BIOCHEMISTRY 2-0-2**

Introduces the science of nutrition. Sources and functions of nutrients, utilization of food in the body, nutritional requirements for various age groups and rudiments of diet counseling are discussed. Prerequisite(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 109, DAH 115, DAH 117

**DAH 109—ORAL PATHOLOGY 2-0-2**

Studies the process of diseases with emphasis on diseases and their manifestations in the oral cavity. Recognition and detection of such deviations from normal is stressed. The emphasis is on inflammation, regeneration, repair, immunity, allergy, oral manifestations of disease, tumors and developmental disturbances. Prerequisite(s): DAH 103, DAH 105, DAH 111, DAH 112, DAH 113, DAH 114; Corequisite(s): DAH 106, DAH 115, DAH 117

**DAH 111—DENTAL HYGIENE LECTURE 3-0-3**

Provides an introduction to the fundamental concepts of oral health care services, disease control and dental hygiene instrumentation skills. Corequisite(s): DAH 103, DAH 105, DAH 112, DAH 113, DAH 114

**DAH 112—DENTAL HYGIENE LAB 0-8-4**

Designed for students to observe, discuss and practice the clinical skills required to perform oral health care services. Students will apply didactic concepts in a supervised clinical laboratory setting. Prerequisite(s): BIO 172; Corequisite(s): DAH 103, DAH 105, DAH 111, DAH 113, DAH 114

**DAH 113—ORAL HISTOLOGY/EMBRYOLOGY 2-0-2**

Studies the embryonic development of the head, face and oral cavity. Histologic structure of the oral tissues with relation to their clinical form and function is discussed. 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

**DAN-DANCE****DAN 155—BALLET I 3-0-3**

An introduction to the art of ballet as practiced in Western Europe and the United States. Fundamental instruction will consist of barre and floor exercises, basic combination skills, and choreography. Ballet and dance terminology will be taught in conjunction with the class activities. Students will be expected to choreograph a short piece for a live performance in front of their peers at the end of the semester.

**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 103

**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 103

**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.

**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 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 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.

**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 103 Corequisite(s): DAS 104

**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 106

**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. Corequisite(s): DAS 108

**DFT-DRAFTING****DFT 105—TECHNICAL DRAFTING I 2-4-4**

A beginning course for students who have little or no previous experience in drafting. The principle objectives are: basic understanding of orthographic projection; size description, detail and assembly work drawings; understanding of principles and appropriate applications of descriptive geometry. A.S.A. standards are stressed. Interpretation of industrial sketches and prints is introduced to emphasize accepted drawing practices and to develop an early appreciation of engineering graphics.

**DFT 106—TECHNICAL DRAFTING II 2-4-4**

A continuation of DFT 105 Technical Drafting I. The instructional units will provide the students with more advanced drafting techniques and competencies. Handbooks and other material sources in adherence to the American National Standards Institute will be utilized. Prerequisite(s): DFT 105

**DFT 110—BLUEPRINT READING 1-2-2**

Introduces the basics of drafting principles and symbology used for interpreting prints for industry. Actual prints are provided for experience in proper interpretation. Topics include title blocks, material identification, revision systems, sketching, orthographic projection theory, dimensioning and tolerance, detail and assembly drawings, sections, thread representation and specifications and callouts for welding processes.

**DFT 112—INTRODUCTION TO DESIGN, MATERIALS AND PROCESSING 3-0-3**

Focuses on the study of design, materials and the primary processing methods used in manufacturing. A practical course devoted to the many ways in which raw materials are economically converted into useful products. Discussions of primary processing methods—materials additions, removal, and change are grouped together, followed by coverage of applications. Properties of various materials will be covered. Students first build a thorough knowledge of similarities and differences in materials, then processing methods, and that foundation carefully sets the stage for an understanding of how to choose the optimal processes for a specific project.

**DFT 199—DRAFTING 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 2-2-3**

Designing and detailing drawings, cutting tools, dies, jigs, fixtures and forming tools that enable a tool and die maker to make tools capable of producing duplicate parts on a production basis. Prerequisite(s): DFT 106

**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 259—ADVANCED AUTOCAD 2-4-4**

Advanced AutoCAD covers advanced drawing and editing commands, drawing and plotting scales, symbol and block usage, Xreferences, paper space functions, ordinate dimensions, and customizing toolbars. Approximately one-third of the semester will be devoted to covering AutoCAD's 3D solid modeling capabilities. Prerequisite(s): DFT 258

**DFT 266—AUTODESK INVENTOR 2-4-4**

Autodesk Inventor is created and marketed by Autodesk for mechanical design. Inventor is a 3-D feature based parametric solid modeling computer software. Inventor may be used to create 3-D, solid model parts, engineering drawings of solid model parts and assemblies of solid parts. Inventor is also capable of creating sheet metal parts and sheet metal part drawings. The primary goal of this course is to teach students how to use Inventor software for solid part modeling. Creating and editing solid parts, creating engineering drawings from solid parts, assembly modeling and creating sheet metal parts will be covered in lectures and lab assignments.

**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

**DMS 201—PATIENT CARE/LEGAL/ETHICAL ISSUES 2-0-2**

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

**DMS 204—GYNECOLOGY 3-0-3**

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, DMS 206 Corequisite(s): DMS 103, DMS 105



**DMS 205—ABDOMINAL II 3-3-4**

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): BIO 171, DMS 103, DMS 105, DMS 106

Corequisite(s): BIO 172, DMS 201, DMS 206

**DMS 206—OBSTETRICS II 3-0-3**

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

**DMS 207—SMALL PARTS, BREAST & NEURO 2-0-2**

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 206, DMS 208, DMS 211, DMS 213

Corequisite(s): DMS 212, DMS 214

**DMS 208—INTRO TO VASCULAR 2-3-3**

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

**DMS 210—CLINICAL I 0-8-3**

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 for fifteen weeks 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

**DMS 211—CLINICAL II 0-8-3**

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 for eleven weeks 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 210

Corequisite(s): DMS 206, DMS 208

**DMS 212—CLINICAL III 0-8-3**

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 for fifteen weeks 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

**DMS 213—ACOUSTICAL PRINCIPLES & INSTRUMENTATION 3-3-4**

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 106, DMS 201, DMS 205, DMS 210, PHY 130

Corequisite(s): DMS 206, DMS 208, DMS 211

**DMS 214—ACOUSTICAL PRINCIPLES/ INSTRUMENTATION 3-0-3**

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 207, DMS 212

**DTT—DIETETIC TECHNOLOGY****DTT 111—INTRODUCTION TO DIETETICS 3-0-3**

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

**DTT 114—TOPICS IN NUTRITION AND HEALTH 3-0-3**

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

**DTT 199—NUTRITIONAL SERVICES MANAGEMENT PRACTICUM 1-12-3**

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. This course serves as a prerequisite to ECE 180.

**ECE 180—CHILD GROWTH AND DEVELOPMENT 3-0-3**

This course is designed to provide a comprehensive study of child development 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. Prerequisite(s): ECE 179

**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 2-8-4**

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): Grade of C or better and 2.0 GPA, ECE 191, 40 hours of observation

**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 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 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****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 construction 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. Prerequisite(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. Corequisite(s): DFT 105

**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 181—PRINCIPLES OF INDUSTRIAL PNEUMATICS 2-4-4**

Deals with the design and operation of advanced servo systems. It also is concerned with such topics as power generation and regulation, accumulators and pneumatic motors. Prerequisite(s): EGR 180

**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 109

**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. Prerequisite(s): PHY 155  
Corequisite(s): MTH 172

**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. Prerequisite(s): MTH 172, PHY 156

**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

**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. Prerequisite(s): ELC 106

**ELC 192—INDUSTRIAL ELECTRICAL EQUIPMENT 3-2-4**

This course is a continuation in the study and practical application of industrial electrical equipment. This course includes a more in-depth study of industrial electrical devices. During this course, the student will learn how to operate and troubleshoot various types of industrial electrical equipment. Control and power circuit wiring is performed in the lab. Drawings are made and power distribution panels and connections are completed. Prerequisite(s): ELC 191

**ELC 199—ELECTRONICS ENGINEERING INTERNSHIP 1-12-3**

Students will obtain experience in the electronics engineering field through a combination of occupational instruction and on-the-job training. This course integrates classroom occupational study with a planned supervised practical work experience. Prerequisite(s): Permission of instructor

**ELC 200—PROGRAMMABLE LOGIC CONTROL II 3-2-4**

Introduces students to the basic concept of automated manufacturing systems including drive mechanisms and sensing devices. This course will give students a background in today's flexible systems. Prerequisite(s): ELC 100

**ELC 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 under-

standing 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 mechatronic 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 preventative 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 mechatronics 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. Prerequisite(s): EMA 110

**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 mechatronic 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. Prerequisite(s): 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 mechatronics 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. Prerequisite(s): EMA 130

**ENG—ENGLISH****ENG 030—BASIC WRITING 3-0-3**

This first-level composition course covers the fundamentals of grammar, punctuation, mechanics, and sentence and paragraph structure. It is the primary course in the developmental writing sequence, and it prepares students for the intermediate-level developmental writing course in short essay writing. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): Placement Test

**ENG 070—INTERMEDIATE WRITING 3-0-3**

A lecture course emphasizing individualized instruction and the development of writing skills needed in all college studies. Includes review and application of the basics of standard written English with an emphasis on practical application in weekly writing assignments. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): ENG 030 or Placement Test

**ENG 159—INTRODUCTION TO THEATRE 3-0-3**

Provides an introduction to theatre 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 theatre as a logical development of the human need to dramatize perspective on the immediate world.

**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 070, RDG 080 or satisfactory Placement Test score

**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 256—20TH CENTURY LITERARY THEMES 3-0-3**

This introductory course is a multi-genre, multicultural approach to some of the major themes of 20th century literature. Social change is shown through texts that represent a broad spectrum of voices. Students are encouraged to question the effects of literary culture on a heterogeneous society as well as the effects of society on literary expression.

**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 260—AMERICAN LITERATURE 3-0-3**

This is an introductory survey course. Students will examine American literature as an expression of the cultures which produced it. Students will be encouraged to use the literary experience as a means of understanding our individual and collective identity as Americans.

**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 270—ENGLISH LITERATURE SURVEY I 3-0-3**

This course examines the masterpieces of English literature from its earliest inception—with the epic poem “Beowulf” to the end of the Renaissance. Students will explore the history, psychology, and theology of the people and their literature from earliest Anglo-Saxon times, through the Middle Ages, with emphasis on Geoffrey Chaucer’s “The Canterbury Tales.” The course also includes the Renaissance, with an emphasis on the life and works of its greatest contributor, William Shakespeare. Through the use of multimedia techniques, students will read, see, and hear what many scholars consider the greatest of Shakespeare’s history plays, “Henry V.”

**ENG 271—ENGLISH LITERATURE SURVEY II 3-0-3**

This course begins with an examination of the 17th century poetry and prose of such classic writers as John Milton, and then progresses to the 18th century satire of Jonathan Swift and the poetry of William Blake, before immersing the students in the Romantic Age, with concentration on the poets Shelley, Keats, Coleridge, Wordsworth, and Byron. It may concentrate as well on the Gothic novel as represented by Mary Shelley’s classic “Frankenstein” or a variety of other works. English Literature Survey I is not a prerequisite for this course.

**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 277—NATIVE AMERICAN LITERATURE 3-0-3**

This course covers Native American literature beginning with the oral tradition of stories, legends, symbols, and songs from various tribes throughout the United States and Canada. The course encompasses fiction, poetry, and nonfiction of 20th and 21st century writers.

**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 280—HISTORY OF THE ENGLISH LANGUAGE 3-0-3**

The Story of English traces the English language from its origins as the language of a small, remote tribe to the most widely used language in the world today. The growth of English is traced geographically, culturally and politically as the powerful impact of this most diverse tongue is analyzed. Prerequisite(s): ENG 070, RDG 080

**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**

An introduction to the solar system with an emphasis on the sun, major and minor planets, earth-moon system, etc., and the study of physical laws of motion and properties of light. Some night observation and lab work are an important part of this class.

**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—RISK MANAGEMENT 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 259—INVESTMENTS 3-0-3**

A study of individual securities and portfolios which explores how to develop implement and monitor investment goals while considering the risk and return of investment options and Securities Markets. Prerequisite(s): MTH 052 or satisfactory placement test score

### **FIN 263—SMALL BUSINESS FINANCE 3-0-3**

This course introduces the student to the use of financial controls in the administration of small businesses. Topics will include budgeting, profit analysis, development of cash flow statements, cost control, tax planning, economic order quantity analysis and how to set up records for proper business control.

### **FIN 266—FINANCIAL STATEMENT ANALYSIS 3-0-3**

This course emphasizes the use of financial and accounting information. This course helps students develop a systematic approach to analyzing reported data and understanding the underlying risks and possible inconsistencies across companies. Topics will center on ratio analysis, financial projections, working capital management, capital budgeting, the cost of capital, capital structure and planning and divided policy. Prerequisite(s): FIN 220

### **FIN 280—CREDIT MANAGEMENT 3-0-3**

This course introduces the student to the concept of credit management as a primary contributor to worldwide economic growth as it makes goods and services available to consumers, businesses and governmental bodies. Topics covered include: consumer credit, financing of retail and service credit transactions, real estate credit, credit investigation, credit reporting agencies, business credit, and collection management and control.

## **FRN-FRENCH**

### **FRN 155—BEGINNING FRENCH I 3-2-4**

A beginning language course with emphasis on elementary speaking, reading, writing and comprehension.

### **FRN 156—BEGINNING FRENCH II 3-2-4**

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 102—FOOD SAFETY RE-CERTIFICATION 1-0-1**

This course may be used for continued certification with the Pennsylvania Department of Agriculture as a Certified Food Employee. Participants will take the Servsafe Examination upon successful completion of the class. 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—FOOD PURCHASING AND MENU MANAGEMENT** 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.

### **FST 103—FIRE SERVICE ADMINISTRATION 3-0-3**

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.

### **FST 104—FIRE SERVICE HYDRAULICS 3-0-3**

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

### **FST 105—PUBLIC FIRE EDUCATION 3-0-3**

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.

### **FST 107—FIRE PROTECTION SUPPRESSION SYSTEMS AND ALARMS 3-0-3**

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.

### **FST 109—BUILDING CODES AND STANDARDS 3-0-3**

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

### **FST 110—FIRE APPARATUS AND EQUIPMENT 3-0-3**

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.

### **FST 112—ARSON INVESTIGATION 3-0-3**

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

### **FST 114—LIFE SAFETY AND REGULATORY REQUIREMENTS FOR SPECIAL OCCUPANCIES 3-0-3**

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.

### **FST 115—FIRE SERVICE OCCUPATIONAL SAFETY 3-0-3**

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.

### **FST 201—HAZARDOUS MATERIALS 3-0-3**

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.

### **FST 209—BUILDING CONSTRUCTION FOR THE FIRE SERVICE 3-0-3**

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.

### **FST 211—SURVEY OF FIRE INSURANCE RATING AND LOSS CONTROL 3-0-3**

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.

### **FST 215—FIRE TRAINING OFFICER DEVELOPMENT 3-0-3**

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 record-keeping. Prerequisite(s): FST 103

### **FST 216—INDUSTRIAL FIRE BRIGADES 3-0-3**

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.

### **FST 220—FIREFIGHTING TACTICS AND COMMAND 3-0-3**

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

### **FST 221—FIREFIGHTING TACTICS AND COMMAND II 3-0-3**

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

### **FST 222—LEGAL ASPECTS OF THE PENNSYLVANIA FIRE SERVICE 3-0-3**

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.

### **FST 224—PLANS REVIEW FOR FIREFIGHTERS 3-0-3**

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—GRAPHIC COMMUNICATIONS**

### **GCT 100—DESIGN TECHNOLOGY**

**1-0-1**

Students explore the essential concepts of the Mac OS operating system, file management, organization, and workflow, as well as new features. This class will focus on navigation, functionality and self-sufficiency using the Macintosh computer while exploring Adobe Creative Suite applications, Microsoft Word, and campus email. Basic typing skills recommended.

### **GCT 115—DESIGN & LAYOUT I**

**3-0-3**

This fundamental course is designed to explore the unique blend of color, type, graphic images, design principles, and new technologies in the process of two-dimensional and time-based design development through sketching, and vector and pixel-based layouts to create clear, concise communicative design. Macintosh OS X or Windows XP/Vista hands-on experience recommended.

### **GCT 125—EMERGING TECHNOLOGY I**

**3-0-3**

An introductory course using intuitive web motion and interaction design tools to create expressive motion and interactive content for websites using web standards like HTML5, CSS3 and Java Script. Students will develop proficiency in use of the properties-based timeline for creating new compositions, animating existing web graphics, and adding motion to existing HTML files for use on mobile devices and desktop browsers. Macintosh OS X or Windows7/Vista hands-on experience recommended.

### **GCT 131—TYPE & PUBLISHING I**

**3-0-3**

Students develop essential skills of page layout and design, importing elements from Adobe Bridge, Illustrator and Photoshop in the production of ads, postcards, advertisements and brochures for print, Acrobat PDF, and for use on the Internet. Macintosh OS X or Windows XP/Vista hands-on experience recommended.

### **GCT 151—ART & ILLUSTRATION I**

**3-0-3**

An introductory course using the Adobe Bridge asset management system and Adobe Illustrator's powerful vector graphic tools in the creation of detailed and scalable logos, illustrations, business graphics, type, and symbols that will work efficiently and smoothly in Adobe Flash, InDesign, and Photoshop. Macintosh OS X or Windows XP/Vista hands-on experience recommended.

### **GCT 155—GRAPHICS & LETTERING**

**3-0-3**

This course provides an introduction to digitally printed, vector-based graphics as used in advertising, automotive graphics, illustration and murals, pinstriping and lettering, vinyl graphics and digital printing. Students explore many basic sign-related techniques incorporating Adobe Illustrator and Photoshop to assist students in developing a proficiency using relevant vector-based graphics workflow to increase the efficiency and accuracy of any project. Prerequisite(s): GCT 151

### **GCT 161—DIGITAL IMAGING I**

**3-0-3**

A thorough introduction to Adobe Bridge's media management and Photoshop's interface and work environment. Students will learn how to select, enhance, distort, color, scale and manipulate scanned images and artwork, as well as create digital images from scratch for Adobe Acrobat, Flash, Illustrator, InDesign, or for use on the Web. Macintosh OS X or Windows XP/Vista hands-on experience recommended.

### **GCT 163—EMERGING TECHNOLOGY II**

**3-0-3**

This course is targeted toward beginning-to- intermediate level designers that need to create, edit and optimize vector and pixel-based illustrations, graphics, animations, or page layouts and export content to Adobe Dreamweaver or Flash. Students will also design and publish original HTML pages in creating unique, professional-looking websites using web standards without writing codes. Photoshop and Illustrator hands-on experience recommended.

### **GCT 185—PRINT & PREPRESS**

**3-0-3**

This course explores the field of heat-applied graphics and direct-to-substrate printing. Topics covered include specific art, ink and toners, transfer materials, various substrates, equipment, and various business models. This course is designed to provide students with a working experience with inkjet transfers, plottable films, and CAD-cut materials for decorating/embellishing apparel and non-apparel items. Prerequisite(s): GCT 151 and GCT 161

### **GCT 210—DESIGN & LAYOUT II**

**3-0-3**

Students explore the essentials skills and principles of advertising design, from both a creative and a business perspective. Students research, plan, and create logos and advertising, marketing materials, and advertising programs to establish and promote a small business advertising strategies across various mediums: storefront, vehicle graphics, outdoor mediums, and printed materials. Photoshop or Illustrator skills recommended. Prerequisite(s): GCT 115, GCT 151 and GCT 161

### **GCT 231—TYPE & PUBLISHING II**

**3-0-3**

Students become more skillful in their use of Adobe InDesign's advanced authoring environment, as well as the Adobe Creative Suite components. Course topics include style sheets, master pages, libraries, color palettes, trapping, pre-flighting, and creating compelling print layouts, immersive content for playback in Flash Player, and interactive PDF documents. Prerequisite: GCT 131

### **GCT 245—GRAPHICS & LETTERING II**

**3-0-3**

Designed for beginners, this course provides detailed information covering fundamental pinstriping, lettering, gold leafing, and basic graphic techniques. Hands-on instruction will guide students through the basic skills and techniques of custom hand lettering, pinstriping, scrolling, gold leafing, and basic graphics. The course is designed to clear the mystery for the beginner and eliminate the fear of learning lettering and striping and to explore a lucrative career.

### **GCT 251—ART & ILLUSTRATION II**

**3-0-3**

Students will create and edit vector-based artwork, with an emphasis on increasing productivity by mastering the pen and path tools to create realistic and professional vector artwork. 3D features, typographic effects, gradient meshing, library elements and the use of Web-related features are integrated with the Adobe Creative Suite components. Prerequisite(s): GCT 151

### **GCT 261—DIGITAL IMAGING II**

**3-0-3**

This course will increase a student's knowledge and efficiency of using the Adobe Photoshop workflow, Paint Engine, and Alpha channels for effectively compositing, color correcting, masking, and digital painting for entertainment, advertising and marketing design projects as well as developing tighter integration with the Adobe Creative Suite components. Prerequisite(s): GCT 161 or MED 170

### **GCT 285—PRINT & PREPRESS II**

**3-0-3**

This course begins with an overview of the Adobe Creative Suite for design, print technologies and digital workflow. Students incorporate advanced masking and compositing, color correcting techniques and prepress essentials for preparing digital and commercial print-ready images. Prerequisite(s): GCT 261

### **GCT 287—DIGITAL WORKFLOW**

**3-0-3**

Through lectures and hands-on exercises, students refine their artistic abilities and technical skills, and increase their efficiency and productivity with Adobe Creative Suite components to produce innovative and compelling cross-media publications for print, rich-media PDFs, the Web and mobile content. This is a capstone course; satisfactory demonstration of outcomes for competency profile for the Graphic Design program is required. Prerequisite(s): GCT 231, 253 and 285

### **GCT 290—SEMINAR IN GRAPHICS**

**3-0-3**

Supervised project-oriented study gives students the opportunity to create their own personal identity, a critical part of marketing one's self to a client or employer and participate in the design/production of WCCC undergraduate research products. The traditional/digital portfolio, incorporating samples of their coursework, demonstrates all of the concepts and techniques learned in prior courses. Students attend several professional growth workshops on campus to aid in developing interviewing skills and preparing their resumé. Prerequisite(s): GCT 155, 231, 261 and 285

**GCT 299—GRAPHICS INTERNSHIP** **0-12-3**  
 Students gain exposure and insight into the selection of occupations within the fields of creative design/marketing and commercial printing/publishing through supervised and evaluated on-the-job experience. Students select locations for their internships from college-approved sites which primarily encompass southwestern Pennsylvania. Online seminars are conducted for the students to discuss their experiences. Transportation to off-campus locations is the responsibility of students. Prerequisite(s): Completion of 27 credits in GCT major courses or permission of instructor

## **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—HEATING AND COOLING FUNDAMENTALS** **2-4-4**

This course is designed to introduce students to light-commercial refrigeration and air-conditioning systems. Individual components and controls found in refrigeration, air-conditioning and heating are evaluated and tested in the classroom and the HVAC lab. Students will learn to use and apply meters, gauges, hand tools, power tools to troubleshoot and repair HVAC equipment.

**HAC 150—PSYCHROMETRICS AND LOAD ESTIMATION** **3-0-3**

This course covers the use of the psychrometric chart to determine the properties of air and its effect on human comfort. This course also shows the student how to use ACCA Manual JAE and computer load software to determine building heating and cooling loads and to select HVAC equipment.

**HAC 170—HVAC CONTROL SYSTEMS** **2-2-3**

Provides a fundamental understanding of electrical, pneumatic and electronic control circuits as applied to HVAC systems. Reading and comprehending wire diagrams and ladder diagrams are covered in detail. Troubleshooting and repairing HVAC circuits using electrical meters and pressure gauges are covered in the classroom and lab on real equipment found in the field. Installation and replacement of controls are performed in lab.

**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 230—AIR DISTRIBUTION AND CODES** **2-3-3**

This course covers the proper sizing, designing and installation of ductwork for HVAC systems. Students will demonstrate the proper use of manometers, magnehelic gauges, and air flow meters to determine air system flow and velocity. ACCA Manual D and duct calculators are used to size ductwork. Computers are also used to determine the proper size of ducts. The basics of mechanical code is covered as well in this course. Prerequisite(s): HAC 150

**HAC 240—HVAC DUCT FABRICATION** **2-4-4**

This course is designed to teach the HVAC student proper metal and fiberglass duct construction techniques. Students will layout, fabricate and install air ducts in the classroom and lab. Duct fitting identification and connections will be covered in this class. Venting systems and make-up air fittings will be fabricated as well.

**HAC 250—AIR CONDITIONING I** **2-4-4**

This course is designed to show students how air-conditioning and furnaces operate. HVAC equipment installation, troubleshooting, replacement and repair are covered in the classroom and the HVAC Lab. Classroom theory in the operation of systems show students how the equipment should operate. Lab skills offer students hands-on experience on real residential and light commercial equipment.

**HAC 255—HEAT PUMPS** **2-4-4**

This course covers the operation, troubleshooting, repair of reverse cycle air source and ground source heat pump systems and their individual components. Heat pump control check out, replacement or repair will be demonstrated by the students in lab. Prerequisite(s): HAC 101

**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. Prerequisite(s): HAC 101

**HAC 280—RESIDENTIAL WIRING** **2-4-4**

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 tab.

**HAC 290—REFRIGERATION RECOVERY** **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.

## **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****HMS 155—INTRODUCTION TO HUMAN SERVICES 3-0-3**

Introduction to Human Service 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. Students will become familiar with the Services Providers in the local area. Additionally, students will examine their personal feelings and motivations related to becoming a helper.

**HMS 156—COMMUNICATION FOR HUMAN SERVICE WORKERS 3-0-3**

An introduction to the theories and practices of basic communication skills focusing on interpersonal communication in the helping services. The course is interactive, providing students the opportunity to practice skills.

**HMS 157—INTERVIEWING AND RECORDKEEPING SKILLS 3-0-3**

As the follow-up course to HMS 156 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 156

**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 156

**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 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

**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 GPA, 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**

**238 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 2-2-3**

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. In the lab, 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 protection systems; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; and life safety initiatives.

**HSM 103—INTRO TO VULNERABILITY ASSESSMENTS, PHYSICAL SECURITY AND DETERRENENTS TO TERRORISM 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—HOMELAND SECURITY AND EMERGENCY MANAGEMENT 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.

**HSS—HEALTH AND SAFETY SERVICES****HSS 103—Health and Safety in the Workplace 3-0-3**

Safe work practices save more than money. A safe work environment promotes a positive relationship between the employer and the employee. This course will orient students to the practice of safety in the workplace. Students will explore the impact of safety regulations in American industry from the mid 1800s through today. Students will be introduced to the various agencies that govern safety in the workplace and will study the impact of behavioral-based and participative safety models in the modern workplace.

**HSS 105—Health and Safety for General Industry 3-2-4**

A comprehensive study of the OSHA guidelines that govern general industry. Topics covered include: electrical safety; hazardous materials; machine guarding; cranes and lifting devices; blood-borne pathogens; fire safety; confined space; hydrogen sulfide; slips, trips, and falls; ergonomics; and personal protective equipment. Students will study the methodology used to implement and enforce a health and safety program and will perform simulated job safety analyses and industrial site evaluations. Special focus on written safety programs and identification and correction of potential hazards.

**HSS 120—Accident Investigation Techniques for Industry 2-0-2**

Work-related accidents are responsible for thousands of injuries and fatalities annually. Health and safety professionals use systematic accident investigation and evidence gathering techniques to determine accident causes and identify future solutions. This course will explore the techniques and methodology used to investigate accidents and discover the origin(s) of these events. Accident investigation and investigation results are important to the affected personnel, organization, equipment, and to the families and loved ones of those who may have been injured. This course will explore the investigative techniques used in finding the causes of accidents and provide the information to assist in developing changes to equipment, procedures or behaviors that help prevent future accidents.

**HSS 140—Safety Management and Auditing 3-0-3**

A comprehensive study of the practices of safety management and safety auditing in industry. Discussion on the roles and responsibilities of the members of an organization in reference to creating and maintaining a culture of safety. Methodology and best practices for implementing safety plans and conducting safety audits.

**HSS 150—Adult Learning Methodologies 2-0-2**

The learning process evolves as we progress from high school to college and into the workforce. Teaching methods that worked when we were younger no longer seem logical or valuable. The process of adult learning is different and successful trainers embrace a variety of methods to facilitate the learning process. This course will discuss the adult learning process and assist students in developing the skills necessary to be a successful trainer.

**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 respects 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. Relationship between 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 3-2-4**

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 3-2-4**

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.

**JPN—JAPANESE****JPN 155—BEGINNING JAPANESE I 3-2-4**

This course will give an introduction to the basic grammar, sentence patterns and vocabulary of modern Japanese, and develop the four fundamental language skills of listening, speaking reading and writing. Attention to the written component of modern Japanese will include the hiragana and katakana syllabaries, as well as kanji characters. The course will include discussion of Japanese culture and society to enhance the understanding of the language.

**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 150—CONTRACTS** **3-0-3**

An introduction to the law of contracts, including offer, acceptance, consideration, performance, breach and damages. A general theoretical discussion is supplemented with specific concentrations in contract law proceedings. Prerequisite(s): LAS 101 or BUS 205 and LAS 111

**LAS 175—PROPERTY LAW** **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 of ownership 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. Corequisite(s) LAS 101

**LAS 200—AMERICAN CONSTITUTIONAL EXPERIENCE** **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.

**LIS—LIBRARY SCIENCE****LIS 100—INTRODUCTION TO LIBRARY SCIENCE** **3-0-3**

Library science is a course designed for the profession of librarianship. It is a profession devoted to applying theory and technology to the creation, selection, organization, management, preservation, dissemination and utilization of collections of information in all formats.

**LIS 110—INTRODUCTION TO LIBRARY CATALOGING AND CLASSIFICATION** **3-0-3**

This course is an introduction course on library technical services, focusing in particular on library classification systems, with emphasis on LC and Dewey Decimal Classification systems. This will incorporate identifying and creating LC subject headings, creating MARC records, and deciding when to use copy cataloging or when to create original cataloging records.

**LIS 120—INFORMATION SOURCES AND SERVICES** **3-0-3**

This course provides an introduction to reference resources—both print and non-print, including selection criteria and the use of selection tools. Also included is the organization and delivery of reference services, including the reference interview.

**LIS 130—COLLECTION DEVELOPMENT AND MATERIALS SELECTION** **3-0-3**

This course provides students with an understanding and working knowledge of the processes and procedures involved in developing and maintaining library collections. It addresses the topics of selection, evaluation, policy development, weeding, and censorship.

**LIS 140—LIBRARY ADMINISTRATION** **3-0-3**

This course addresses the organization and management of libraries. It includes the study of budget preparation, general management and supervision techniques and procedures, decision-making, planning, human resources issues, and facilities and equipment related to library use, ADA regulations, and managing technology.

**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 110

**MED—MULTIMEDIA TECHNOLOGY****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 iPods and download podcasts for use on devices capable of playing MP3s. How to setup a podcasting studio, utilize music and video inexpensively and legally will also be covered.

**MED 105—MULTIMEDIA FOR WEB****3-0-3**

An introductory level course exploring Apple's iLife software package. Students will produce basic iVideo, iPhotos, audio, and iDVD 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 TECHNIQUES****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 miniDV digital video camera and external hard drive.

**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 156—TELEVISION PRODUCTION I****2-2-3**

Course introduces multi-camera digital video production. Students will learn basic camera operation and principles of studio-based live-switched productions. Basic lighting procedures and fundamental editing, scripting and storyboarding will be presented. Media students with an interest in live television, like news and sports, will find this course useful.

**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—BASIC VIDEO PRODUCTION****2-2-3**

Introduces digital, single-camera video production. Students will learn basic camera operation and use of nonlinear editing. Basic lighting procedures and fundamental scripting/storyboarding will be presented. Students, such as education majors, wishing to incorporate video instruction as an additional means of communication within their classroom may find this class of interest.

**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****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. Students will learn the use of peripheral devices to scan digital images. Basic studio lighting as it applies to digital photography is also explored.

**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****3-0-3**

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 265, MED 170

**MED 240—AUDIO PRODUCTION****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. This course is the same as COA-256 Advertising.

**MED 257—TELEVISION PRODUCTION II****2-2-3**

This course covers video field production techniques and production. Nonlinear editors and digital video cameras are used to digitally produce student projects and assignments. Prerequisite(s): MED 156

**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.

**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 265

**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. 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 170, and MED 265 OR MED 161

**MED 270—ADVANCED EDITING TECHNIQUES 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 and apply color corrections and composite images. Prerequisite(s): MED 150

**MED 271—ADVANCED DIGITAL PHOTOGRAPHY 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. 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 3-2-4**

A study of the manufacturing of metals and alloys, emphasizing their properties as to weldability. Demonstrations in the use of tensile tester, impact tester, metallograph, metallurgical microscopes and polishing techniques. Also included is the advanced study of properties of metals and alloys with a particular emphasis on practical plant problems and processes. Includes a study of heat treatment, casting, plating and rolling. Laboratory studies will include emphasis on the above material.

**MKT—MARKETING****MKT 199—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

**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.

**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.

**MRI—MAGNETIC RESONANCE IMAGING****MRI 105—MRI DATA ACQUISITION, PROCESSING AND PHYSICAL PRINCIPLES OF IMAGE FORMATION 4-0-4**

This course will provide the student with an overview of MRI imaging to consist of the data acquisition process, image processing and physical principles of image formation. Additional topics discussed include magnetism, spatial localization, signal production, the characteristics of various tissues, pulse sequencing and imaging parameters.

**MRI 110—MRI PATIENT CARE, SAFETY AND SECTIONAL ANATOMY 4-0-4**

This course will provide students with the basic principles of MR safety and covers the basic concepts of patient management. Educating patients and ancillary staff on magnet safety also is presented. Patient and magnet-related emergencies are discussed along with MRI contrast agents. In addition, the study of human anatomy as seen in multiple orthogonal planes is covered. Bone, muscle, vascular structures, organs and soft tissues of the following anatomical regions are studied: central nervous system (brain and spine), the structures in the head, soft tissue neck, musculoskeletal, cardiovascular, thorax, abdomen and pelvis.

**MRI 115—CLINICAL EDUCATION FOR MRI 0-16-4**

This clinical course provides students the opportunity to observe, practice and perform MRI procedures. Students will complete MRI examination where image quality and patient care are evaluated. Prerequisite(s): MRI 105, MRI 110

**MTH—MATHEMATICS****MTH 050—BASIC MATHEMATICS 3-0-3**

Designed for students who need to develop the basic mathematic skills that are essential to 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 both to motivate and reinforce learning. Developmental courses may not be used to fulfill degree requirements. Prerequisite(s): Placement Test

**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 the solution of 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): Placement Test or MTH 050

**MTH 052A—BASIC MATHEMATICS/ FOUNDATIONS OF ALGEBRA 4-0-4**

Basic mathematics and intro to elementary algebra provides basic principles, concepts and techniques that are necessary for student's 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. This course is designed for students with little or no algebra background. Developmental courses may not be used to fulfill graduation requirements. Prerequisite(s): MTH 050 or satisfactory Placement Test score

**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, scientific notation and word problems. Prerequisite(s): MTH 052 or satisfactory Placement Test score

**MTH 100A—INTERMEDIATE ALGEBRA WITH FOUNDATIONS** 4-0-4

Designed for students with some previous algebra background but gaps in elementary algebra. Further enhances these algebraic skills and develops others necessary for achievement in College Algebra. Content materials include simplifying algebraic expressions, the rules of exponents, operations on polynomials, solving first and second degree equations, polynomial functions, rational functions, exponents, radicals and topics related to them, scientific notation and word problems. Prerequisite: MTH 052

**MTH 108—MATHEMATICS FOR THE TECHNOLOGIES I** 3-2-4

A course for technologies majors emphasizing application and problem solving. Topics include: review of fundamental algebra; formula transformation; dimensions and units; radicals; systems of linear equations, graphing of data, equations and functions; right triangle trigonometry; and quadratic equations and functions. Prerequisite(s): MTH 052 or satisfactory Placement Test score

**MTH 109—MATHEMATICS FOR THE TECHNOLOGIES II** 3-2-4

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 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, regression and correlations. Elementary research designs are included. It is advised that students have a background in algebra. Prerequisite(s): MTH 052 or satisfactory Placement Test score

**MTH 161—MODERN COLLEGE MATHEMATICS** 3-0-3

A course designed for students preparing for the pre-nursing exam and non-science majors. Topics include limited coverage of algebra and geometry, a discussion of ratios and proportions, and some work with percentages, probabilities, dimensional analysis and statistics. Prerequisite(s): MTH 052 or satisfactory Placement Test score

**MTH 172—ANALYTICAL GEOMETRY AND CALCULUS I** 4-0-4

A first course in calculus and analytical geometry. Topics include limits and derivatives of algebraic and trigonometric functions; applications of derivatives, continuity and basic integration techniques. Prerequisite(s): MTH 109, MTH 158 or satisfactory Placement Test score

**MTH 173—ANALYTICAL GEOMETRY AND CALCULUS II** 4-0-4

Continuation of MTH 172. Differential and integral calculus of algebraic and transcendental functions; analytical geometry, techniques of integration and application of the integral, sequences and series, convergence and divergence theorems. Prerequisite(s): MTH 172

**MTH 180—ELEMENTS OF MATHEMATICS I** 3-0-3

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

**MTH 185—ELEMENTS OF MATHEMATICS II** 3-0-3

Designed to follow Elements of Mathematics I and continue with more advanced topics in mathematics focusing on the problem solving process. Areas of emphasis include probability and statistics, geometry, computer topics, logic, and measurement. Prerequisite(s): MTH 180

**MTH 271—ANALYTICAL GEOMETRY AND CALCULUS III** 4-0-4

This is a continuation of MTH 173. Topics include two and three dimensional vectors, areas and surfaces, multi-variable and partial derivatives, double and triple integrals and applications. Prerequisite(s): MTH 173

**MTH 272—DIFFERENTIAL EQUATIONS** 3-0-3

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

**MTT—MACHINE TECHNOLOGY**

**MTT 100—INTRODUCTION TO METALWORKING** 1-3-3

This course is designed to introduce the student to the history of machining tools, machine trade opportunities and general shop safety. Classroom and laboratory activities include basic measurement, layout tools and processes, hand tool and bench work, metal cutting saws and drilling machines. The Machinery's Handbook will be used to introduce the student to metal cutting technology and operations.

**MTT 101—BLUEPRINTS** 3-2-4

This course will introduce students to the basic principles, terminology, and symbology used on machining blueprints. The course will include instruction in both conventional dimensioning and geometric dimensioning and tolerancing. Machining prints will be examined and interpreted.

**MTT 102—GEOMETRIC DIMENSIONING AND TOLERANCING** 2-2-3

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.

**MTT 105—LATHE I** 1-4-3

This course is designed to provide the student with basic skills in the use of the metal lathe, its parts and applications. Classroom and laboratory activities will include straight turning facing, single point threading, turning with stock held in chucks and between centers. Students will turn parts to specification while observing appropriate safety procedures. Prerequisite(s): MTT 100

**MTT 110—MILL I** 1-4-3

This course is designed to introduce the student to the milling machine, its parts, operation and application. Classroom and laboratory activities will include the basic setup and operation of the vertical milling machine, accessories and attachments, speeds and feeds, metal cutting techniques, drilling and reaming. Students will mill parts to specification using appropriate safety procedures. Prerequisite(s): MTT 100

**MTT 111—MACHINING 1** 2-4-4

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

**MTT 112—MACHINING 2** 2-6-5

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

**MTT 199—MACHINE 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 work experience.

**MTT 201—INSPECTION 3-2-4**

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.

**MTT 202— MAINTENANCE 2-4-4**

This course will introduce students to the basic principles and procedures used to maintain machine shop equipment. Both preventative maintenance and machinery repair will be covered. The students will spend time disassembling, repairing, and reassembling machine shop equipment.

**MTT 206—LATHE II 1-5-3**

This course is designed to provide the student with the advanced skills in the use of the metal lathe, its parts and application. This hands-on course requires students to use a variety of advanced metal lathe operations, with stock held in chucks and between centers, using metal cutting techniques to make parts and objects to specifications. These parts will require the student to perform internal and external threading, knurling, boring, faceplate applications, eccentrics and the use of the study rest, follower rest and grinding attachments. The students will also learn taper turning between centers, production turning and taper turning with the taper attachment. Students will be prepared to take the National Institute of Metalworking Skills (NIMS) Level II certification in Turning. Prerequisite(s): MTT 105, MTT 102

**MTT 211—MILL II 1-5-3**

This course is a continuation of Mill I. Through a combination of lectures and hands-on exercise, Mill II exposes the student to more advanced complex machining on the vertical mill. Topics will include precision hole location, key seats, rotary tables, dividing head operations, cutting deep slots and boring operations. Prerequisite(s): MTT 110 and MTT 102

**MTT 213—MACHINING III 2-6-5**

This course will provide students with further training and experience using mills, lathes, and grinders. Topics will include squaring, angular machining, rotary tables, indexing heads, grooving, slotting, radii, pocketing, taper turning, sine chucks, cylindrical grinding and EDM. Prerequisite: MTT 112

**MTT 214—MACHINING IV 2-8-6**

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

**MTT 215—GRINDING I 1-4-3**

This course is designed to introduce the student to precision grinding operations and their application. This hands-on course requires students to use a variety of surface and form grinders and techniques to make parts and objects to specification. These parts will require the student to learn and understand the following: grinding safety, wheel selection and preparation, surface finishes, the use of grinding fluids, and the proper procedure to grind flat, square parallel steps, slots and angles. Students will be prepared to take the National Institute of Metalworking Skills (NIMS) Level I certification in Grinding. Prerequisite(s): MTT 100 and MTT 102

**MUS—MUSIC****MUS 111—FUNDAMENTALS OF MUSIC THEORY 3-0-3**

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.

**MUS 115—THEORY SKILLS I 1-0-1**

This course develops aural skills through dictation and interpretation of written music using sight singing, ear training, and music dictation. Corequisite(s): MUS 165

**MUS 116—MUSIC AURAL THEORY SKILLS II 1-0-1**

Develops aural skills through dictation and interpretation of written music by sight singing. Prerequisite(s) MUS 115; Corequisite(s): MUS 166

**MUS 117—FUNDAMENTALS OF APPLIED MUSIC LESSONS I 1-0-1**

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.

**MUS 118—FUNDAMENTALS OF APPLIED MUSIC LESSONS II 1-0-1**

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**

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

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** 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** 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** 3-0-2

The WCCC 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, 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

**MUS 142—COLLEGE SYMPHONIC BAND II** 3-0-2

The WCCC 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** 3-2-3

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 WCCC 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 WCCC 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 and utilized. Prerequisite(s): MUS 215, MUS 265; Corequisite(s): MUS 266

**MUS 221—APPLIED MUSIC III 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 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 3-0-2**

The WCCC 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 3-0-2**

The WCCC 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 WCCC 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 278—COLLEGE ORCHESTRA IV 2-0-2**

The WCCC 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 285—COLLEGE STAGE BAND I 5-3-2**

The Westmoreland County Community College 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 AND CONFLICT RESOLUTION IN INDUSTRY 1-0-1**

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 in 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. Students will be required to complete the PEC Core Compliance safety program. 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 Heart-saver 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 100—TRANSITION TO THE PN PROGRAM 5-1.5-2**

Offers the WCCC associate degree nursing student the opportunity to complete the additional hours necessary to meet the required hours of enrollment in a PA State Board approved practical nursing program. Enrollment in this course is restricted to WCCC Nursing Students who have successfully completed all Level I ADN Nursing courses, but did not successfully complete a Level II Nursing course, thus requiring exiting from the ADN Program. Enrollment in this course requires faculty approval for transfer into the Practical Nursing Program.

**NSG 110—INTRODUCTION TO NURSING AND HEALTH CARE .7-1.5-1 ADN .7-2-1 PN**

Presents an overview of the profession of nursing and health care. The five critical elements of the WCCC Nursing Program: caring, competency, communication, critical thinking and commitment serve as the framework for this course. Concepts and issues related to each element are presented. Opportunities to investigate these issues take place in the campus laboratory. Corequisite(s): BIO 171, PSY 160

**NSG 111—FOUNDATIONS OF NURSING CARE 3-15-8 ADN 3-18-8 PN**

Presents the basic concepts and practice skills that are fundamental to providing nursing care 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 setting. The application of the basic care concepts and practice skills occurs in various health care settings. Corequisite(s): BIO 171, ENG 161, PSY 160, NSG 110



**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 116

**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; Corequisite(s): BIO 172, NSG 112, NSG 114

**NSG 120—BASIC MEDICAL SURGICAL NURSING CARE IN ACUTE SETTINGS** **3-9-6 ADN 3-11-6 PN**

Emphasizes the role of the nurse as provider of care for adults with common well-defined health problems experiencing alterations in basic human needs. The focus is on caring for individuals with alterations in oxygenation, nutrition and elimination, safety and security, activity and rest, and psychosocial-sexual needs. The opportunity to practice related nursing skills, including intravenous therapy, is provided in the campus laboratory setting. Clinical laboratory experiences provide the opportunity for application in acute medical surgical settings. Prerequisite(s): NSG 110, NSG 111 Corequisite(s): BIO 172, PSY 161

**NSG 121—BASIC MEDICAL SURGICAL NURSING CARE IN SELECTED SETTINGS** **3-6-5 ADN 3-7.5-5 PN**

Emphasizes the role of the nurse as provider of care for adults with common well-defined health problems experiencing alterations in basic human needs. The focus is on caring for individuals with alterations in oxygenation, nutrition and elimination, safety and security, activity and rest, and psychosocial-sexual needs. The opportunity to practice related nursing skills is provided in the campus laboratory setting. Clinical laboratory experiences provide the opportunity for application in subacute and extended care settings. Prerequisite(s): NSG 110, NSG 111 Corequisite(s): BIO 172, PSY 161, NSG 122

**NSG 122—MENTAL HEALTH CONCEPTS** **.5-1.5-1**

This course offers the student the opportunity to develop knowledge, skills and behaviors essential for providing care for individuals experiencing alterations in psychosocial needs and their families. The focus is on basic mental health theories, concepts and principles that provide the rationale for interventions to promote mental health. The opportunity to develop and practice selected therapeutic communication skills to promote mental health is provided in the campus laboratory setting. Prerequisite(s): NSG 110, NSG 111 Corequisite(s): BIO 172, PSY 161

**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 130—PRACTICAL NURSING ROLE IN EXTENDED CARE SETTINGS** **2-8-4**

Facilitates the student's transition to practical nursing practice. Content related to the practical nursing role as manager of care in extended care settings under the supervision of the registered nurse is explored. Issues related to beginning and maintaining a career of a practical nurse are also examined. Clinical laboratory experiences in the area of the extended care settings provide the opportunity for the student to apply knowledge, skills and behaviors developed in previous nursing courses. This course also provides the student with the opportunity to develop behaviors to manage care of individuals in the extended care setting under the supervision of the registered nurse. The course is required of PN students only. Prerequisite(s): First and second semester nursing and support courses Corequisite(s): SOC 155

**NSG 131—BASIC NURSING CARE OF THE CHILDBEARING FAMILY** **1.5-6-3**

Introduces the practical nursing student to the basic concepts, skills and behaviors necessary to provide care for childbearing individuals and families. The focus is on the care of childbearing individuals and their families with alterations in basic human needs. The campus laboratory provides the student with the opportunity to learn and practice skills necessary for providing basic care. Clinical laboratory experiences in area health care agencies offer opportunities for students to apply basic care concepts and skills. This course is required of PN students only. Prerequisite(s): First and second semester nursing and support courses Corequisite(s): SOC 155

**NSG 132—BASIC NURSING CARE OF THE INFANT, CHILD AND FAMILY** **1.5-6-3**

Introduces the practical nursing student to the basic care of the infant, child and family. The focus is on anticipatory guidance and care of the infant, child and family with alterations in basic human needs. Common health problems of the infant and child are examined. The practice of related nursing skills takes place in the campus laboratory. Clinical laboratory experiences in area health care and child care settings provide the student with opportunities to apply concepts to the care of infants, children and their families. This course is required of PN students only. Prerequisite(s): First and second semester nursing and support courses Corequisite(s): SOC 155

**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 210—ROLE OF THE ASSOCIATE DEGREE NURSE** 1-3-2

Introduces the student to the role of the professional nurse with an emphasis on provider of care. The roles of the nurse as a manager of care and member of a discipline are introduced. Focus is on the knowledge, skills and behaviors necessary to become a caring, competent and committed nurse who thinks critically and communicates effectively when caring for individuals and their families in a variety of settings. The campus laboratory provides the opportunity to practice activities to promote health, prevent disease and to develop skills related to the role of the professional nurse as provider of care. Prerequisite(s): Level I ADN nursing and support courses Corequisite(s): Level II nursing, BIO 265, ENG 164

**NSG 215—INTRODUCTION TO HEALTHCARE INFORMATICS** 3-0-3

As healthcare continues to evolve in an increasingly competitive information marketplace, healthcare workers must be prepared to make significant contributions. This course is an introduction to how technology is applied to the delivery of healthcare for all allied health and nursing practitioners. Healthcare professionals are knowledge workers who are information dependent. Learners will examine the analysis of healthcare data and its transformation to healthcare knowledge. The impact of evolving/emerging information technologies on healthcare providers and consumer roles will be discussed. This course is intended to develop technologic competencies that will carry over as new healthcare technologies emerge. Prerequisite(s): NSG 121 and 122; or RAD 131, 141 and 146; or DAH 114; or DMS 201, 205, 206

**NSG 216—BIOETHICAL DECISION-MAKING IN NURSING AND HEALTHCARE** 3-0-3

This course focuses on the nurse's practice (healthcare professional) as realized in the moral agency of individual nurses. This course also highlights the synergy between the patient and nurse when engaged in the caring practice of ethical decision-making. The process used by nurses helping patients/families make ethical decisions involves a synergy between the nurse's competencies and the patient's characteristics. Rights and the importance/necessity of context are explored. Select ethical systems are analyzed as to their usefulness in health care decision-making and their compatibility with the synergy model. The symphonology theory of bioethical decision-making is evaluated as a practice based contextual bioethical system and used in the analysis of patient dilemmas. Prerequisite(s): NSG 121 and 122; or RAD 131, 141, and 146; or DAH 114; or DMS 201, 205, 206

**NSG 220—NURSING CARE OF THE CHILDBEARING FAMILY** 1.5-4.5-3

Introduces the student to the role of the associate degree nurse as provider of care and member of the discipline when working with childbearing individuals and families. Emphasis is placed on identifying alterations 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. Opportunities to practice related skills are provided in the campus laboratory. A variety of health care settings provide the student with clinical experience in the care of the childbearing family. Prerequisite(s): Level I ADN nursing and support courses Corequisite(s): Level II nursing and support courses

**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 230—NURSING CARE OF THE INFANT, CHILD AND FAMILY** 1.5-4.5-3

Introduces the student to care of the infant, child and family. The focus is on meeting and maintaining basic human needs and the care of the infant, child and family with alterations in basic human needs. Health promotion, disease prevention, and care of the infant and child with common health problems are studied. The practice of related nursing skills takes place in the campus laboratory. Clinical laboratory experience in area health care and child care settings provides the student with opportunities to apply concepts. The clinical experience in this course requires flexible scheduling. This course will be taught over five weeks. Prerequisite(s): Level I ADN nursing and support courses Corequisite(s): Level II nursing and support courses

**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

Emphasizes the utilization of the nursing process in the care of individuals with alterations in basic human needs by focusing on the chronically ill adult with common health problems. Campus laboratory provides the student with the opportunity to practice physical and psychological assessment techniques and interventions to care for the chronically ill adult. Clinical laboratory experiences are primarily in acute care and home settings; with limited experiences with hospice, rehabilitation and outpatient settings to allow the student to apply care concepts and skills. Prerequisite(s): Level I ADN Nursing and Support courses Corequisite(S): Level II nursing and support courses

**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 intervention 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**

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. The 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 ADN nursing and support courses, Level II ADN courses Corequisite(s): CPT 150, Mathematics elective

**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 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

**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 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. Prerequisite(s): OFT 110

**OFT 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. Prerequisite(s): OFT 110

**OFT 151—ADVANCED OFFICE APPLICATIONS 3-0-3**

This course provides word processing, spreadsheet, database and presentation instruction on microcomputers. Students use the Microsoft Office components: Word, Excel, Access and PowerPoint to create, edit, format and store documents, worksheets, databases and presentations. Prerequisite(s): CPT 150

**OFT 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.

**OFT 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. This course cannot be applied to the Health Information Technology degree. Prerequisite(s): OFT 110 and CPT 150

**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 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, mathematic and financial functions. The course will introduce dynamic linking, macros and importing/exporting data. Prerequisite(s): CPT 150

**OFT 196—ACCESS FOR WINDOWS 3-0-3**

Microsoft Access is a relational database management system that allows the user to store and retrieve information about 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. Prerequisite(s): CPT 110 or CPT 150

**OFT 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): OFT 110, OFT 140 or OFT 145; QPA of 2.0 overall in major

**OFT 220—TRANSCRIPTION AND FILING 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. Prerequisite(s) OFT 110

**OFT 230—MEDICAL TRANSCRIPTION 3-0-3**

This course will develop medical transcription skills for speed and accuracy. The translation of recorded medical correspondence, reports and records to properly formatted documents will be covered. Emphasis will be place on the development of professional editing and proofreading skills using medical documents. Prerequisite(s): OFT 110

**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 245—ICD-10-CM TRANSITION CODING 2-0-2**  
This course will provide an overview of ICD-10-CM as well as review and practice activities. With an integrated course of study, the student will read the book chapter, complete the exercises and then relate to online activities. After completing the course, the student will be prepared to take the self-assessment exam that will simulate the 75-question AAPC ICD-10 exam. This course cannot be applied to the Health Information Technology degree. Prerequisite(s): OFT 285; CPC certification; 3 years coding ICD-9

**OFT 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, 9th Revision, Clinical Modification (ICD-9-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

**OFT 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): ALH 122, BIO 107

**OFT 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, OFT 130, OFT 250, OFT 260

**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 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): OFT 145, OFT 250, OFT 260, 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 155—COLLEGE SUCCESS 3-0-3**  
This course is intended to assist the student in assessing their current level of academic functioning and their readiness for college. The course will help the student identify areas of needed improvement and help the student begin the process of change. Concentration will be on the skills needed for success in and outside of the college classroom.

## **PDV 160—STRATEGIES FOR ACADEMIC SUCCESS 1-0-1**

This course is designed to help students adjust to college life and college expectations. Students will learn to enhance and refine their skills in note taking, study habits, goal setting, stress management and time management. Students will develop an understanding of the WCCC catalog to include policies/procedures, course descriptions and program requirements. In addition, students will become familiar with the resources and activities available at WCCC.

## **PDV 165—INTRODUCTION TO HIGHER EDUCATION 1-0-1**

This course introduces the student to the American system of higher education, especially the community college system. Educational planning, strategies for academic success and skill development will be emphasized. Students will become familiar with the resources available to them at Westmoreland County Community College and will understand the policies and procedures of the college. Educational and transfer planning will be emphasized as students become familiar with the processes of obtaining fulfilling both general education and major requirements for a college degree. Time management, goal setting, making sound decisions and self-reliance will be emphasized.

## **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. Importance of infection prevention, patient identification, labeling of specimens, specimen collection, quality assurance, and specimen handling is stressed. Professionalism, ethics, confidentiality, protected health information, and safety are stressed. Prerequisite(s): ALH 122 Corequisite(s): PHB 105

### **PHB 105—SPECIMEN PROCESSING 3-3-4**

This course covers the principles of specimen collection and handling. National standards are presented as well as clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics. Students perform such tasks as data entry and specimen accession. Students use centrifuge machines and aliquot samples as well as learning methods of sample collection. Patient confidentiality and protected health information are addressed. Prerequisite(s): ALH 122 Corequisite(s): PHB 101

### **PHB 110—PHLEBOTOMY AND/OR SPECIMEN PROCESSING PRACTICUM 0-15-5**

This course provides close and directed supervision for the specimen processor to apply skills. Duties may include any or all of the following: receiving specimens, identification, labeling and distributing laboratory samples to appropriate areas, data entry, calculating test results using present procedures, routine instrument checks, and other duties as assigned. Prerequisite(s): PHB 101, PHB 105 Corequisite(s): CPT 150

### **PHB 111—PHLEBOTOMY PRACTICUM 0-15-5**

This course provides close and directed supervision for the phlebotomist to apply skills. Duties may include any or all of the following: collection of blood specimens, proper techniques, and standard precautions. Importance of infection prevention, patient identification, labeling of specimens, specimen collection, quality assurance, confidentiality, and specimen handling is stressed along with other assigned duties. Prerequisite(s): PHB 101

## **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**

Examines the major philosophical problems of philosophy as discussed by classical, medieval and modern philosophers.

**PHL 161—INTRODUCTION TO ETHICS 3-0-3**

A study of philosophical, ethical concepts concentrating on one or two philosophers or positions. The course is designed to provide an understanding of the "good life" both in terms of society and the individual as seen by one or more philosophers. The basis of the course is built upon Aristotelian and Platonic concepts with supplemental study of additional ethical works including contemporary philosophies.

**PHL 165—SOCIAL ETHICS 3-0-3**

This interdisciplinary course examines contemporary ethical conflicts and provides a founding in the language, concepts, and tradition of ethics. Each unit illuminates a key ethical concept and provides students with the intellectual tools to analyze behavioral responses to moral dilemmas in the fields they choose to pursue, and in the society in which all of us must live.

**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

**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 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

**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, acceptance into the Sonography program

**PHY 150—ENERGY AND SOCIETY 3-0-3**

An introduction to the concept of energy, its resources, and consumption patterns in our society. The purpose of this course is to provide a basic understanding of the fundamental physical principles of energy and to analyze the various energy conversion processes currently available. Also explores interrelationships between energy use, industrial progress, and environmental consequences, and will present some future energy alternatives.

**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 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

**PHY 258—MODERN PHYSICS 3-0-3**

A first course in modern physics. Topics include relativity, quantum effects, radiation, nuclear structure and solid-state physics. Prerequisite(s): PHY 256

**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 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

## **PSG—POLYSOMNOGRAPHY**

### **PSG 110—POLYSOMNOGRAPHY INTRODUCTORY COURSE (A-STEP) 4-2-6**

This course prepares polysomnographic technologists to perform sleep studies to help patients of all ages who suffer with sleep disorders. This includes preparing patients for sleep studies, monitoring patients during studies and recording results. Students who satisfactorily complete the didactic and practicum portion of the course must pass the Accredited Sleep Technologist Educational Program exam (A-STEP) according to guidelines set by A-STEP ([www.aasmnet.org](http://www.aasmnet.org)) to pass the course.

## **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 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

## **RAD—RADIOLOGY TECHNOLOGY**

### **RAD 111—INTRODUCTION TO RADIOLOGY TECHNOLOGY, PATIENT CARE, PHARMACOLOGY, AND POSITIONING 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 patient care, safety and emergency procedures. In the lab, students will learn positioning terminology, equipment manipulation, the 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 exposures variables on image quality. Film and related accessories are discussed. 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—PHARMACOLOGY, ETHICS AND LAW IN RADIOLOGY AND POSITIONING II 3-2-4**

This course will provide students with a comprehensive examination of pharmacology, ethical and legal issues for radiographers. In the lab, students will learn positioning terminology, equipment manipulation, the proper positioning of the axial skeleton. In addition, students will learn to evaluate images for proper exposure factors and demonstration of anatomy. 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): MTH 157, PHY 125, RAD 131, RAD 141

**RAD 211—RADIOLOGIC IMAGING EQUIPMENT 3-2-4  
QUALITY CONTROL, IMAGE ANALYSIS, RADIATION PROTECTION, BIOLOGY AND POSITIONING III**

This four-part course begins with a short review of the production and characteristics of x-rays. The course progresses to an overview of the design and operation of imaging equipment. In addition, radiographic image analysis and quality control procedures are reviewed. The course concludes with introducing students to the biological effects of exposure to ionizing radiation protection, ALARA, radiation monitoring devices, and methods to reduce unnecessary exposure to the radiographer and patient are discussed. In the lab, students will learn positioning terminology, equipment manipulation, the proper positioning of the non-skeletal areas, organ systems, studies that use contrast media, myelography, venography and mammography. In addition, students will learn to evaluate images for proper exposure factors and demonstration of anatomy. 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 0-16-14**

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, 3-0-3  
COMPUTED TOMOGRAPHY, AND CAREER SEARCH PREPARATION**

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, the topic of computed tomography is introduced. Prerequisite(s): RAD 211, RAD 216; Corequisite(s): RAD 226, RAD 231

**RAD 226—CLINICAL EDUCATION V 0-8-3**

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 3-0-3  
CAPSTONE**

This course is a review of all material from Radiology Technology with emphasis on the ARRT examination preparation and career planning. Prerequisite(s): RAD 211, RAD 216; Corequisite(s): RAD 221, RAD 226

**RAD 255—CLINICAL EDUCATION III 0-12-3**

This course is a continuation of the Clinical Education series, and will provide students the opportunity to observe, practice, and perform radiologic procedures. Students will continue to practice and maintain proficiency in previously learned examinations. Students will be permitted to rotate into specialty imaging areas and students will complete their competency examinations where image quality and patient care are evaluated. Prerequisite(s): RAD 215

**RBT—ROBOTICS****RBT 110—AGILE ROBOTICS I 3-2-4**

In this course the student is provided with a basic introduction to the multidisciplinary field of robotics technology including concepts from computer, electrical, and mechanical disciplines with a focus on engineering processes. There is a particular emphasis on first-generation agile robotics characterized by remotely piloted mobile robots. The laboratory component presents activities based on lecture concepts and team-oriented, hands-on projects to solve basic robotic problems.

**RBT 120—AGILE ROBOTICS II 3-2-4**

Agile Robotics is continued by exploring the details of second-generation agile robotics technology as characterized by mobile robots with autonomous behaviors. Software tools, additional details robotic systems, application of robot control programming, motion planning, application domains and additional applied technician skills are emphasized. Team-oriented activities, hands-on projects, solving autonomous robotics problems and sensory feedback are utilized in the laboratory component to provide applications of lecture concepts. Prerequisite(s): RBT 110

**RBT 210—ROBOTIC TEAMING 3-2-4**

Robotic communication is an important addition to autonomous robotic platforms. Teaming capability and the varied aspects of teaming behavior is often required in both industrial and personal robotic systems in order to enable robots to perform collaborative tasks using a team approach. Students will learn the basics of a computer programming language and the basics of an embedded robotics platform in order to apply inter-robot communications techniques to enable robotic teaming. Prerequisite(s): RBT 120

**RBT 280—ROBOTICS SYSTEMS PROJECT 2-2-3**

This Agile Robotics capstone course is project-based. Students will complete an instructor approved project, often working in a team. The semester long project must be based on mobile robotic technology and the project will include a literature research, project specification, project design, implementation, documentation and presentation aligned with established engineering technology methodologies. Project planning and management as well as team work strategies must be demonstrated. Software and hardware convergence techniques will be utilized. Prerequisite(s): RBT 210

**RDG—READING****RDG 050—READING & STUDY SKILLS 3-0-3**

This course will focus on but not be limited to the basic readiness skills for college-level reading and studying. Skills such as time management, textbook previewing, concentration, vocabulary development, memory development, and study strategies will be stressed. Along with the study skills students will develop skills in identifying topics and main ideas, selection and isolation, major supporting details and minor supporting details, and reading test and exam questions. Students will use content-specific information to develop skills in reading and studying. Prerequisite(s): Placement Test

**RDG 080—INTERMEDIATE READING 3-0-3**

This course is designed to refine study skills and comprehension ability. Topics include but, are not limited to, critical reading skills and study skills: distinguishing fact from opinion, identifying cause and effect, and effectively using figurative language. Content reading will be emphasized. This course is open to students who test between 61 and 85 on the Accuplacer test, and those students who have successfully completed RDG 050. The systematic use of study strategies such as SQ3R will be included in this course. Prerequisite(s): RDG 050 and /or Placement Test

**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 207—REAL ESTATE BROKERAGE** 3-0-3  
Outlines the organization of a brokerage office and details the work of a real estate broker including procedures, practices and ethics. Topics include obtaining prospects, filing listings, preparing mortgage applications and sales or rental offerings, methods of advertising and business promotion, problems and techniques of negotiations and closing sales, leases, and other real estate transactions.

**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.

**RLS 211—REAL ESTATE APPRAISAL** 3-0-3  
Presents a coordinated, practical study of real estate appraisal and property, including theories underlying valuation of various and specific types of property, as special use, service and single purpose property. A study of mortgage laws, condemnation, insurance, tax assessment and how to develop and operate an appraisal business.

## **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 160—APPLIED HUMAN RELATIONS** 3-0-3  
Designed as an introduction to the basic principles of sociology, general psychology and industrial psychology. Major emphasis is on such topics as the origin and development of the social body, group behavior and other problems attendant to leadership and cooperation. Designed to develop a thorough understanding of human relationships in the industrial and business complex. The course also proposes to aid in the formation of sound citizenship.

**SOC 161—MARRIAGE AND 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 165—CULTURAL DIVERSITY** 3-0-3  
This class will introduce students to the concept of culture and cultural diversity. While learning the different components of culture, students will be presented with data and examples explaining different cultural practices and beliefs. This course will focus on the experiences humans in every culture share in order to demonstrate the value and importance of understanding diverse cultures. This course will explore the sociological importance of understanding the concepts of culture and diversity as well as the relationship between these two concepts.

**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** 3-2-4  
A beginning language course with emphasis on elementary speaking, reading, writing and comprehension.

**SPA 156—BEGINNING SPANISH II** 3-2-4  
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 THEATRE 3-0-3**  
Provides an introduction to theatre 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 theatre as a logical development of the human need to dramatize perspective on the immediate world.

**THR 160—INTRODUCTION TO ACTING 3-0-3**  
Introduces the beginning actor to a variety of physical and vocal exercises and methods for creatively freeing spontaneous personal feelings. Scene study and the process of merging these elements through detailed work on texts. Emphasizes sustained focus of attention and highly concentrated energy. It is strongly recommended that students satisfactorily complete SPC 158 prior to taking this course.

**THR 161—ACTING II 3-0-3**  
Extends and intensifies several of the concepts addressed in the Introduction to Acting course. In addition to incorporating improvisation exercises and text analysis as one measure of an actor's art, this course emphasizes character analysis and motivation as another indispensable dimension. Prerequisite(s): THR 160

**THR 170—VOICE AND DELIVERY 3-0-3**  
Voice and Delivery addresses the development, training, strengthening, and improvement of stage speech. Besides exploring ways the body produces hearing and speech and building better listening skills, this course examines relaxation, phonetics, articulation, resonance, projection, pitch, rate of speech, and stress as components of successful stage delivery.

**THR 180—INTRODUCTION TO THEATER DESIGN 3-0-3**  
This course is an introduction to the design process and creation of scenery, lighting, and costumes. Class work consists of projects to improve design conceptualization and execution, model making, drawing and rendering, and drafting. Students will also develop their script analysis skills with regard to design issues and develop an awareness of the role of the designers within a collaborative production team.

## TRV—TRAVEL, TOURISM AND LODGING 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 IN BUSINESS 3-0-3**  
This course examines the current trends in social media and how these popular internet-based social networking sites can be a powerful marketing tool for businesses and organizations. Through a combination of selected readings and hands-on projects, students will learn which prominent social media tools are best suited for various businesses and organizations in order to maintain a current online profile. Upon completion of the course, students will have the knowledge to develop a basic social media marketing plan for a business or organization.

**WEB 190—DREAMWEAVER - ADVANCED 3-0-3**  
Using Cascading Style Sheets (CSS) simplifies site design, layout and styling of Web page content for screen, handheld devices or print, and maintenance. Students will learn how to use SPRY and AJAX, and create collaborative editing Web sites by using a Web content management application. Prerequisite(s): WEB 140 and WEB 110

**WEB 199—WEB INTERNSHIP 0-12-3**  
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 201—WEB DESIGN WITH WEB STANDARDS 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.

**WEB 203—XHTML 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).

**WEB 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 Webserver. Prerequisite(s): CPT 203.

**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 Prerequisite(s): WEB 110 and WEB 140

**WEB 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 or CPT 255

**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.

**WEB 295—INFORMATION ARCHITECTURE 3-0-3**

This course focuses on the integration of the interdisciplinary process that makes large amounts of information easily accessible to end-users. Students, using a team-based approach plan, design and create an innovative multi-user experience for the Web that addresses the issues of accessibility, usability and versatility. This is a capstone course; satisfactory demonstration of outcomes for competency profiles for the Web Site Design/Production options are required. Prerequisite(s): Completion of 27 credits in major courses

**WEL—WELDING****WEL 125—WELDING I 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 in flat, horizontal, and vertical positions. Intro to GMAW and GTAW. Emphasis on lab techniques and safety.

**WEL 135—WELDING II 2-6-4**

Theory in advanced SMAW, production of metals, application of metallurgical principles. Demonstrations and practice of vertical, overhead, and advanced SMAW techniques; basic GMAW and GTAW techniques. Prerequisite(s): WEL 125

**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 207—ADVANCED WELDING I 2-6-4**

Theory, application and skill development of advanced GMAW, FCAW, PAC and AAC processes. Skill development for the ARC welding processes will cover all positions and joints and root/face bend tests of all test welds. All skill tests will follow either ASME or AWS welding code criteria. Prerequisite(s): WEL 135

**WEL 208—ADVANCED WELDING II 2-6-4**

Theory and practical use of advanced GTAW, PAC, SAW, CAC, 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. Prerequisite(s): WEL 207

**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—INSPECTION OF CODE WELDNG 3-0-3**

Instruction, practice and reading, writing and interpreting ASME, AWS and API application of 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 135

**WEL 222—FUNDAMENTALS OF ALUMINUM 2-4-3**

Theory in aluminum welding, classification, preparation, metallurgy, quality and applications. Practice of GTAW and GMAW aluminum in all positions. Students must pass visual and destructive tests. Prerequisite(s): WEL 135

**WEL 224—MATERIALS EVALUATION 2-2-3**

Includes destructive and nondestructive testing. Covers visual, dye penetrant, x-ray, ultrasonic, magnetic particle and destructive techniques. Lab practice is included. Prerequisite(s): MET 105, MTH 108

## Notes



**2013-2014**  
**STUDENT HANDBOOK**

# STUDENT SERVICES AND RESOURCES

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WCCC offers a variety of services and activities designed to enrich the learning experiences of all students without regard to race, color, national origin, sex, sexual orientation, disability, age or religion. These services are available without charge to students enrolled in credit classes.

## Student Services Success Center Testing Services

A placement test assessing reading, writing and mathematics skills is given in the College Learning Center. Vocational interest and ability testing and interpretation are also provided as a service to enrolled students. Test results are confidential.

## Career Planning

A staff of professional counselors is available to assist students in career planning and decision-making. A complete career library which includes printed material and computerized career exploration is maintained in the Student Services Success Center for use by students and classroom instructors.

## Academic Advising

Counselors assist students in choosing an appropriate program of study and develop a schedule of classes for their first semester based upon placement test scores and personal interests. Students receive information about these advising sessions after they submit their Application for Admission to the college.

After the first semester, students are assigned a faculty member to serve as their academic advisor. The faculty academic advisor will assist them with scheduling classes in subsequent semesters.

## Counseling

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

- academic advising and planning
- assistance in transferring to a four-year college or university
- career information and planning
- services for the disabled
- personal concerns
- testing for interests and abilities

Counseling at WCCC is confidential and free.

## Transfer Services

Those who plan to continue their education after completing course work at WCCC should contact a counselor in the Student Services Success Center. Colleges and universities have varied regulations on accepting courses and credits for transfer, and students can save a considerable amount of time and money if they know the regulations in advance and plan their schedules accordingly.

The transfer library contains a large selection of college catalogs and other information relevant to the transfer process.

## Special Services

The Act 101 and Student Support Services programs help students make a successful transition to college life.

### Act 101

The Pennsylvania Higher Education Equal Opportunity Program (Act 101) provides an academic support system for highly motivated students who desire a college education. To be eligible for the program, students must be Pennsylvania residents who are enrolled full-time and meet certain economic and academic criteria.

### TRIO (Student Support Services)

The federal government provides academic support and counseling through the TRIO (Student Support Services) Program for students who meet eligibility guidelines. To be considered eligible for program services a student must be a first generation college student, low income or have a disability.

The goals of the program are to retain and graduate students and to provide them with an institutional climate of support.

### Services for Students with Disabilities

Students with disabilities are encouraged to schedule an appointment with the student support services counselor to discuss their individual needs.

Students with disabilities may be asked to submit documentation of the disability if they are requesting academic accommodations. This documentation should be current and include an evaluation completed by a recognized authority.

The student support services counselor and the student will discuss how the disability will impact their learning and what services/academic accommodations are appropriate on an individual basis.

All information shall remain confidential unless the student completes a written authorization by completing the Academic Accommodations Request Form.

Students with disabilities who need classroom accommodations should call and make the request well in advance of the start of the classes. For assistance call 724-925-4189 or TDD 724-925-4297.

# STUDENT SERVICES AND RESOURCES

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## **TDD & PA Relay System**

The Student Services Success Center has a TDD (telephone device for the deaf) communicator which can be reached by calling 724-925-4297. To use the PA Relay System, call 1-800-654-5988. The TDD is located in Student Development, Room 130, at the Youngwood campus and is available for student and faculty use. The PA Relay System can be used for TDD access to other educational campuses.

## **Tutoring**

The College Learning Center provides individual and small-group tutoring in most courses, academic-based workshops, computer-assisted instruction and a variety of print resources. These services are free and available to students enrolled in credit courses.

## **New Student Orientation Program**

The New Student Orientation program is designed to help new students make a positive adjustment to the college. This required program increases student awareness of campus services, helps students develop a more positive identification with the institution, and increases students' involvement in campus life. The New Student Orientation program is provided to support students in achieving their educational goals.

## **Financial Aid**

WCCC participates in several state and federal financial aid programs including grants, loans and college work study. More detailed information on these programs can be found on pages 14-16 of the college catalog.

## **Veterans Benefits**

Veterans who served on active duty for more than 180 continuous days and were released under conditions other than dishonorable may be eligible for an educational allowance under the GI Bill. The amount and duration of the educational allowance will depend on the program in effect during the veteran's enlistment. In addition, 18 through 26 year-old children of deceased or totally disabled veterans may be eligible to receive VA assistance. Applications and help in completing forms are available through WCCC's Financial Aid Office.

The new GI Bill provides educational benefits for students participating in the Selected Reserves. Students should check with their units to determine if they are eligible.

Suspension of VA educational assistance will result for the following reasons: not maintaining the college's minimum standards of academic progress, failure to attend regularly scheduled classes, and failure to comply with the regulations of VA Educational Assistance Program.

The veterans coordinator is available for help in securing educational benefits. Questions about compensation, pension, home loans and vocational rehabilitation may be directed to the Pittsburgh Regional Office.

## **Pennsylvania Office of Vocational Rehabilitation (OVR)**

The OVR provides financial assistance to students who have disabilities that would normally impair their chances of obtaining occupational training and employment. To apply, students must complete the Free Application for Federal Student Aid. Additional information is available from the OVR offices in Pittsburgh and Johnstown and from the WCCC Student Services Success Center.

## **Career Development and Placement Center**

The Career Development and Placement Center assists students in planning efficient and effective job searches, identifying current job openings, writing resumes and application letters and preparing for job interviews. This assistance is available to students seeking part-time, full-time, or summer employment and to graduates seeking full-time career-related positions.

The Career Development and Placement Center maintains students' credential files and information about employers, and arranges for interviews between employers and students. For assistance call 724-925-4054.

## **Child Care/Preschool**

The Campus Children's Center is located at the Youngwood campus. The center operates a childcare/preschool program for children ages 3-6 years, Monday-Friday, 7 a.m.-5 p.m., following the class schedule of the college. The center also operates a preschool program 9 a.m.-noon daily. The center offers a school-age program during the summer for children 3-10 years of age. Campus Children's Center programs are licensed by the Pennsylvania State Department of Public Welfare. It serves WCCC students, faculty and staff, as well as community members. Childcare and preschool fees are based on an hourly rate each semester.

The center offers parents a safe, nurturing and creative educational environment for their children. The Campus Children's Center was awarded the STAR 4 rating by the Pennsylvania Keystone STARS Child Care Program. STAR 4 status is the highest rating possible for child care centers in Pennsylvania. For more information or to register your child, call 724-925-4156.

# STUDENT SERVICES AND RESOURCES

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## Bookstore

The college bookstore is operated for the convenience of students, faculty and staff. In addition to textbooks and supplies for classes, the bookstore stocks stationery, clothing and gift items.

Prior to the start of each semester, the bookstore publishes a list of required books and their prices for each course, and monthly hours of operation. Students may obtain this information by accessing our website at [wccc.edu/bookstore](http://wccc.edu/bookstore), or visiting the bookstore and providing the course code. Students who have misplaced their schedules may request a duplicate copy at the bookstore. The bookstore accepts payment by cash, check, MasterCard, or Visa.

Under certain circumstances, students approved for financial aid are permitted to defer payment for their book purchases. Students must have prior written approval from the Financial Aid Office in the form of a Bookstore Charge Authorization before books can be issued.

Students attending classes at the education centers may purchase their textbooks by using the main campus bookstore in Youngwood. If unable to do so, students should contact the bookstore, their education center or visit [wccc.edu/bookstore](http://wccc.edu/bookstore) for alternative options.

Refunds on textbooks are allowed only under certain circumstances; requests for refunds must be accompanied by receipts and, if appropriate, a copy of the student's drop form. Copies of the complete bookstore return policy are printed on the back of each bookstore receipt.

Information regarding the bookstore is available online at [wccc.edu/bookstore](http://wccc.edu/bookstore).

## Used Book Sale

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A used book sale is conducted by the Student Life Department at the Youngwood campus during the first two weeks of classes in the fall, spring and summer semesters. For more information call the Student Activities Office at 724-925-4055 or the Student Life Office at 724-925-4132.

## Student Identification Cards

Student photo ID cards are provided free of charge to all currently registered credit students. ID cards are issued at the Student Services Success Center during normal business hours. Call 724-925-4196. Returning students should keep their ID cards and must have them validated at the Student Services Success Center each semester. Lost cards are replaced for \$5.

## Lock/Locker Rental

The Student Activities Office located in Founders Hall, rents a limited number of locks/lockers to students, staff and faculty on a semester basis. Only school-issued locks are permitted on lockers and all others will be removed. A \$10 deposit is required; \$7 of that deposit will be refunded at the end of the semester when the lock is returned. Lockers are located in Founders, Commissioners and Science halls and the Business and Industry Center.

## Information Sources

### MyWCCC Portal

The MyWCCC portal (<https://my.wccc.edu>) offers access to a variety to college online services, including email; WebAdvisor, which allows students to register for classes, pay for tuition and access grades and transcripts; Blackboard, for online courses; Campus Announcements, News and Events and information on Student Life/Athletics.

### Bulletin Boards

The campus and education center bulletin boards are one of the main sources of information for students. Students may post signs and notices on the activities boards following the stamped approval by the Student Government Association. There are restrictions regarding sign size and content and posting is permitted only on the bulletin boards. To obtain posting approval or more information, contact the Student Government Association.

### The Grapevine

This newsletter is distributed bi-weekly during the fall and spring semesters to inform students, faculty and staff of current issues, programs and activities that affect the college. To have an announcement concerning a club or organization published in The Grapevine, contact the Student Life Office, 724-925-4132. Items are accepted by e-mail.

## Food Service for Students

A cafeteria, located in Founders Hall, features both a snack bar and hot food line. The menu includes deli sandwiches, hot entrees, salads, pizza, pretzels, nachos and popcorn. Hours of operation are: for the fall and spring semesters, Monday through Thursday, 7:30 a.m. to 6 p.m. and Friday, 7:30 a.m. to 2 p.m.; and for the summer semester, Monday through Thursday, 7:30 a.m. to 1:15 p.m. In addition, there are vending machines located in each building at the Youngwood campus and the education centers.

Café at 145, a mini-restaurant operated by WCCC hospitality students and faculty, is also available to students. Café at 145 serves lunch and/or dinner in the Commissioners Hall dining room on designated weekdays during the fall and spring semesters. Seating is limited and reservations are required.

# STUDENT SERVICES AND RESOURCES

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## Wireless Internet

WCCC has free wireless Internet service available at several locations on the Youngwood campus including the library, cafeteria, Wolf's Den, Student Center and Student Activities Office area, Founders Hall lobby and South Entrance, Commissioners Hall lobby and dining rooms, and Science Hall lobby. Students must register their laptops with the Information Technology Department in Founders Hall Room 148 in order to use the wireless Internet service.

## Transportation

Students are responsible for their own transportation to and from the college. Bus transportation is available via the Westmoreland County Transit Authority and schedules can be obtained by calling 1-800-834-WCTA.

Ride sharing is encouraged. Students needing rides and those willing to provide rides may post notices during the first three weeks of the semester on the Share-a-Ride bulletin board located in the 400 hallway of Founders Hall.

## Student Parking

Free and ample parking is available for students at the Youngwood campus and the education centers. Students may park only in designated areas. Illegally parked cars will be ticketed and fined. Consistent violators may have grades withheld and be unable to register for additional classes until fines are paid.

Carpool parking (two or more students riding together) is available in the front row of the student lot located in front of the Founders Hall main entrance (Lot B).

30-minute visitor parking is available in front of the Founders Hall main entrance (Lot H).

ADA and van-accessible parking is available in all campus parking lots and marked accordingly. Overflow parking when lots are full is available behind Commissioners Hall (Lot F).

## Disabled Student Parking

Students who wish to use the disabled student parking areas must have either a valid wheelchair license plate from the state or a state-issued plaque indicating the individual has a disability. Students also are required to obtain a WCCC parking tag from the Student Development Office. A temporary WCCC permit may be issued for short-term use only. Call the Student Development Office at 724-925-4057.

## Student Use of Buildings

The Youngwood campus buildings are generally open for student use from 7 a.m. to 10 p.m. Monday through Thursday, from 7 a.m. to 5 p.m. Friday, and from 8 a.m. to 4:30 p.m. Saturday. Student use of the buildings at other times is permitted only with administrative permission. Hours for the education centers are determined by class schedules and vary each semester.

## Emergency Message Procedure

Emergency telephone calls to students should be directed to the Student Development Office, 724-925-4051. The office will try to contact students in their scheduled classes, or if possible, elsewhere on campus. The emergency message will be given to students for their decision on any further action. Nonemergency calls are discouraged and may be refused by the Student Development Office.

## College Closing Information

Information on class cancellations and college closings due to inclement weather or other emergency situations is made available to all students by email from Rave Mobile Safety, the college emergency notification service. Alert messages will also appear prominently on MyWCCC portal, wccc.edu webpage, WCCC Facebook and Twitter pages and digital signs on campus. Credit students are automatically signed-up for email alerts to their My.WCCC.edu account but must add additional email addresses and phone numbers manually. To receive additional alerts, log into MyWCCC and select Emergency Alerts-Update Your Account under WCCC bookmarks.

Students will also be notified by television and radio station announcements, the WCCC web site (wccc.edu), and TV-station affiliated web sites. Information of specific TV and radio stations and web sites will be published on the WCCC web site and in The Grapevine.

As road conditions vary widely during inclement weather, students are advised to use their own judgment in deciding whether to attend classes. For more information and alternate routes to the Youngwood Campus, visit MyWCCC and select the Closing/Class Cancellation Guide under WCCC Bookmarks.



# STUDENT RIGHTS AND RESPONSIBILITIES

## Student Regulations

Students enrolling at the college assume obligations to conduct themselves in a manner compatible with the college's function as an education institution.

### Code of Student Conduct

#### Academic Community

The central functions of an academic community are learning, teaching, research and scholarship. By accepting membership in the college, an individual joins a community ideally characterized by free expression, free inquiry, intellectual honesty, respect for the dignity of others and openness to constructive change. The rights and responsibilities exercised within the college community must be compatible with these qualities.

The rights of members of the college are not fundamentally different from those of other members of society. The college, however, has a special autonomy and reasoned dissent plays a part in its existence. All members of the college have the right to press for action on matters of concern by appropriate means.

At the same time, the college places emphasis on certain values which are essential to its nature as an academic community. Among these are freedom of speech, academic freedom, freedom from personal force and violence, and freedom of movement. Interference with any of these freedoms must be regarded as a serious violation of the personal rights upon which the community is based.

Furthermore, although the administrative processes and activities of the college cannot be ends in themselves, such functions are vital to the orderly pursuit of the work of all members of the college.

Therefore, interference with members of the college in performance of their normal duties and activities must be regarded as an unacceptable obstruction of the essential processes of the college.

Moreover, it is the responsibility of all members of the academic community to maintain an atmosphere in which violation of rights is unlikely to occur.

#### The Student

Any and all laws of the Commonwealth of Pennsylvania, County of Westmoreland, and the Township of Hempfield, which provides for the protection of persons and for the protection of personal or public property, shall be in effect on college property.

#### Violations of the Code of Student Conduct

The following activities are prohibited and the student may face disciplinary action for engaging in such activities:

1. Entering or remaining in any lab, classroom, office, building or campus facility after closing time without proper authorization
2. Use, possession, distribution, sale or purchase of illegal substance on college property or at college sponsored events
3. Use, possession, sale or purchase of alcoholic beverages
4. Use, possession, sale or purchase of illegal drugs

5. Illegal or unauthorized gambling on college property
6. Use, possession, sale, purchase or concealment of any firearms, licensed or unlicensed knives not required for classroom or laboratory use, weapons, explosives or dangerous chemicals
7. Theft, willful defacement or willful destruction of college property or personal property of others
8. Theft, including, but not limited to intellectual property such as work products and computer software, either physically or through unauthorized invasion of computer files
9. Verbally or physically intimidating, coercing or using physical force in a manner which causes another member of the campus community to be injured or fearful of physical harm
10. Using e-mail or other means of electronic communication to intimidate, threaten or harass any member of the college community
11. Using another person's ID to gain access to the data communications network or the Internet
12. Using the data communications network for private or personal business or for any other purpose which is inconsistent with the research or instructional needs of the college
13. Operating a motor vehicle in a reckless manner
14. Smoking in areas of the campus not designated as smoking areas
15. Failure to identify oneself when requested to do so by a college administrative official, security officer, faculty or staff member in performance of administrative duty
16. Intentionally furnishing false information to the college
17. Interfering with normal operations of the college
18. Interfering with classroom instruction
19. Any other actions incompatible with the operation of a public educational facility

#### Disciplinary Action

The college reserves the right to deny admission to any applicant or discontinue the enrollment of any student if, in the opinion of the college authorities, the association is not in the best interest of the student or the college.

The dean of students, upon receiving information that a student has committed a violation of the code of conduct, shall investigate the alleged violation. The investigation will normally include an interview with the concerned student. As a result of the investigation, the dean may:

1. Dismiss the allegations as unfounded or
2. Administer disciplinary action as appropriate, based upon the severity of the violation. Possible disciplinary actions could include: warning, suspension or expulsion.

#### Right of Appeal

A student who wishes to appeal the decision of the dean of students concerning a violation of the Code of Student Conduct must appeal the decision by filing a written appeal with the Judicial Board within 10 business days of the decision.

# STUDENT RIGHTS AND RESPONSIBILITIES

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## Judicial Board

The Judicial Board has been designed to treat adjudicated incidents of violation of the college rules and regulations by students who appeal the decision made by the dean of students. Such incidents exclude behavior that can be defined as academic in nature. Appeals can only be forwarded to the Judicial Board for consideration if there is: (1) additional information not available for consideration by the dean of students; (2) extenuating circumstances not made known to the dean of students; (3) an error or irregularity in the Code of Conduct process used by the dean of students.

The Judicial Board shall consist of seven members, which will include three student representatives selected and approved by Student Government Association and two faculty and two staff appointed by the WCCC vice president for Academic Affairs/Student Services.

## PROCEDURES

1. The dean of students shall promptly forward to the chairperson of the Judicial Board any and all appeals made in connection with nonacademic matters.
2. The appeal must be presented in written form and should include particulars, including the people involved, dates, times and any other pertinent information.
3. All parties asked to appear at the hearing will be given five business days' notice of the hearing. They will also be given a written statement of charges and the procedure which will be followed in the hearing. In order for a hearing to take place, a quorum of three members must be present with at least one of whom must be faculty and/or staff. The Judicial Board will assume responsibility for its procedural operation which will include electing a chairperson and conducting hearings according to the following guidelines:
  - a. Hearings shall be conducted in private.
  - b. Admission of any person, not a party to the hearing, shall be at the discretion of the chairperson.
  - c. The complainant and/or the accused student are responsible for presenting his or her own case.
  - d. Both the student and complainant shall have the right to present witnesses and shall have the opportunity to cross examine the other's witness.
  - e. Relevant records, exhibits and written statements may be admitted as evidence for consideration by the Judicial Board, at the discretion of the chairperson. These records, exhibits and written statements must be submitted to the chairperson at least three days before the Judicial Board meets.
  - f. Formal rules of civil and criminal procedures, and/or technical rules of evidence, will not be strictly applied in Judicial Board proceedings.
  - g. There shall be a transcript of the hearing, provided by the college, in the form of an electronic recording. No unauthorized recording devices will be permitted in the room. The record shall become the property of the college.
  - h. After the hearing, the Judicial Board shall meet in closed session to determine, by majority vote, whether the student's appeal should be upheld and/or to determine a different sanction than the one issued by the dean of students
  - i. All proceedings presented to the Judicial Board should be kept confidential.
  - j. The Judicial Board's decisions and recommended sanctions shall be prepared in writing in five business days and directed to the WCCC vice president for Academic Affairs and Student Services. The decision of the vice president is final.

## Interim Suspension

The dean of students, or a designee, may impose an interim suspension prior to the hearing before the Judicial Board. Interim suspension may be imposed to ensure the safety and well-being of members of the college community or preservation of college property, to ensure the student's own physical or emotional safety and well-being, or if the student poses a definite threat of disruption or interference with the normal operation of the college.

During the interim suspension, student will be denied all access to the college and education centers, including, but not limited to, classes and all other activities or privileges for which the student might otherwise be eligible and all college activities on every campus. Student must surrender all college-issued identification and will be denied access to college technology.

On the last day of interim suspension, the student must meet with the dean of students or designee in order to be re-instated. All questions should be directed to the dean of students or designee.

## Disruptive Student Behavior

Due process must be afforded all students enrolled at WCCC. Such due process does not permit a student to interfere with the educational process provided all students in a course of study. Behavior that distracts or negatively influences the quality of the learning experience of all students is an infringement upon students' rights. Specifically, behavior which is verbally abusive or physically threatening is considered disruptive and cannot be condoned.

The college has a responsibility to ensure the quality of the learning experience and, as a result, will require that:

1. Any student who exhibits behavior contrary to the operation of a positive learning situation in a course of study shall be alerted by the instructor about the effects of his/her behavior and the need for immediate change.
2. If the behavior persists, the circumstances will be reported by the faculty member to the division dean.
3. Consultations with the student, the instructor and the dean of students may be requested. The designated chair (as indicated above) will determine whether the disruptive student will be permitted to continue in the course of study.
4. Within two working days (Monday through Friday, 8 a.m. to 5 p.m.), notice of results from the consultation will be presented to the student in writing regarding the conditions that must be met and whether

# STUDENT RIGHTS AND RESPONSIBILITIES

or not the student will be permitted to continue class attendance.

5. A student may appeal this decision by contacting the vice president for Academic Affairs and Student Services within two working days requesting reconsideration. The decision of the vice president for Academic Affairs and Student Services will be final.
6. A copy of the decision will be retained in the office of the vice president for Academic Affairs and Student Services.

If a student's conduct is considered physically threatening to the class or the instructor, the student can be removed immediately. The division dean and the vice president for Academic Affairs and Student Services will determine if the student can return to class.

Because there is potential for disruption of the education process, children are not permitted in classrooms during scheduled classes. Children are permitted on college property only when supervised by a parent or parent designated adult.

## Ethical Statement for Student Computer and Data Communications Network Use

Westmoreland County Community College's data communications network and the systems by which it is interconnected and accessed exists to support the research and instructional needs of the college. Access to this system is a privilege granted to students and this privilege can be revoked for inappropriate conduct. While the right of free speech applies to communication in all forms, the college encourages civil and respectful discourse.

Some prohibited forms of communication include:

- Obscenity
- Defamation
- Threats
- Disruption of the academic environment
- Harassment based on sex, race, disability or other protected status
- Anonymous or repeated messages designed to annoy, abuse or torment

Some prohibited forms of behavior include:

- Creating excessive noise or other actions that interfere with the work of others in the computer lab
- Using the computer system's capabilities to represent another person's work as your own; this action is considered a form of plagiarism
- Using another student's ID to gain access to the data communications network or allowing others to use your network ID
- Malicious attempts to harm or destroy another person's data, including uploading or creating computer viruses
- Attempting to gain unauthorized access to data, software or systems
- Using the data communications network for personal or private business

All ethical principles that apply to everyday college life

also apply to using the data communication network. The use of this network is encouraged for scholarly communications within the constraints of the Westmoreland County Community College Student Code of Conduct and this ethical statement.

## Vehicle Regulations

To ensure the safety of students, staff and visitors, the college has established parking rules and enforces all provisions of the vehicle code of the Commonwealth of Pennsylvania and Hempfield Township. A 15-mile-per-hour speed limit is in effect at all parking lots and college roadways.

Fines will be levied according to the following schedule: *(The timeframe for the offenses is one semester.)*

### FINES

	1st Offense	2nd Offense	3rd Offense
Trespass	\$10	\$25	\$50
Blocking Traffic/Walkways	\$10	\$25	\$50
Parking in the Fire Lane	\$10	\$25	\$50
Not Parked between Lines	\$10	\$25	\$25
Use of Restricted Parking without a permit	\$10	\$25	\$25
Use of Disabled Parking without a permit	\$50	\$50	\$50

Recurring offenses may carry higher fines.

Fines may be paid at the Student Services Success Center. All fines are financial obligations to the college. WCCC reserves the right to withhold grades, transcripts or diplomas until all fines have been paid in full.

## Parking and Other Vehicle Violation Appeals Process

### Purpose

This regulation establishes procedures for an appeal process for parking citations or other vehicle violations.

1. Failure to pay parking citations or other vehicle violations.
  - a. Student grades, transcripts and diplomas will be held and the ability to schedule classes will be denied for any individual who fails to clear their account prior to the end of each semester.
2. The Appeals Board was created to hear appeals from students who receive parking or other vehicle citations. The board will render decisions based on the written facts submitted and testimony presented.
3. Organization - The board will consist of three members. The chief of Security will serve as chairperson, others will include one staff member chosen by the vice president of Academic Affairs/Student Services and one student selected by the Student Government Association. Each member will serve a one-year term.

### Payment Procedure

Payment for all citations is to be mailed to the Accounting Department, Room 240 in Founders Hall.

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Payment for all citations can be mailed to the following address:

Westmoreland County Community College  
Attn: Accounting Department  
145 Pavilion Lane  
Youngwood, PA 15697

## Appeal Procedure

1. Payment for the citation is not required to file an appeal
2. Only the student cited can file an appeal
3. All appeals must include the student's college ID number
4. The appeal form must be submitted to Security within seven business days of the citation in question or the appeal will not be heard
5. Appeal forms are available at the Campus Security Office in Founders Hall, and upon return must include a copy of the citation in question
6. A drop box is available at the Security Office for after hours processing
7. Students have the right to present their appeal in person.

The Appeals Board will meet every two weeks at a prescribed time to be determined by the Appeals Board semesterly.

The board may consider but is not limited to the following action:

- Let the citation stand as written with fines and penalties
- Modify the citation or issue a warning
- Nullify the citation

The student will be notified in writing of the decision of the board within 10 business days. All decisions are final.

All denied appeals must be paid within seven business days of notification.

## Drug and Alcohol Policy

The college recognizes that its own health and future are dependent on the physical and psychological health of its students, faculty and staff. Accordingly, it is the intent of the college to maintain a safe, healthful, and efficient work and learning environment for all. Being under the influence of alcohol or any other mind-altering drug while on campus may pose serious safety and health risks to both the user and other members of the WCCC community.

Therefore, the college maintains the following guidelines pertaining to alcoholic beverages:

1. The college will not sponsor student events which focus primarily on the consumption of alcohol.
2. Alcoholic beverages are not permitted at any student event held on the college campus.
3. When a student social event is held at any establishment with a license to sell alcoholic beverages, students 21 years old and older may exercise their legal right to purchase alcoholic beverages. Ascertaining the legality of service is the responsibility of the proprietor of the licensed institution.
4. The student club or organization sponsoring a social event shall be held accountable for compliance with the alcoholic beverage regulations.

5. Infractions of these regulations by student organizations may result in the impoundment of the organization's treasury and/or the placing of the organization on probation.
6. Infractions of these regulations by individual students may result in probation, suspension or dismissal from the college.

Students concerned about their own or another's drug/alcohol use are encouraged to contact a member of the college counseling staff in the Student Services Success Center located in Founders Hall.

## Legal Sanctions

### Students & Employee:

Possession and/or distribution of illicit controlled substances constitute(s) a crime in the Commonwealth of Pennsylvania. Conviction may result in the imposition of a fine and/or imprisonment.

### Students:

Possession and/or consumption of alcohol by persons under age constitute(s) a crime in the Commonwealth of Pennsylvania. Conviction may result in the imposition of a fine and/or imprisonment.

## Smoking Policy

Westmoreland County Community College prohibits smoking/tobacco use throughout all college locations except for designated areas. Smoking/tobacco use is permitted only in the smoking shelters and inside personal vehicles. Smoking/tobacco use is defined as the use of cigarettes, pipes, cigars, electronic cigarettes, hookahs and smokeless tobacco, such as chew and snuff.

The first offense will be a written warning, second offense will be a \$25 fine, and the third offense will be a \$50 fine. Failure to pay a fine within 10 days will result in the student's account being flagged, which means he/she cannot register for classes or receive grades or degree. Persistent violators will be reported to the dean of students and will be handled in accordance with the Student Code of Conduct.

Compliance with this policy will be a collaborative effort among all members of the WCCC community. Persons observed to be smoking and/or using tobacco in a non-designated area will be requested to extinguish or discard tobacco products and will be provided with the location of the nearest designated smoking/tobacco use area. Any member of the college community can make such a request.

## AIDS Policy

Individuals who have AIDS, ARC or a positive HIV antibody test shall not be denied employment/admission or continued employment/enrollment at Westmoreland County Community College based solely on the condition. This policy and implementation thereof is based upon current guidelines of the Center for Disease Control and the American College Health Association.

An HIV antibody testing site can be reached by calling any of the following: Greensburg, 724-832-5315; Monessen, 724-684-2945; Washington, 724-223-4540;

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Uniontown, 724-439-7400; Pittsburgh, 412-578-8332; Johnstown, 814-533-2205; or 1-877-PA HEALTH.

For those who feel they may be at risk, be assured that testing is free, confidential and by appointment only.

## Sexual Harassment

WCCC will not tolerate sexual harassment of any kind. All employees and students must avoid offensive and inappropriate sexual behavior and are responsible for assuring that the college environment is free from sexual harassment at all times.

Harassment on the basis of sex is a violation of Pennsylvania and federal laws. The purpose of the sexual harassment policy and grievance procedure of Westmoreland County Community College is to ensure that all employees and students of WCCC can work and learn in an environment free of harassment and hostility. Violations of this policy will result in appropriate disciplinary action.

## Definition

Sexual harassment is a violation of Section 703 of Title VII of the Civil Rights Act of 1964 and is defined as “unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when: (1) Submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment; (2) Submission to or rejection of such conduct by an individual is used as the basis for employment decision or grades affecting such individual; or (3) Such conduct has the purpose or effect of substantially interfering with an individual’s work or classroom performance or creating an intimidating, hostile, or offensive working or study environment.”

## Policy

The college will not tolerate sexual harassment. Any behavior that represents repeated or unwanted sexual attention or sexual advances, including behavior between students is prohibited. A student who feels he/she has been sexually harassed is encouraged to report such incidents to Dean of Students Diane Hightower at 724-925-4050, hightowerd@wccc.edu or in the Student Development Office, Founders Hall. The student will be advised of the appropriate complaint procedures.

## Equal Opportunity Laws

WCCC abides by all federal affirmative action regulations. Inquiries should be directed to the Affirmative Action Office, Room 4100D, Business & Industry Center.

## 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, WCCC Business & Industry Center, Youngwood, PA 15697.

## Federal Regulation Title VI

Title VI of the Civil Rights Act of 1964 requires that discrimination based on race, color or national origin be eliminated from programs receiving federal financial assistance.

## Federal Regulation Title VII

Title VII prohibits discrimination because of race, color, religion, sex or national origin in all conditions of employment at WCCC, such as the student work-study program.

## Americans With Disabilities Act

The ADA is civil rights legislation designed to ensure that people with disabilities will not be discriminated against and to bring them into the mainstream of public life. Students with disabilities in postsecondary settings are eligible for appropriate accommodations in accordance with Section 504 of the Rehabilitation Act of 1973 the Americans with Disabilities Act of 1990, and more recently, the Americans with Disabilities Act Amendment Act of 2008.

Accommodations are made to provide equal access, not advantage. The student must still meet the academic standards of the class.

If because of a disability you believe that you will need classroom accommodations, please schedule an appointment with Mary Ellen Beres, counselor, in Room 130, Founders Hall to discuss and document your individual needs. You may also call for more information at 724-925-4189 or email at beresm@wccc.edu. You will need to follow certain procedures that will be discussed.

## Federal Regulation Section 504

“No otherwise qualified disabled individual...shall solely by the reason of his/her disability, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance.” Contact the Student Development Office at 724-925-4189 for more information.

## Federal Regulation Title IX

No person in the United States shall, on the basis of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal financial assistance. Inquiries should be directed to the Title IX coordinator, presently the associate vice president for Academic Affairs, at 724-925-6952 or in the Administrative Wing, Founders Hall.

## Student Grievance Procedures/Affirmative Action

Students who, for any reason, believe the college’s stated policy of nondiscrimination has been violated may use the procedures outlined below to seek clarification or redress.

# STUDENT RIGHTS AND RESPONSIBILITIES

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1. The student is encouraged, if possible, to clarify the issue with the faculty or staff member involved in the grievance.
2. Contact the Affirmative Action Officer (presently Sylvia Detar) at 724-925-4190 or in Room 4100D, Business & Industry Center, Youngwood, PA 15697.
3. It is hoped that any student who feels aggrieved will have sought to resolve his/her complaint informally with the assistance of the Affirmative Action Officer and the appropriate person. The Affirmative Action Officer should take informal steps to clarify and resolve the matter through discussions/meetings with the student, the staff or faculty member involved and/or that person's supervisor. In situations where these informal meetings are unsuccessful in resolving the issue, the Affirmative Action Officer should request the involvement of the dean of students or the vice president of Academic Affairs and Student Services. The formal or informal process should be timely and at the discretion of the Affirmative Action Officer.
4. When a grievant finds the informal procedure inadequate, he/she will document his/her grievance on the Affirmative Action Student Grievance Form and present it to the Affirmative Action Officer. A formal hearing will be scheduled with the hearing board within 10 work days from the date the grievance was filed.
5. The hearing board will consist of the members of the Affirmative Action Committee. When students are involved with the issue, the dean of students will not serve on the hearing board. When employees are involved with the issue, the director of human resources and assistant to the president will not serve on the hearing board. The Affirmative Action Officer shall chair the hearing. The grievant and respondent may each bring one representative to the hearing. The Affirmative Action Officer will provide written notification to the grievant and respondent as to the date, time, and location of the hearing. The hearing board shall provide to the president its recommendation based upon the information obtained from the hearing within 10 work days from the date of the hearing. The recommendation is documented on the Affirmative Action Student Grievance Form and given to the Affirmative Action Officer who forwards the results to the president.
6. The president will review the hearing board's findings and recommendations and make a decision, which will be documented on the Affirmative Action Student Grievance Form within 10 work days following the receipt of the recommendation from the hearing board. The Affirmative Action Officer will provide the decision to the grievant. This information will also be filed in the office of affirmative action.
7. If the grievant is not satisfied with the response, he/she can request, utilizing the Affirmative Action Student Grievance Form, a meeting with the president to discuss the issues further. The president, within 10 work days after receiving the request, shall meet with the grievant and the Affirmative Action Officer in an attempt to resolve the grievance. The president shall document his decision on the Affirmative Action Student Grievance form within 10 work days following the meeting. The Affirmative Action Officer will forward the results to the grievant.
8. Within 10 work days of the grievant receiving the president's decision, if he/she is not satisfied with the decision, he/she may submit a written appeal documented on the Affirmative Action Student Grievance Form requesting a hearing with the Board of Trustees. Within 45 work days after receiving the appeal, a minimum of three members of the Board of Trustees, along with the college solicitor, will hold a hearing, at which those involved may present both sides of the issue. The Affirmative Action Officer will notify all parties of the date, time, and location of the hearing. The Affirmative Action Officer shall chair the hearing. The trustees will present their findings from the hearing to the full Board of Trustees. Within 15 work days following the hearing, the Board of Trustees will document its decision on the Affirmative Action Student Grievance Form. A copy of the decision will be given to the Affirmative Action Officer who will forward the results to the grievant and the president.
9. This process will be handled in a confidential manner. All information will be kept as confidential as possible under the law by the Affirmative Action Officer and hearing board members.
10. The decision and relevant records will be kept for at least three years. If the grievant chooses to avail himself/herself of counsel (legal or otherwise), he/she is responsible for the fees that are not covered by existing federal and state agencies.

## Family Educational Rights and Privacy Act

Federal law requires that the college provide students access to their academic files. Information contained in the academic file relates only to the student's academic history and performance, including: WCCC Application for Admission, permanent transcript, placement test scores, course registration information, course approval forms (i.e., Course Substitution Form, Course Waiver Form, Advance Standing Form, etc.), and graduation information (when applicable).

Students wishing to inspect the content of their files may do so by completing a Request for Academic File Review form and submitting it to the Records Office. Students may inspect their academic files during normal working hours (Monday through Friday, 8 a.m. to 5 p.m.) provided that they have submitted a written request at least two working days in advance.

Students have the right, by law, to keep all information in their files confidential. However, the college has established a category known as Directory Information. Directory Information may include: student name and address, major field of study, dates of attendance, and degrees and awards received. Directory Information is normally released without a signed consent by the student.

Since Directory Information does not include grades, financial data or any other strictly personal data, the college expects very few students will wish this information withheld. If, however, a student does not wish Directory Information released without a signed consent, a Request to Prevent Disclosure of Directory Information form must be submitted to the Records Office immediately upon en-

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rollment. This written notice to keep Directory Information confidential will be placed in the student's file and no information will be released unless a signed release form is received. Any further questions should be directed to the Records Office.

## Student Right-to-Know

Student Right-to-Know is a public law that requires institutions of higher education receiving federal financial assistance to provide certain information regarding the graduation/persistence rates of students. However, at the time of publication, the method by which this information is to be distributed has not been decided by the federal government. Therefore, students who wish to review information on graduation/persistence rates may do so in the Admissions Office.

## Personal Data Record

The Personal Data Change form is to be used to change name, address or telephone number. This form is available at the Student Services Success Center. It is the responsibility of each student to keep his/her personal data record updated.

## Procedure for Resolution Involving Grades and Academic Issues

The following procedure is recommended for those instances in which a student has an academic concern:

1. The student should make an appointment with the faculty member and discuss the problem.
2. If the student feels that he/she cannot meet with the faculty member, he/she should seek the advice of his/her faculty advisor and/or counselor.
3. If he/she has seen the faculty member and is still not satisfied, the student should make an appointment with the division dean to whom the faculty member reports.
4. If the concern is not resolved at the division level, the student should make an appointment to see the vice president for Academic Affairs and Student Services.
5. If the concern is still not resolved after meeting with the vice president for Academic Affairs and Student Services, the student may request an appointment with the president. The decision of the president in these matters is final.

The college expects students to maintain high standards of academic integrity in all college courses.

## Academic Dishonesty

Academic dishonesty in any form will not be tolerated. The following procedure has been developed to prevent occurrences of academic dishonesty and to guide faculty and students should they become involved in such incidents.

Academic dishonesty includes, but is not limited to, the following:

1. **Cheating:** the intentional use or attempted use of unauthorized materials, information or other aids in an academic exercise
2. **Fabrication:** the intentional or unauthorized falsification or creation of any information or citation in an

academic environment

3. **Facilitating academic dishonesty:** helping or attempting to help another to commit a dishonest academic act
4. **Plagiarism:** the use of the works of another as one's own in any academic environment

## Faculty Responsibilities

The student will be notified no later than five working days after observation or discovery of a specific dishonest incident. Notification will include a description of the infraction, the potential penalty and the student's right to appeal. A copy of the written notification will be forwarded to the appropriate division dean and the vice president for Academic Affairs and Student Services.

## Vice President for Academic Affairs and Student Services Responsibilities

The vice president for Academic Affairs and Student Services shall retain a master file of all documented cases of academic dishonesty. The faculty-assigned penalty may be revised if the master list shows multiple infractions. If the penalty is revised, the student will be notified immediately in writing.

## Student Appeal Process

A student may appeal the charge of academic dishonesty by contacting the division dean within five days of the date of the notification letter. At this time, the student must submit a written request for appeal with appropriate justification to support the appeal. The appeal process is limited to challenging the charge of academic dishonesty; once the charge of academic dishonesty has been established, the penalty is not subject to appeal.

The student's appeal, including review of the merits of the charge, will be heard by the division dean and two division faculty selected on a rotating basis. The faculty member making the charge will be present. If the student's concern is not resolved, he/she may appeal to the vice president for Academic Affairs and Student Services, whose determination will be final.

## Penalties

Any infraction could result in one of the following: grade of F on the assignment/examination in question, completion of an alternate assignment, or a grade of F for the course. Multiple infractions, whether within the same course or in a combination of courses, will be grounds for suspension and/or dismissal from the college.

# STUDENT RIGHTS AND RESPONSIBILITIES

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## Campus Security

Crime Awareness and Campus Security is a public law that requires colleges to report incidences of crime statistics on their campuses.

The following is the official report of the campus statistics as documented through the Pennsylvania State Police.

<b>Uniform Crime Report Part II Offenses</b>	<b>2012 Offenses Known</b>
Assault	0
Forgery and Counterfeiting	7
Fraud	0
Embezzlement	0
Larceny Theft	17
Vandalism	5
Weapons Carrying/Poss.	0
Prostitution/Comm. Vice	0
Sex Offenses except ap & Prost.	0
Drug Possession	2
Gambling	0
Offenses Against Family/Child	0
Driving Under the Influence	1
Liquor Laws	0
Drunkenness	0
Disorderly Conduct	8
Vagrancy	0
All Other, Except Traffic	12
<b>Total Part-II Offenses</b>	<b>52</b>

This report is in compliance with the Pennsylvania College and University Security and Information Act, as documented through the Pennsylvania State Police to inform students of WCCC Crime Statistics.

For additional information concerning Section 201—Crime Awareness and Campus Security, contact the WCCC Library.



# STUDENT LIFE

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## Intercollegiate Athletics, Intramurals and Leisure Programs

Intercollegiate sports competitions include coeducational golf, men's and women's cross country, men's and women's soccer and women's volleyball in the fall and men's and women's basketball, men's and women's bowling, women's softball, men's baseball and coeducational golf in the spring. The teams compete for honors in the Western Pennsylvania Collegiate Conference and also for regional and national honors that are sponsored by the National Junior College Athletic Association. All student athletes must satisfy the eligibility provisions of the National Junior College Athletic Association and the academic probation policy of the college.

An intramural program, incorporating a variety of activities, is offered for full- and part-time students who wish to enter team or individual tournaments regardless of their ability levels. Offerings are available for women and men as well as in a coeducational format. The key ingredient to participation is interest, not skill level.

The indoor physical education facilities at the college include a gymnasium, auxiliary gym, an indoor jogging track, locker rooms and a fitness center that features a variety of strengthening machines and aerobic equipment. Hours are posted at the gym entrance. Students should check the weekly schedule of events that may close portions of the gymnasium facilities.

The outdoor facilities include softball, baseball and three soccer fields.

Students are encouraged to utilize the facilities for their leisure use so a pattern of lifelong physical fitness is developed. A variety of credit and noncredit physical education courses are scheduled to assist in this endeavor.

Children are not permitted in the gymnasium.

## 274 Student Activities

The Student Activities Office provides the foundation for student involvement, promoting personal, social, and intellectual growth through student engagement, leadership development and student focused programming.

To achieve this mission, the department will work to:

- Encourage student involvement/engagement
- Provide learning through experience
- Create a challenging environment that fosters time management and personal accountability
- Strengthen respect for all persons
- Help students work collaboratively with others
- Promote all aspects of community/campus life
- Support programming, leadership development and student organization formation
- Support students in their self-directed activities and events
- Provide social, educational and cultural opportunities for all students

## Student Government Association

The Student Government Association (SGA) is the representative voice of the student body. Executive board officers and voting members promote and represent the rights and interests of students. Every student of Westmoreland County Community College becomes a non-voting member of the Student Government Association upon payment of their student services fee. There are five officers on the SGA Executive Board and a maximum number of voting members that match a 1:200 member to student body ratio. The executive board consists of a student president, vice-president, secretary I, secretary II, and treasurer. The executive board officers are appointed following an application and selection process of the WCCC SGA appointment committee. Any student enrolled in a credit program at Westmoreland County Community College may be eligible to become a SGA voting member provided he or she follows attendance guidelines as stated in the Student Government Association Constitution.

The purpose of the Student Government Association is to:

- To encourage superior standards in academics, leadership, loyalty, honesty and mutual respect.
- To provide an effective means for students to express their wishes on matters directly concerning them and the college
- To encourage student participation and generate student spirit through supporting college, student organization, and extra-curricular activities
- To act in the best interest of the study body at all times and to encourage activities of a social, educational, community service and cultural nature
- To provide a means of communication and representation among the student body, the Student Government Association, student organizations, faculty and the administration of the college
- To provide a basis through which the students of Westmoreland County Community College may communicate with the students of other institutions of higher learning
- To recognize and encourage all officially approved student organizations on campus
- To oversee expenditures of funds allocated to the SGA to benefit the student body
- To carry out the provisions of the SGA Constitution

Regular meetings of the SGA are held twice a month to discuss issues and concerns that arise within the college community, especially those which directly affect students, and seek solutions to these problems. Each recognized student organization is required to send representation to these meetings, where they are given the opportunity to report on organization issues, activities and seek support for their endeavors. The SGA also adopts practices and procedures that integrate the activities of other student organizations with the total college program and serve as a liaison among students, faculty and administration.

# STUDENT LIFE

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The SGA sponsors and conducts a variety of college-wide educational and service-based activities each semester. Such events include a Red Cross Blood Drive and Better World Books used textbook drive. Advisor: Correy Robertson

## Cultural Programs

The mission of the WCCC Cultural Programming Committee is to expose the students of WCCC and the residents of the communities served by WCCC to a diversity of cultural experiences, ideas and expressions. Cultural programs and experiences will be offered throughout the year and funded by the Student Services Fee.

## Clubs and Organizations

College clubs provide opportunities for growth in areas of special interest and leadership. Many organizations are centered on areas of study while others are open to all students. All student clubs and organizations must be officially recognized by the Student Government Association and the college. Coordinated through the Student Activities Office, the following clubs are officially recognized WCCC student organizations:

### American Sign Language Club

The American Sign Language Club is open to all WCCC students. The purpose of the club is to bring deaf awareness to the community with American Sign Language and to promote its benefits. This organization orchestrates activities that include the use of American Sign Language. Advisors: Amy Dent and Melissa Rugh

### Art Club

The Art Club provides a forum for students to exchange ideas, learn about their field and showcase artwork. Activities are organized that expand awareness of the art profession and take advantage of cultural events in the area. Numerous field trips are arranged. Every spring students will have the opportunity to showcase, curate and stage an exhibition in the Gallery in Science Hall. Advisor: Kathleen Mendus-Dlugos

### Campus Activities Board

The purpose of the Campus Activities Board (CAB) is to organize, promote and participate in WCCC campus activities and social events for all WCCC students. Events of a recreational, social, educational, cultural and community service nature will be supported, sponsored, planned and coordinated by the Campus Activities Board. Funding for the activities and events planned by the CAB will be provided via allocation of Student Service Fee funds. Membership in this organization is open to all credit students of WCCC who have interest in activities and social planning. Advisor: Correy Robertson

### Criminal Justice Fraternity

The Criminal Justice Fraternity is an outlook organization on legal procedures in the community. It is designed for students interested in law enforcement as a career. The purpose is to familiarize criminal justice students with situations within the environment that they may encounter in the future. Some group projects include: visits to a prison, a court trial and a correctional institute. Advisor: Randy Slagle

### Cultural Awareness Coalition

The Cultural Awareness Coalition is a social organization open to all students. The purpose of the organization is to bring cultural events to the college that will assist in developing black awareness. This organization will also act as a liaison between the college and community and aid in the recruitment of minority students. Advisor: Carlene Williams

### Early Childhood Education Club

The Early Childhood Education Club is designed to promote community interest and involvement in the field of child care and to give a broader range of knowledge in this career area. The club also helps with community activities involving children. Advisor: Beth Hoden

### eSports Club

WCCC eSports Club focuses on organizing video gamers to play with friends or competitively in local, regional and national competitions. The club organizes many events on campus and uses many free-to-play games so everyone can participate. Membership is open to all WCCC students. Advisor: Jared Bundy

### Gay Straight Alliance

The Gay Straight Alliance formed to encourage equality among gay and straight human beings, to raise awareness and educate about the LGTB community and to emotionally support gay students and their straight allies. Membership is open to all currently enrolled students, faculty and staff members of WCCC. Advisor: Ezekiel Paterson

### History Club

The History Club promotes the study of history by encouraging research and the exchange of learning and ideas among those students who are history enthusiasts. The club provides ideas outside the classroom for students interested in historical study and debate. Membership is open to any current WCCC student or alumni. Advisor: Dr. Kevin Kopper

### Horticulture Club

The Horticulture Club strives to help its members learn more about horticulture through field trips, guest speakers and campus projects. It also promotes fellowship among the members through various events. It is open to all WCCC students. Advisor: Dr. Xuri Zhang

# STUDENT LIFE

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## **The Japanese Cultural Appreciation Society**

The Japanese Cultural Appreciation Society is a special interest organization dedicated to sharing Japanese and Japanese American culture with the WCCC student body and the community at large. The club strives to further create an environment on the WCCC campus which includes and understanding of Japanese and Japanese-American culture, history, language and art. Membership is open to any enrolled student of WCCC who completes all steps required for membership as outlined in the club constitution. Advisor: Andrew Barnette

## **NSNA/SNAP - WCCC Chapter**

NSNA (National Student Nurse Association) is a national professional organization open to all student nurses. SNAP (Student Nurse Association of Pennsylvania) is a state professional organization for student nurses. Students on both levels are invited to join the professional groups. Students participate in health education activities and work toward promotion of nursing as a profession. They participate at the regional, state and national level by attending workshops and conventions that focus on current professional interests and concerns. Advisors: Donna Steele and Mary Rogers

## **Phi Theta Kappa**

Phi Theta Kappa is the only nationally acclaimed honor society serving America's two-year colleges and associate degree granting institutions. Election to the honor society is open to any student who has completed at least 12 credit hours (either full- or part-time) at WCCC. Candidates must possess a cumulative grade point average of 3.5 or better in order to be considered for selection.

The purpose of the society is to recognize academic excellence among students in two-year colleges, provide opportunities for intellectual interchange and assist those seeking to transfer to four-year institutions. Phi Theta Kappa also offers scholarship opportunities, student directed honors projects and the chance to attend regional and national meetings of the society. Advisors: Dr. Patricia Guth, Darlene Pabis

## **Reach Out Christian Club**

The Reach Out Christian Club meets for a time of Christian fellowship and sharing of God's Word. Guest speakers and musicians are often invited to the weekly meetings. Advisor: Jackie Greenawalt

## **Robotics Club**

This organization is dedicated to promoting the field of robotics to all ages and membership is open to any WCCC credit student or alumni with an interest in robotics. The WCCC Robotics Club also works to interface with industry to stay in touch with the future needs for robotics in the workforce. Advisor: Allan Simons

## **Sigma Alpha Pi**

The National Society of Leadership and Success, Sigma Alpha Pi, is a nationwide community dedicated to creating lasting, positive change. Membership in the WCCC Chapter of Sigma Alpha Pi is open to any student of WCCC. There is a onetime membership fee. Following the fulfillment of required activities, chapter members are inducted into the society, receiving lifetime benefits. Members can experience monthly national speaker presentations, a leadership training program, participation in networking opportunities and community service projects. Upon induction, members receive a leadership certificate, T-shirt, membership pin, car decal, exclusive job bank access, access to success coaches, personalized letter of recommendation, opportunities for awards and scholarships, access to all past speaker events online, social events, leadership opportunities and numerous other benefits. Advisors: Ted Short and Jan Perkins

## **Student American Dental Assistants Association**

The Student American Dental Assistants Association is an organization composed of dental assisting students. The association helps to promote the profession of dental assisting and educational gain outside of the classroom. It also promotes awareness of the WCCC Dental Assisting program. Advisor: Mary Kay Huesdash

## **Student American Dental Hygienists Association**

The Student American Dental Hygienists Association is an organization comprised of dental hygiene students. The association helps to promote educational gain in the profession outside of the classroom. Advisor: Angela Rinchuse

## **Ultrasound Club**

The WCCC Ultrasound student organization provides professional development and educational support to the students of the Sonography program. They work to promote the benefits to ultrasound in the medical field. Membership is restricted to students currently enrolled in the Diagnostic Medical Sonography program at WCCC. Advisor: Laura Locke

## **Scheduling of Events and Activities**

Proposed events, fundraisers, and activities must be discussed with and approved by the Student Activities Office. This must be completed at least three weeks in advance of the proposed event or activity. The Student Activities Office is located in the Founders Hall Student Center.

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**JOHN D. WRIGHT**

Greensburg, Pennsylvania  
Retired/International Representative/United Association of  
Plumbers and Pipefitters

# PERSONNEL DIRECTORY

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## WCCC EDUCATION FOUNDATION EMERITUS BOARD

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**EDWIN R. HOGAN**

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Murrysville, Pennsylvania  
President/A. Richard Kacin, Inc.

**DANIEL C. KREZENSKI, D.Ed.**

Lake Wales, Florida  
Retired President/Westmoreland County Community College

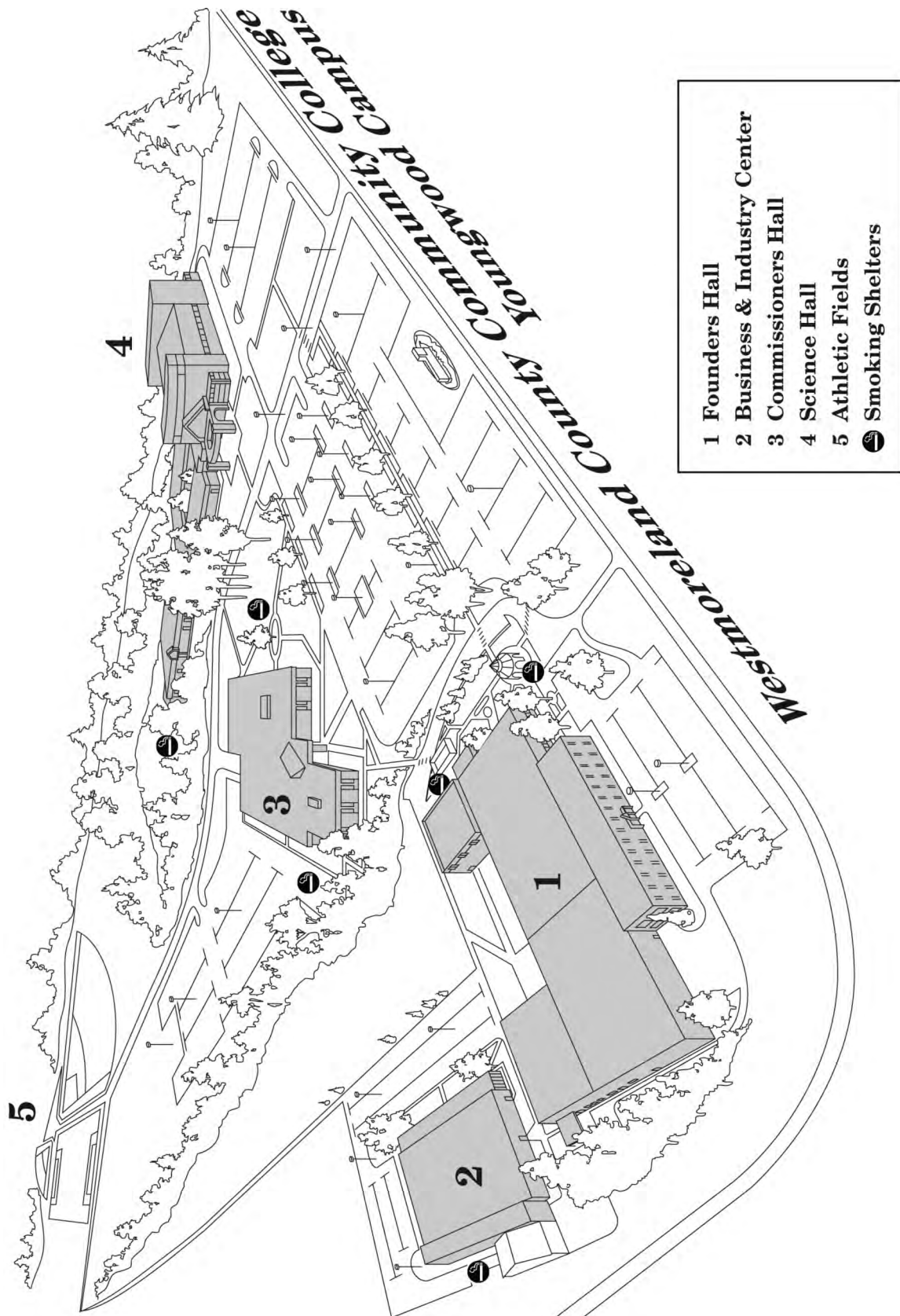
**JACK H. MILLSTEIN, JR.**

Youngwood, Pennsylvania  
Managing Director/Millstein Industries

**JOHN A. ROBERTSHAW, JR.**

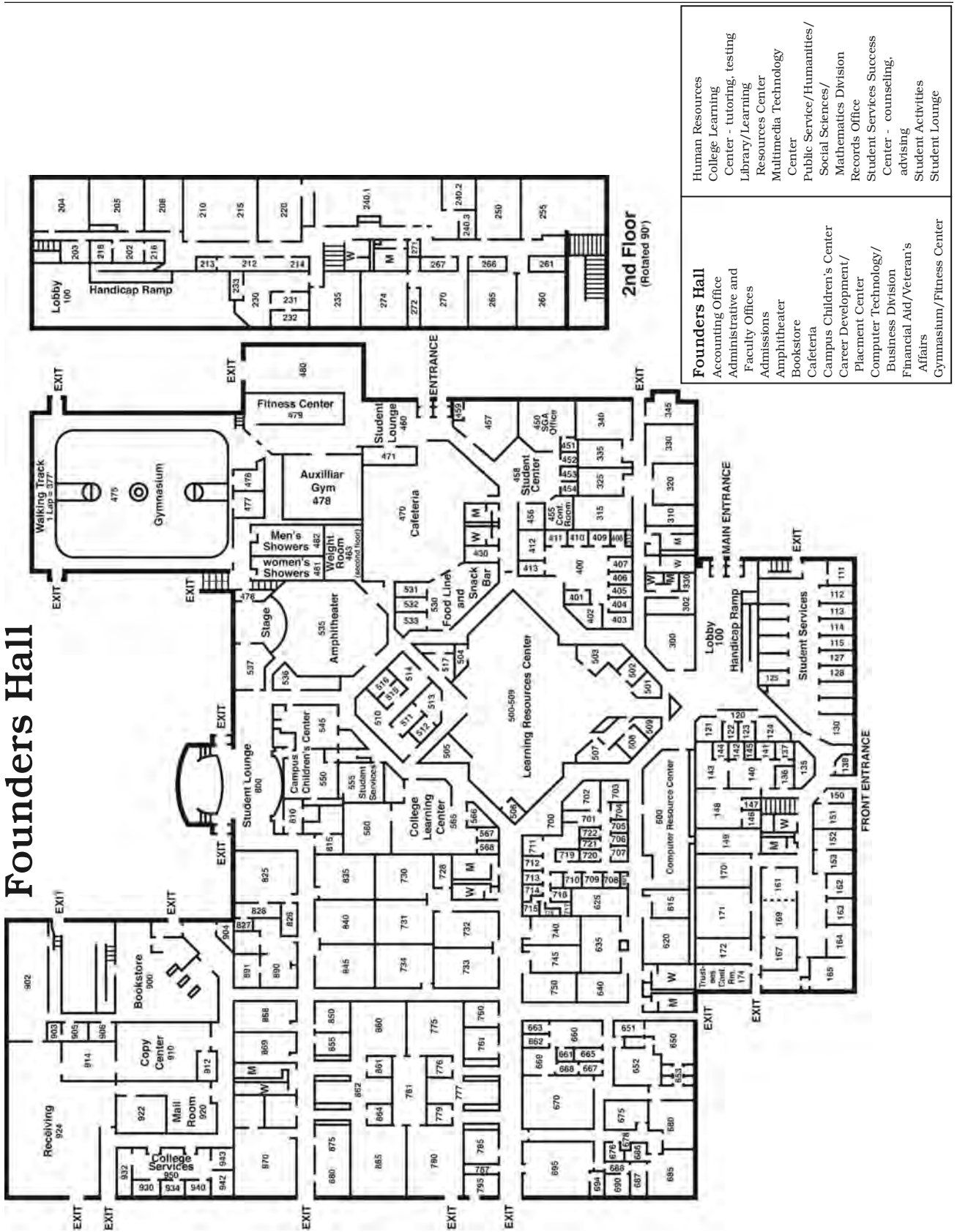
Greensburg, Pennsylvania  
Robertshaw Management, Ltd.

# LOCATIONS AND FACILITIES



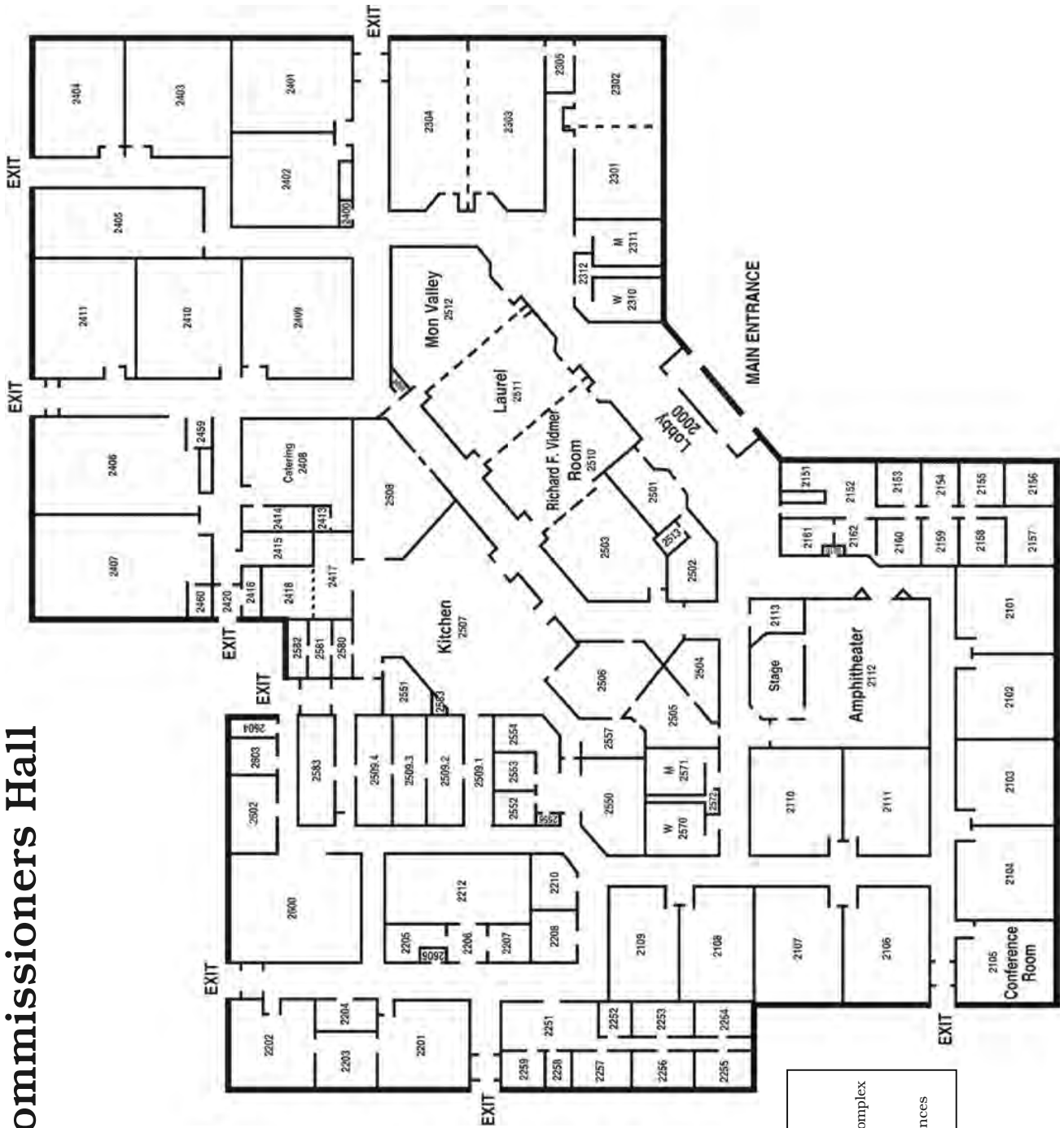
# LOCATIONS AND FACILITIES

## Founders Hall



# LOCATIONS AND FACILITIES

## Commissioners Hall

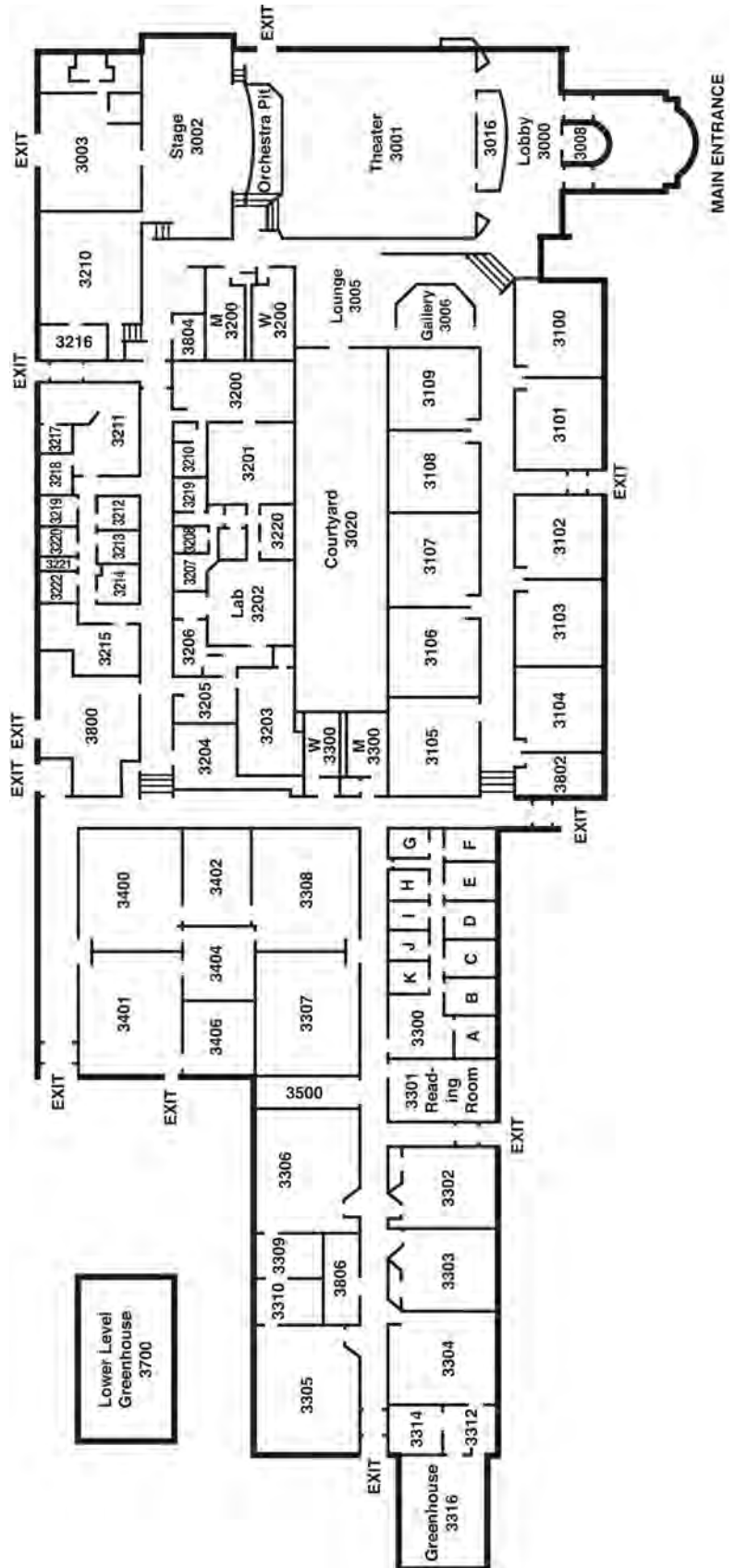


- Commissioners Hall
- Continuing Education Grants
- Management
- Culinary Arts Kitchen/Dining Complex
- Dining Rooms
- Lecture Room
- Health Professions/Natural Sciences Division

# LOCATIONS AND FACILITIES

## Science Hall

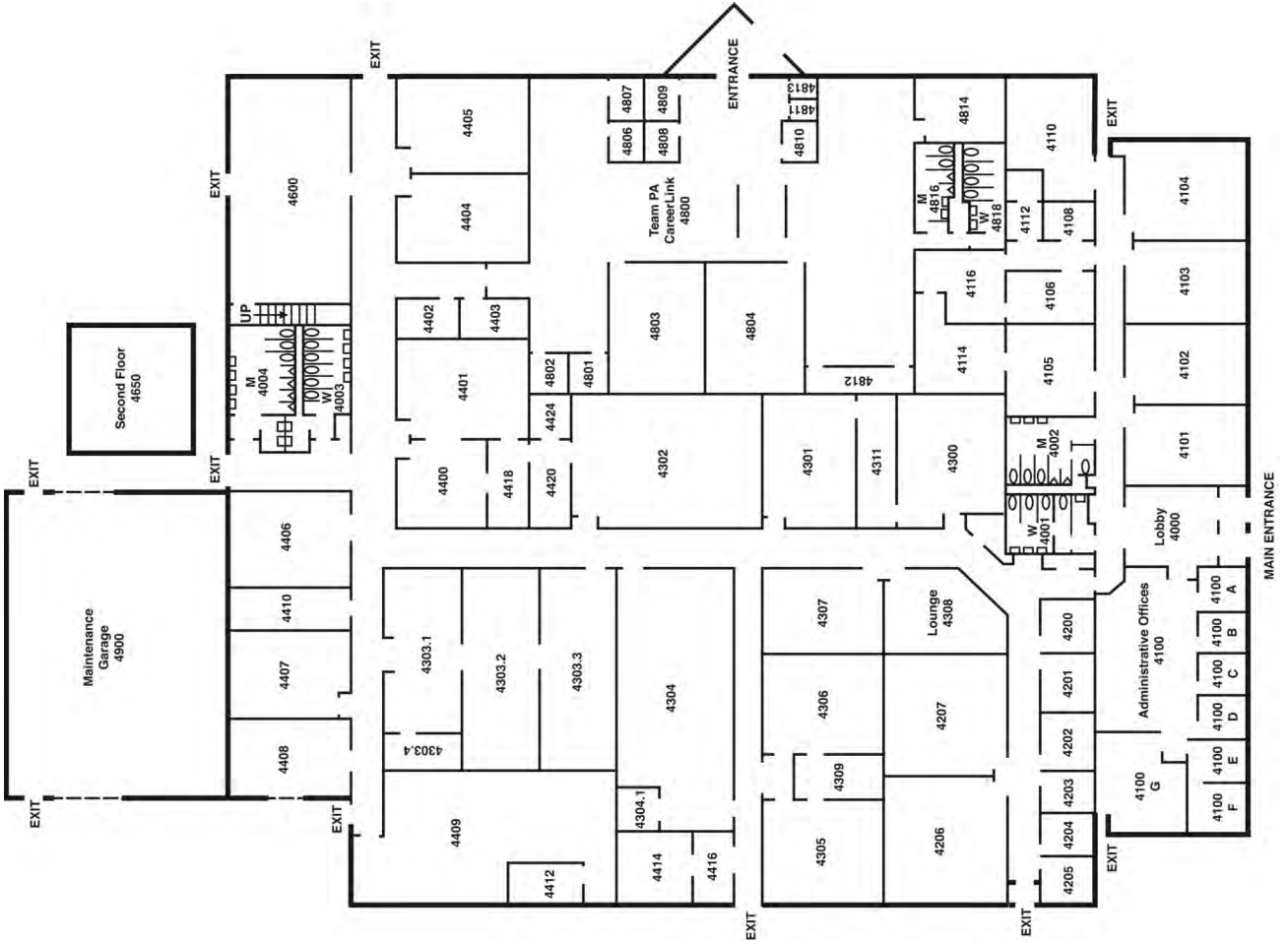
- Science Hall
- Art Gallery
- Dental Hygiene Clinic
- Greenhouse
- Medical Assisting Lab
- Music Room
- Physical Science Labs
- Radiology Technology Lab
- Sonography Lab
- Theater





# Business & Industry Center

- Business & Industry Center
- Business & Industry Center Offices
- CADD/CAM
- Community Education, Workforce & Community Development Office
- Computer Numerical Control
- Drafting
- Electronics
- Firearm Training Simulator (F.A.T.S.)
- Heating, Ventilation, Air-Conditioning & Refrigeration
- Machine Technology
- Team PA CareerLink Office
- Welding
- Westmoreland/Fayette Workforce Investment Board
- Workforce Development/Technologies/Culinary Arts/Physical Sciences/Horticulture Division



# LOCATIONS AND FACILITIES

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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

LBI	Biology Transfer
LBU	Business Transfer
LCH	Chemistry Transfer
LCI	Chiropractic Transfer
LCM	Communication Transfer
LCO	Computer Science Transfer
LCR	Criminal Justice Transfer
LEN	Engineering Transfer
LEG	English Transfer
LPH	Health & Physical Education Transfer
LHE	Health Professions Transfer
LHI	History Transfer
LHU	Humanities Transfer
LLI	Library Science Transfer
LMA	Mathematics Transfer
LPA	Pre-Law Transfer
LPY	Physics Transfer
LPO	Political Science Transfer
LPS	Psychology 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
MUS	Music

## General Studies Transfer

TRAN	Diploma
------	---------

## 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

### APPLIED INDUSTRIAL TECHNOLOGY

AIT	Degree
-----	--------

### ARCHITECTURAL DRAFTING AND DESIGN

ADD	Degree
-----	--------

### 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	Financial Management - Degree
BUS	General Management - Degree
HRM	Human Resource Management - Degree
MKM	Marketing Management - Degree
RSM	Real Estate Management - Degree
SCM	Supply Chain Management - Degree
SBM	Small Business Management - Degree
BUSG	Management - 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
SUPCM	Supply Chain Management - Certificate

### CASINO/GAMING

CASNO	Certificate
-------	-------------

### \*CLINICAL LABORATORY TECHNOLOGY

CLT	Degree
-----	--------

### COMPUTER INFORMATION SECURITY

CIS	Degree
COIFS	Certificate

### COMPUTER NUMERICAL CONTROL

CNU	Degree
CNUI	Certificate

### COMPUTER TECHNOLOGY

CON	Networking - Degree
CPE	Programming for the Enterprise - Degree
CTS	Technical Support - Degree
CTT	Telecommunications - Degree
COTE	Diploma
COTT	Telecommunications - Diploma
CODMG	Database Application - Certificate
COFIO	Fiber Optic Technologies - Certificate
COTEC	Microcomputer Applications - Certificate
CONET	Networking - Certificate
COREP	PC Repair/A+ - Certificate
COPRG	Programming - Certificate
COWED	Web Development - Certificate

### CRIMINAL JUSTICE

CJU	Degree
CJS	Information Security - Degree
CJUCO	Corrections Officer - 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
-----	--------

# MAJORS

## 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

## GRAPHIC COMMUNICATIONS

GRP Graphics & Publishing - Degree  
WMD Web & Mobile Design - Degree  
GRAPB Graphics & Publishing - Certificate  
WEBMD Web & Mobile Design - Certificate

## HEATING, VENTILATION, AIR-CONDITIONING & REFRIGERATION

HVA Degree  
HVARE 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  
HORTT Horticulture - Certificate  
LANDN Landscape Design - Certificate  
LANIM Landscape Installation & Maintenance - Certificate  
TURMG Turfgrass Management - Certificate

## HOTEL/MOTEL MANAGEMENT

HOMOT Certificate

## HUMAN SERVICES

HUS Degree

## INDUSTRIAL ELECTRICITY TECHNOLOGY

INELC Certificate

## LIBRARY SCIENCE

LIBSC Certificate

## MACHINE TECHNOLOGY

MAT Degree  
MATEI Certificate

## MAGNETIC RESONANCE IMAGING

MRICT Certificate

## MANUFACTURING TECHNOLOGY

MAP Manufacturing Process Technology - Degree  
NFM Nanofabrication Manufacturing - Degree

## MECHATRONICS SYSTEM

MECTR Certificate

## \*MEDICAL ASSISTING

MEAS Diploma

## MULTIMEDIA & PHOTOGRAPHY

MMT Multimedia Technology - Degree  
PHO Photography - Degree  
ADOBE Adobe Video Studio - Certificate  
PHOTO Photography - Certificate  
VIDTE Video/Television - Certificate

## NATURAL GAS & OIL TECHNOLOGY

NGOTT Certificate

## \*NURSING

NUR Degree

## OCCUPATIONAL HEALTH & SAFETY

OCHSS Certificate

## OFFICE TECHNOLOGY

OTM Medical Administration - Degree  
OTA Office Administration - Degree  
OADM Office Administration - Diploma  
OTMD Medical Administration - Diploma  
OMADM Medical Administration - Certificate  
OADMN Office Administration - Certificate  
OTCSV Customer Service - Certificate

## PARALEGAL

LEA Degree  
LEAS Diploma

## PETROLEUM INDUSTRIAL PROCESS OPERATION TECHNOLOGY

PIPOT Certificate

## \*PHLEBOTOMY

PHBSP Phlebotomy/Specimen Processing - Certificate  
PHLEB Phlebotomy - Certificate

## RESTAURANT/CULINARY MANAGEMENT

RSC Degree  
RSCM Diploma  
RSCMG Certificate

## \*RADIOLOGY TECHNOLOGY

RAD Degree

## ROBOTICS TECHNOLOGY

RBT Degree

## SCIENCE TECHNOLOGY

STB Biology - Degree  
STC Chemistry - Degree  
STF Forensics - Degree  
STM Medical Applications - Degree

## TRAVEL, TOURISM & LODGING MANAGEMENT

TTO Degree



# MAJORS

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## WEB TECHNOLOGY

WEP            Web Publishing - Degree  
COWED        Web Development - Certificate  
WEPUB        Web Publishing - Certificate

## WELDING ENGINEERING TECHNOLOGY

WET            Degree  
WELTE        Certificate

*All students must complete the Application for Admission which is available online at [wccc.edu](http://wccc.edu) or by calling 724-925-4077. Programs with an asterisk (\*) also require students to complete the Allied Health Programs Application.*

## Notes

## Notes

## Notes

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## **Westmoreland County Community College**

Youngwood Campus  
145 Pavilion Lane  
Youngwood, PA 15697  
724-925-4000

## **WCCC-Bushy Run**

6707 Mellon Road  
Export, PA 15632  
724-327-8090

## **WCCC-Fayette**

140 North Beeson Boulevard  
Uniontown, PA 15401  
724-437-3512

## **Greene County Education Center**

100 EverGreene Drive  
Suite 102  
Waynesburg, PA 15370  
724-627-3464

## **Indiana County Community College Center**

45 Airport Road  
Indiana, PA 15701  
724-357-1404

## **WCCC-Laurel**

Seventeen Lloyd Avenue  
Latrobe, PA 15650  
724-539-3390

## **WCCC-Mon Valley**

1181 Fells Church Road  
Belle Vernon, PA 15012  
724-379-4119

## **WCCC-New Kensington**

1150 Fifth Avenue  
New Kensington, PA 15068  
724-335-8110

## **WCCC Public Safety Training Center**

65 Public Safety Drive  
Smithton, PA 15479  
724-872-2447

[Admissions@wccc.edu](mailto:Admissions@wccc.edu)



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