



2012 - 2013

PROGRAM

DESCRIPTIONS



“The mission of MCTI is to provide high quality career and technical training and education for the students of our community.”

The Monroe Career & Technical Institute serves the
East Stroudsburg,
Pleasant Valley,
Pocono Mountain,
and Stroudsburg School Districts.

**See your Guidance Counselor
to inquire about enrolling at MCTI.**

Monroe Career & Technical Institute
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www.monroecti.org

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194 Laurel Lake Road

Career & Technical Student Organizations

Monroe Career & Technical Institute offers several co-curricular activities through our Career & Technical Student Organizations. Some organizations are supplemental to the career and technical programs.

American Welding Society – AWS

The American Welding Society (AWS) was formed in 1919 to advance the science, technology and application of welding. Participation in a student chapter can provide valuable experience for career and personal development for members. AWS is recognized as the leading technical organization in the United States devoted to the advancement and interest of welding, joining and cutting processes. The organization includes welders, inspectors, and technicians of all levels as well as thousands of students who will become the workforce of the future.

DECA – An Association of Marketing Students

DECA enhances marketing, management and entrepreneurship education. Students develop skills and competencies for careers, build self-esteem, experience leadership and practice community service. DECA promotes the partnership of education and business. DECA promotes leadership opportunities, competitive events and achievement/recognition activities on the local, state and national levels. Students enrolled in the Hotel, Resort & Tourism and Marketing Programs are eligible to join DECA.

National FFA Organization (Agricultural Education)

FFA is a co-curricular student organization which is an integral part of agriculture education. FFA enhances the education of students preparing or advancing their careers in production agriculture, products processing, agribusiness, renewable natural resources, agricultural mechanics, horticulture and environmental occupations. FFA promotes leadership opportunities, competitive events and achievement/recognition activities on local, state and national levels. Students in both the Floriculture and Horticulture Programs participate in FFA.

Health Occupations Students of America – HOSA

HOSA is a national student organization that provides a unique program of leadership development, motivation and recognition exclusively for secondary, post-secondary, collegiate and adult students enrolled in health occupations education course or instructional programs. HOSA is an integral part of approved health occupation programs. HOSA promotes leadership opportunities, competitive events and achievement/recognition activities on local, state and national levels. Health Occupation students join HOSA.

NAHB – National Association of Home Builders

NAHB is an association whose mission is to enhance the climate for housing and the building industry. The student chapter of NAHB works to provide activities for students to develop professionalism in the construction trades and to introduce students to the construction business. NAHB strives to create an environment in which: All American have access to the housing of their choice and the opportunity to realize the American dream of homeownership. Builders have the freedom to operate as entrepreneurs in an open and competitive environment. Housing and those who provide it are recognized as the strength of the nation. The Pocono Builders Association is the sponsor of MCTI NAHB student organization.

National Technical Honor Society – NTHS

NTHS is a non-profit, honor organization for students enrolled in occupational, career and technical programs. The purpose of NTHS is to promote service, leadership, honesty, career development, and skilled workmanship, and to reward student achievement. The NTHS is the benchmark for excellence in workforce education, encouraging students to give their BEST. It also helps students build workplace values that are demanded in today's quality-driven business and industry. Website: www.nths.org

SkillsUSA

SkillsUSA is a co-curricula student organization which is an integral part of trade, industrial, and technical education. SkillsUSA enhances the education of students by preparing or advancing their careers in the service, manufacturing, technical, trade and industrial occupations. SkillsUSA promotes leadership opportunities, competitive events and achievement/recognition activities at the local, district, state and national levels. All career and technical students can participate in SkillsUSA. Website: www.Skillsusa.org

Student Government/Interact

Student Government provides opportunities for active participation in the organization and management of school affairs; to further interest in all school activities; to teach and develop leadership qualities through domestic practices and to cooperate in promoting career and technical education in general, as well as the general welfare of the school.

Interact: A Rotary-sponsored service club for young people in their secondary-school ages, gives an opportunity for students to participate in fun and meaningful service projects. Interact clubs perform at least two projects a year, with one serving the community and the other furthering international understanding. Along the way, Interactors (Interact Club Members) develop their leadership skills and initiative while meeting new friends.

Through the service activities, Interactors learn the importance of:

- Developing leadership skills and personal integrity.
- Demonstrating helpfulness and respect for others.
- Understanding the value of individual responsibility and hard work.
- Advancing international understanding and goodwill.

Membership in the Student Government/Interact requirements:

- Each program session selects one representative and an alternate.
- Each representative and alternate is a bona fide member of a CTSO.
- Each representative (or alternate) attends meetings as called by the advisor.

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|--|--|
| Grades 9-12 | Auto Collision Repair CIP Code: 47.0603 |
| Classroom Tests | Quizzes weekly Tests bi-weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | I-Car SP/2 Safety Certifications (6 possible certifications for qualified students) |
| Number of Books | Collision Repair Fundamentals Collision Repair Fundamentals Workbook |
| Lecture Time | 2 hours a week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1 time per week |
| Task List | PDE Statewide Program of Study and aligned with I-Car |
| Prerequisites | Problem solving skills Computer navigational skills |
| Reading Levels | 9 th grade |
| Math Levels | Basic math |
| Uniform & Tool Requirements | Black Dickeys pants School shirt Leather work boots Respirator-\$55.00 Hood-\$60.00 Workbook- \$26.00 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Ability to work as a team Ability to calculate measurements and ratios Problem solving skills |
| Work Environment | Hazardous Safety required |

AUTO COLLISION AND REPAIR

47.0603 AUTOBODY/COLLISION AND REPAIR TECHNOLOGY/TECHNICIAN
(PDE APPROVED PROGRAM OF STUDY)

The Auto Collision Repair Program is an instructional program that prepares individuals to apply technical knowledge and skills to repair damaged automotive vehicles such as automobiles and light trucks. Students learn to examine damaged vehicles and estimate cost of repairs; remove, repair and replace upholstery, accessories, electrical and hydraulic window and seat operating equipment and trim to gain access to vehicle body and fenders; remove and replace glass; repair dented areas; replace excessively damaged fenders, panels and grills; straighten bent frames or unibody structures using hydraulic jacks and pulling devices; and file, grind and sand repaired surfaces using power tools and hand tools. Students refinish repaired surfaces by painting with primer and finish coat.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Chief Easy Liner Collision Repair System Gas and MIG Welders Paint Mixing System Spray Booth | Automobile Body and Related Repairers Helpers-Installation, Maintenance and Repair Workers Automotive Specialty Technicians Painters, Transportation Equipment | Mechanical Aptitude Ability to Work Independently and in a Team Communication Skills Trouble Shooting Skills |

CAREERS:

| | | |
|-----|------------|---------------------------------------|
| HPO | 13-1032.00 | Insurance Appraisers, Auto Damage |
| | 49-3021.00 | Automotive Body and Related Repairers |
| | 51-9122.00 | Painters, Transportation Equipment |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|----------------------|
| S/P2 | S/P2 |

| | |
|--|--|
| Grades 9-12 | Automotive Technology CIP Code: 47.0604 |
| Classroom Tests | Quizzes given weekly Tests given biweekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | NATEF Certification Pre-testing ASE Certification SP/2 Safety Certifications (2 possible certifications for qualified students) PA State Inspection Certification Refrigerant Recover, Recycling EPA-609 Certification |
| Number of Books | 1 Modern Auto Technology Text Book (\$65 <i>optional purchase</i>) 1 Workbook-\$19 1 Job Sheet Manual-\$33 |
| Lecture Time | 2 hours weekly |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Weekly homework |
| Task List | PDE Statewide Program of Study aligned with NATEF, 5 areas: 1. Brakes 2. Electrical 3. Suspension/Steering 4. Engine Repair 5. Engine Performance |
| Prerequisites | Computer navigational skills and problem solving skills |
| Reading Levels | 9 th grade |
| Math Levels | 9 th grade |
| Uniform & Tool Requirements | Black button-down Dickie shirt - \$20 Black Dickie pants - \$20 Black steel toe boots - \$60 Tool Starter Kit (after level 1) -\$300 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College Penn College of Technology Luzerne County Community College University of Northwestern Ohio College of Technologies |
| Essential APTITUDES for this lab – Recommended levels | Ability to work together and be familiar with flow charts and schematics |
| Work Environment | Hazardous—Safety required |

AUTOMOTIVE TECHNOLOGY

47.0604 AUTOMOBILE/AUTOMOTIVE MECHANICS TECHNOLOGY/TECHNICIAN (PDE APPROVED PROGRAM OF STUDY)

Students enrolled in the Automotive Technology Program are prepared to apply technical knowledge and skills to engage in the servicing and maintenance of all types of automobiles and light trucks. This Program includes instruction in the diagnosis and testing, including computer analysis, of malfunctions in and repair of engines, fuel, electrical, cooling and brake systems and drive train and suspension systems. Instruction is also given in the adjustment and repair of individual components and systems such as cooling systems, drive trains, fuel system components and air conditioning and includes the use of technical repair information and the state inspection procedures.

This Program is certified by the National Automotive Technicians Education Foundation (NATEF) and is designed for students who would like to work in the automotive service industry. Automotive technicians need knowledge of electronics, emission control, electricity, mechanics, and hydraulics.

The need for skilled technicians is rapidly increasing. Expanded use of electronics, new government requirements on safety and pollution control, and more extensive warranties on new vehicles require the work of highly skilled technicians and diagnosticians.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|--|
| Computer-based Service Information Database Engine Analyzers Lab Scopes Scan Tools Road Force Balancer Machine/Computer Precision Measuring Instrument Pressure Gauges Digital Image – Alignment Machine On Vehicle Brake Lathe | Automotive Service Technician and Mechanic Automotive Specialty Technician Tire Repairer and Changer *Administrative Service Manager | Trouble Shooting Skills Mechanical Aptitude Ability to Work Independently and in a Team Analytical Skills |

CAREERS:

| | | |
|-----|------------|---------------------------------|
| HPO | 49-3023.00 | Automotive Mechanic |
| | 49-3023.01 | Automotive Master Mechanic |
| | 49-3023.02 | Automotive Specialty Technician |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|--|
| Automotive Service Excellence Certification (ASE) | National Automotive Technicians Education Foundation |
| Certified Safety Inspector, Cat I S/P2 | Pennsylvania Department of Transportation S/P2 |
| Section 609 Certification for Refrigerant Recycling and Recovery | Mobile Air Conditioning Society Worldwide |

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|--|--|
| Grades 9-12 | Building Trades Maintenance CIP Code: 46.0401 |
| Classroom Tests | One per week |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | NCCER Credentials (various trades) Career Safe OSHA EPA (Environmental Protection Agency) LTO (Log-out Tag-out Agency) HTI (Home Technology Institute) |
| Number of Books | 10 training Guides |
| Lecture Time | 45 minutes each day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-2 times per week |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Be able to follow directions Must be able to read diagrams/schematics |
| Reading Levels | 11 th Grade |
| Math Levels | Algebra 1 |
| Uniform & Tool Requirements | Uniform shirt, pants, & boots - \$60 Trainee guide - \$6 Various trade tools - \$ 105 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Ability to use hand tools Follow safety procedures |
| Work Environment | Varies – may be clean or dusty/dirty and may involve outdoor work |

BUILDING TRADES MAINTENANCE

46.0401 BUILDING/PROPERTY MAINTENANCE
(PDE APPROVED PROGRAM OF STUDY)

The Building Trades Maintenance Program is an instructional program that prepares individuals to apply technical knowledge and skills to keep a building functioning, and to serve a variety of structures including commercial and industrial buildings and mobile homes. Instruction includes the basics of carpentry, millwork, plumbing, painting, glazing, electricity, plastering, welding, minor sheet metal, concreting, bricklaying, tile setting, hardware usage, heating, ventilation, waterproofing, roofing and record keeping. This Program is certified by the National Center for Construction Education and Research.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|--|
| Hand and Power Tools Testing Equipment Refrigeration and Heating Electric Meters Vacuum Pumps Refrigeration Charging Welding Oxyacetylene Torches Soldering Torches Masonry Tools | Air Conditioning Repair Technician Industrial Maintenance Plumber Installation, Maintenance and Repair Workers Electric Motor Repairer Electrical Trouble Shooter | Mechanical Aptitude Problem Solving Skills Troubleshooting Skills Communication Skills Ability to Work Independently and in a Team |

CAREERS:

| | | |
|-----|------------|---|
| | 47-2031.01 | Construction Carpenters |
| | 47-2081.00 | Drywall & Ceiling Tile Installers |
| HPO | 47-2141.00 | Painters, Construction & Maintenance |
| | 47-2152.02 | Plumbers |
| | 47-3011.00 | Helpers - Brick Masons, Block Masons & Tile Setters |
| HPO | 49-9021.00 | Heating, A/C & Refrigeration Mechanics & Installers |
| | 49-9071.00 | Maintenance Repair Workers, General |
| | 49-9098.00 | Helpers-Installation, Maintenance & Repair Workers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|-------------------------------------|
| CareerSafe/OSHA | Texas Engineering Extension Service |

| | |
|--|--|
| Grades 9-12 | Carpentry CIP Code: 46.0201 |
| Classroom Tests | Weekly quizzes |
| End-of-Year Assessment Test | NOCTI |
| Certification Test | Career Safe OSHA |
| Number of Books | 2 books |
| Lecture Time | 20-30 minutes daily |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-3 times a week |
| Task List | PDE Statewide Program of Study aligned with NAHB |
| Prerequisites | Algebra I |
| Reading Levels | Text written on 11 th grade level |
| Math Levels | Basic math including fractions and decimals Algebra 1 and Geometry (by 12 th grade) |
| Uniform & Tool Requirements | Work boots 2 Tan work pants 2 Green shop shirts - \$8 1 Sweatshirt - \$20 Tool Kit - \$160 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Climbing, lifting, using power tools, measurement skills, eye-hand coordination, good motor skills, and teamwork |
| Work Environment | Outdoor and indoor work Heights Dirty |

CARPENTRY

46.0201 CARPENTRY/CARPENTER
(PDE APPROVED PROGRAM OF STUDY)

The Carpentry Program is an instructional program that prepares individuals to apply technical knowledge and skills to lay out, fabricate, erect, install and repair structures and fixtures using hand and power tools. This program includes instruction in common systems of framing, construction materials, estimating, blueprint reading and finish carpentry techniques. The program is designed to provide students with a combination of classroom theory and hands-on building experience in residential, commercial, and industrial construction trades.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Band and Table Saws Bench Shapers Drum and Disk Sanders Jig and Trim Saws Molder/Planer Planers and Jointers Nailers Radial Arm Saws Routers with Attachments Specialized Power Hand Tools Woodworking Lathes | Construction Carpenter Rough Carpenter Carpenter Helper Cabinet and Bench Carpenters | Patience Endurance Ability to Work Independently and in a Team Mechanical Aptitude Communication Skills |

CAREERS:

| | | |
|-----|------------|--------------------|
| HPO | 47-2031.00 | Carpenters |
| | 47-2031.02 | Rough Carpenters |
| | 47-3012.00 | Carpenters Helpers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|-------------------------------------|
| CareerSafe/OSHA | Texas Engineering Extension Service |

| | |
|--|--|
| Grades 9-12 | Computer Networking & Security CIP Code: 11.0901 |
| Classroom Tests | 4-5 per marking period |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | Comptia A+ Comptia Security + Comptia Networking+ Cisco CCNA CTECH Copper Cabling |
| Number of Books | 4-8 Books, over 4 levels |
| Lecture Time | 45 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-2 assignments a week |
| Task List | PDE Statewide Program of Study and aligned with certifications |
| Prerequisites | Interested in computers and computer literacy |
| Reading Levels | 9 th grade |
| Math Levels | Algebra I by 10 th grade |
| Uniform & Tool Requirements | PC toolkit, wrist strap, and headphones (cost approx. \$15) |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College |
| Essential APTITUDES for this lab – Recommended levels | Good manual dexterity Ability to understand schematics and wiring Diagrams |
| Work Environment | Must be able to sit at computers for long periods Must be able to work independently and in groups |

COMPUTER NETWORKING and SECURITY

11.0901 COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS
(PDE APPROVED PROGRAM OF STUDY)

The Computer Networking and Security Program is an instructional program that focuses on the design, implementation and management of linked systems of computers, peripherals and associated software and prepares individuals with the technical skills required to support networks and network users. This program includes instruction in network technologies and standards: system design, architecture, operating systems, security, communications protocols, client support, messaging services, network management, troubleshooting and server optimization. Those completing the program may be employed as a network administrator, network specialist, network technician, webmaster, client services analyst (end user) or network operator.

The core content of this course is focused on nationally recognized certifications. Computer Networking and Security is a college prep program. Upon completion of the program, students may be eligible to obtain up to 20 credits advanced standing at a post-secondary institution based on their career track.

| Specialized Equipment: | Related Occupations/Employment Opportunities: | Personal Qualifications: |
|---|--|--|
| Personal Computers Scanners Digital Cameras Data Projectors Servers Routers Firewalls Printers Network Sniffers | *Network & Computer Systems Administrator *Computer Security Specialist Computer Support Specialist Computer Security | Problem Solving Trouble Shooting Skills Manual Dexterity Analytical Skills Communication Skills Mechanical Aptitude |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 15-1122.00 | Information Security Analysts |
| HPO | 15-1142.00 | Network and Computer Systems Administrators |
| | 15-1151.00 | Computer User Support Specialists |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|---|
| A+ | Computing Technology Industry Association |
| Cisco Certified Network Associate (CCNA) | Cisco Systems |
| Network+ | Computing Technology Industry Association |
| Security+ | Computing Technology Industry Association |

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|--|--|
| Grades 9-12 | Computerized Machine Tool Technology CIP Code: 48.0501 |
| Classroom Tests | Unit tests |
| End-of-Year Assessment / Certification Tests | NIMS-Eleven Level 1 credential certifications available |
| Number of Books | 1 Text 1 Workbook |
| Lecture Time | 40 minutes, 3 days a week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 7-10 assignments per marking period |
| Task List | PDE Statewide Program of Study aligned with NIMS |
| Prerequisites | Algebra 1 |
| Reading Levels | 9 th grade |
| Math Levels | Algebra 1, Geometry, and Trigonometry |
| Uniform & Tool Requirements | Shop uniform-\$50 Boots |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Mechanical aptitude Good math skills |
| Work Environment | Must be able to stand for long periods Some exposure to chemicals |

COMPUTERIZED MACHINE TOOL TECHNOLOGY

48.0501 MACHINE TOOL TECHNOLOGY/MACHINIST (PDE APPROVED PROGRAM OF STUDY)

The Computerized Machine Tool Technology Program is an instructional program designed to give individuals to apply technical knowledge and skills in all aspects of shaping metal parts. Instruction involves making computations relating to work dimensions, tooling and feeds and speeds of machining. Emphasis is placed upon bench work and the operation of lathes, power saws, shapers, milling machines, grinders, drills and computer operated equipment (CNC and CIM). Instruction also includes the use of precision measuring instruments such as layout tools, micrometers and gauges; methods of machining and heat treatment of various metals; blueprint reading; and the layout of machine parts. Instruction prepares students to operate all types of hand and computer controlled machines.

The Program provides both practical skills and related theory in machine tool operation, mechanical drafting, and welding, along with the technical mathematics, science, and communication skills essential to a career in manufacturing. The Program is certified by the National Institute for Metalworking Skills, Inc.(NIMS) and students can receive credentials from NIMS.

| Specialized Equipment: | Related Occupations/Employment Opportunities: | Personal Qualifications: |
|---|--|--|
| CNC Lathe CNC Milling Machine Drill Press Horizontal and Vertical Band Saw Vertical/Horizontal Milling Machines Surface Grinders Computers with Mastercam Cad/Cam Software Lathes | Machine Tool Setter Machinist Machine Tool Operator *Tool and Die Maker *Mechanical Engineer Mechanical Inspector | Mechanical Aptitude Manual Dexterity Ability to Work Independently and in a Team Communication Skills |

CAREERS:

| | | |
|-----|------------|---|
| | 17-2141.00 | Mechanical Engineer |
| HPO | 51-4011.00 | Computer-Controlled Machine Tool Operators, Metal & Plastic |
| HPO | 51-4012.00 | Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic |
| HPO | 51-4041.00 | Machinists |
| HPO | 51-4081.00 | Multiple Machine Tool Setters, Operators, & Tenders, Metal & Plastic |
| HPO | 51-4111.00 | Tool & Die Maker |
| HPO | 51-9061.00 | Inspectors, Testors, Sorters, Samplers, and Weighers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|---|
| NIMS Machining Level I | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I CNC milling | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I CNC turning | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Manual Milling | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Manual surface grinding | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Manual turning between centers | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Manual turning with chucking | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Manual Drill Press Operations | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Measurement, Materials and Safety | National Institute for Metalworking Skills, Inc |
| NIMS Machining Level I Planning, Benchwork, Layout | National Institute for Metalworking Skills, Inc |

| | |
|--|---|
| Grades 9-12 | Cosmetology CIP Code: 12.0401 |
| Classroom Tests | 26 pre-tests 26 post-tests Final at end of each level |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | Cosmetologist, (required) Cosmetology Teacher (available for qualified students) (Both obtained through the PA State Board of Cosmetology) |
| Number of Books | Textbook Theory workbook Practical workbook |
| Lecture Time | 4 times a week .5 to 1 hour a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Clinical | Clinic open to public |
| Homework | Daily |
| Task List | Tech Prep Program aligned with Milady Standard curriculum and the PA State Board of Cosmetology Upon completion of the 1250 hours a state board is required to practice cosmetology in the state of PA. The test is given by a third party agency. |
| Prerequisites | New Student Orientation meeting with instructor |
| Reading Levels | 9 th grade |
| Math Levels | Basic math and Algebra I |
| Uniform & Tool Requirements | Kit purchase approx. \$460 White uniform top, black pants, and white sneakers |
| Dual Enrollment | |
| Articulation Agreements | Lehigh County Community College |
| Essential APTITUDES for this lab – Recommended levels | Manual dexterity Eye-hand coordination Ability to stand for long periods of time Tolerance to various chemicals (perms, nails, etc.) People skills |
| Work Environment | Indoor, timed work, and contact/interaction with clients |

COSMETOLOGY

12.0401 COSMETOLOGY /COSMETOLOGIST, GENERAL (PDE APPROVED TECH PREP PROGRAM)

The Cosmetology Program is an instructional program that prepares individuals to apply technical knowledge and skills related to experiences in a variety of beauty treatments including the care and beautification of the hair, complexion and hands. Instruction includes training in giving shampoos, rinses and scalp treatments; hair styling, setting, cutting, dyeing, tinting and bleaching; permanent waving; facials; manicuring; and hand and arm massaging. Bacteriology, anatomy, hygiene, sanitation, salon management including record keeping and customer relations are also emphasized. Instruction is designed to qualify pupils for the licensing examination upon successfully completing 1,250 hours of instruction.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|--|
| For participation in the program, students are required to purchase a kit with the items mandated by the State Board of Cosmetology and MCTI. Students are also required to purchase a uniform selected by MCTI. | Manicurist Hairdresser Hairstylist Manager Skin Care Specialist | Ability to Work Independently and in a Team Problem Solving Analytical Skills Creativity Patience Endurance |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 39-5012.00 | Hairdressers, Hairstylists and Cosmetologists |
|-----|------------|---|

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|--|
| Cosmetologist | Pennsylvania Department of State, State Board of Cosmetology |
| Cosmetology Teacher | Pennsylvania Department of State, State Board of Cosmetology |

| | |
|--|--|
| Grades 10-12 | Criminal Justice CIP Code: 43.0107 |
| Classroom Tests | Chapter tests, Unit tests, Practical tests, and Quizzes |
| End-of-Year Assessment / | NOCTI |
| Certification Tests | CPR First Aid Hazmat |
| Number of Books | 3-6 books |
| Lecture Time | 4 hours a week |
| Co-operative Education | Not Applicable |
| Homework | 1-2 hours per wk |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Clean criminal record Good discipline record Legible writing Must sign admission and continuance paper |
| Reading Levels | 11 th grade reading level and some materials at college level |
| Math Levels | Algebra 1 |
| Uniform & Tool Requirements | Uniform required (approx. \$200) Navy blue BDU trousers Blouse or T-shirt Plain black uniform belt Black duty boots Beret (maroon) with hat badge |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College Luzerne County Community College |
| Essential APTITUDES for this lab – Recommended levels | Able to follow orders Physical training required Ability to work in a team Extensive reading and writing Self-discipline |
| Work Environment | Indoors, some outdoors, and physical strength |

CRIMINAL JUSTICE

43.0107 CRIMINAL JUSTICE/POLICE SCIENCE (PDE APPROVED PROGRAM OF STUDY)

The Criminal Justice Program is an instructional program that prepares individuals to apply technical knowledge and skills that relate to performing entry-level duties as a patrolman, corrections officer, juvenile officer, security officer and probation officer. The course stresses patrol and related duties such as traffic and crowd control, the American legal system, techniques used in the police laboratory and training in emergency and disaster situations. Also stressed is physical development with a strong emphasis on self-defense and the building of self-confidence. Investigatory techniques such as interviewing and evidence gathering, report writing, a study of juvenile law and procedure, the techniques of crime prevention, the criminal process from arrest through conviction and procedural matters affecting law enforcement such as arrest, search and seizure and legal principles developed in information lessons are utilized in supervised simulated situations.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|--|--|
| Personal Protective Equipment CPR Mannequin Handcuffs Chemical Aerosols Law Enforcement Gear Belts | *Police Patrol Officer Security Officer Correctional Officer Police, Fire and Ambulance Dispatchers | Physical Stamina and Strength Heavy Lifting Walking Good Hand and Eye Coordination Problem Solving Skills Ability to Work Independently and in a Team Patience Endurance Good Communication Skills |

CAREERS:

| | | |
|-----|------------|--|
| | 33-3012.00 | Corrections Officers & Jailers |
| | 33-3021.01 | Police Detectives |
| HPO | 33-3051.00 | Police & Sheriff's Patrol |
| | 33-3051.03 | Sheriffs & Deputy Sheriffs |
| | 33-9032.00 | Security Guard |
| | 43-5031.00 | Police, Fire and Ambulance Dispatchers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|---|---------------------------------|
| Adult CPR | American Red Cross |
| AED Essentials | American Red Cross |
| Certificate of Training - Recognition and Identification of Hazardous Materials | Pennsylvania State Fire Academy |
| Certificate of Training - Recognition and Identification of Hazardous Materials | Pennsylvania State Fire Academy |
| First Aid | American Red Cross |

| | |
|--|--|
| Grades 9-12 | Culinary Arts CIP Code: 12.0508 |
| Classroom Tests | Weekly |
| End-of-Year Assessment Test | NOCTI-ACF |
| Certification Tests | Serve Safe ACF Certification Certified Jr. Culinarian (upon passing NOCTI-ACF) ProStart Management Certification |
| Number of Books | 3 text books, Introduction to Culinary Arts Foundations of Restaurant Management and Culinary Arts Level 1 & II |
| Lecture Time | 2 days a week – 1.5 hours |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 2 times a week |
| Task List | PDE Statewide Program of Study aligned with ACF Certification |
| Prerequisites | Basic Math 9 th grade reading level |
| Reading Levels | Textbook 12 th grade reading level |
| Math Levels | Basic math or Algebra 1 and Accounting |
| Uniform & Tool Requirements | 2 chef uniforms 2 server uniforms (approx. \$150) |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Luzerne County Community College Northampton Community College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Ability to lift 40 lbs. Stand for long periods Time management ability Be able to work in teams Have “people skills” Multi-task |
| Work Environment | Fast paced, chaotic, hot, and stressful |

CULINARY ARTS

12.0508 INSTITUTIONAL FOOD WORKERS (PDE APPROVED PROGRAM OF STUDY)

The Culinary Arts Program is an instructional program that prepares students for employment related to institutional, commercial or self-owned food establishments or other food industry occupations. Instruction and specialized learning experiences include theory, laboratory and work experience related to planning, selecting, preparing and serving of quantity food and food products; nutritive values; use and care of commercial equipment; safety; and sanitation precautions. Instruction of skills is provided to individuals desiring to become employed in all areas of the food service industry at entry level. The Program is certified by the American Culinary Federation.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|---|---|
| Fully Gas-operated Kitchen Brazier and Pressure Steamer Ovens – Conventional and Convection Slicer Broiler Deep-fryer | Waiter/Waitress Food Prep Worker *Food Service Manager Cook/Short Order Cook Baker *Chef/Head Cook | Ability to Work Independently and in a Team Adapt to Situations Work within Time Constraints Endurance |

CAREERS:

| | | |
|-----|------------|--------------------------|
| | 11-9051.00 | Food Service Manager |
| | 35-1011.00 | Chef and Head Cook |
| HPO | 35-2014.00 | Cooks, Restaurant |
| | 35-2021.00 | Food Preparation Workers |
| | 35-3031.00 | Waiter/Waitress |
| HPO | 51-3011.00 | Bakers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|---|--|
| Certified Junior Culinarian (CJC) | American Culinary Federation |
| Pennsylvania Food Employee Certification (ServSafe, etc.) | Pennsylvania Department of Agriculture |

| | |
|--|---|
| Grades 9-12 | Diesel Technology CIP Code: 47.0613 |
| Classroom Tests | Weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | AYES (Automotive Youth Educational Systems) – Six credential certifications available |
| Number of Books | 3 Text books 4 Task books |
| Lecture Time | 4- 30 min. lectures a week Seniors - 1 hour per week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Weekly homework |
| Task List | PDE Statewide Program of Study aligned with NATEF, 5 areas: <ol style="list-style-type: none"> 1. Brakes 2. Electrical 3. Suspension/Steering 4. Engine Repair 5. Engine Performance |
| Prerequisites | |
| Reading Levels | 9 th grade |
| Math Levels | Algebra 1 |
| Uniform & Tool Requirements | Tool kit \$100 - \$200 Steel toe work boots \$60 Uniforms (2 sets) \$80 |
| Dual Enrollment | Penn College of Technology (up to 4 credits for qualified students) |
| Articulation Agreements | Perkins Statewide Articulation Agreements Johnson College University of Northwestern Ohio College of Technologies Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Ability to stand for long periods of time Mechanical ability Some heavy lifting Ability to use hand tools Analytical skills Ability to process information quickly |
| Work Environment | Outdoors, dusty, some chemicals, fumes, and cramped conditions |

DIESEL TECHNOLOGY

47.0613 MEDIUM/HEAVY VEHICLE AND TRUCK TECHNOLOGY/TECHNICIAN (PDE APPROVED PROGRAM OF STUDY)

The Diesel Technology Program is designed to prepare individuals to apply technical knowledge and skills to the specialized maintenance and repair of trucks, buses, and other commercial and industrial vehicles. This Program includes instruction in diesel engine mechanics, suspension and steering, brake systems, electrical and electronic systems, preventive maintenance inspections, drive trains, HVAC systems, and auxiliary equipment installation and repair.

The Diesel Technology Program includes safety, theory, and general practice. Diesel technicians must like to work with machines and be able to use both hand and power tools. This Program is certified by the National Automotive Technicians Education Foundation (NATEF).

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|--|--|
| Diesel Over-the-road Trucks Diesel Engines Transmissions Braking Systems Drive axles | Bus and Truck Mechanic *Diesel Engine Specialist Industrial Machinery Mechanic *Automotive Master Mechanic Helpers-Installation Farm Equipment Mechanic | Mechanical and Electronic Abilities Physical Stamina Commercial Driver's License Problem Solving/Trouble Shooting Skills Ability to Work Independently and in a Team |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 49-3031.00 | Bus & Truck Mechanics & Diesel Engine Specialists |
| | 49-3042.00 | Mobil Heavy Equipment Mechanics, Except Engines |
| | 49.3041.00 | Farm Equipment Mechanics and Service Technicians |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|---|
| AYES Certificate | Automotive Youth Educational Systems |
| Certified Safety Inspector, Cat I | Pennsylvania Department of Transportation |
| S/P2 | S/P2 |
| Section 609 Certification for Refrigerant Recycling and Recovery | Mobile Air Conditioning Society Worldwide |

| | |
|--|--|
| Grades 9-12 | Drafting & Design CIP Code: 15.1301 |
| Classroom Tests | Unit Tests |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | AutoCAD Certification |
| Number of Books | 3 Textbooks |
| Lecture Time | 1 hour per day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 2 assignments/week or as required |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Basic math Desire to learn Good study habits |
| Reading Levels | 9th grade |
| Math Levels | Algebra |
| Uniform & Tool Requirements | Drafting Board - \$55 |
| Dual Enrollment | Luzerne County Community College (6 credits available for qualifying students) |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College Luzerne County Community College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Computer skills Attention to detail |
| Work Environment | Basic office environment |

DRAFTING & DESIGN TECHNOLOGY

15.1301 DRAFTING AND DESIGN TECHNOLOGY/TECHNICIAN, GENERAL (PDE APPROVED PROGRAM OF STUDY)

Drafting & Design Technology is an instructional program that generally prepares individuals to apply technical knowledge and skills as each relates to gathering and translating of data or specifications including basic aspects of planning, preparing and interpreting mechanical, architectural, chemical, structural, civil, pneumatic, marine, electrical/electronic, topographical and other drawings and sketches used in various engineering fields. Instruction is designed to provide experiences in drawing and CAD; the use of reproduction materials, equipment and processes; the preparation of reports and data sheets for writing specifications; the development of plan and process charts indicating dimensions, tolerances, fasteners, joint requirements and other engineering data; the development of models; and drafting multiple view assembly and sub-assembly drawings as required for manufacture, construction and repair of mechanisms.

Students who successfully complete the program will have the opportunity to work as entry level CAD-Technicians with mechanical, architectural, and civil drafting professionals. Students may also work in many related careers such as surveying, construction estimating, and specification writing.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Parallel Sliders Triangles and Scales Auto-Cad Architectural Desktop Mechanical Desktop | *Mechanical Drafter *Architectural Drafter *Civil Drafter *Interior Designer *Engineering | Problem Solving Manual Dexterity Analytical Skills Communication Skills Mechanical Aptitude |

CAREERS:

| | | |
|-----|------------|----------------------------------|
| HPO | 17-3011.00 | Architectural and Civil Drafters |
| HPO | 17-3013.00 | Mechanical Drafters |
| | 17-3019.00 | Drafters, All Others |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|----------------------|
| Autodesk Certified User | Autodesk |

| | |
|--|--|
| Grades 9-12 | Electrical Technology CIP Code: 46.0399 |
| Classroom Tests | 1 test per week 1 vocabulary test per week |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | NCCER Credentials Career Safe OSHA |
| Number of Books | Classroom and National Electric Code Book |
| Lecture Time | 20 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-3 times per week |
| Task List | PDE Statewide Program of Study and aligned with certifications |
| Prerequisites | Ability to work independently |
| Reading Levels | 11 th Grade |
| Math Levels | Algebra I and II |
| Uniform & Tool Requirements | Leather work boots Shop T-shirt Various tools (approx. \$100) |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Moderate lifting and climbing Must be able to understand schematics |
| Work Environment | Danger of electrical shock |

ELECTRICAL TECHNOLOGY

46.0399 ELECTRICAL AND POWER TRANSMISSION INSTALLERS, OTHER (PDE APPROVED PROGRAM OF STUDY)

The Electrical Technology Program is an instructional program that prepares individuals to apply technical knowledge and skills necessary to install, operate, maintain and repair electrically-energized residential, commercial and industrial systems, and DC and AC motors, controls and electrical distribution panels. Instruction emphasizes practical application of mathematics, science, circuit diagrams and use of electrical codes and includes blueprint reading, sketching and other subjects essential for employment in the electrical occupations. Reading and interpretation of commercial and residential construction wiring codes and specifications, installation and maintenance of wiring, service and distribution networks within large construction complexes are also critical components of the program.

Students are also given the opportunity to pursue advanced training in motor control circuits and power technology applications. Students are also afforded the opportunity to become certified in Smart Home Technology (home automation). Students receive practical experience by completing many projects. The Program is certified by the National Center for Construction Education and Research.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|---|--|
| Basic and Advanced Electrical Trainers Conduit Bending Equipment Power Wire Pullers Smart House Technology Trainers Analog and Digital Testing Equipment Motor Control Trainers PLC Trainers | Electrician Helper *Electrician, Apprentice *First Line Supervisor and Manager *Electric Motor and Switch Assembler and Repairer | Mechanical Aptitude Problem Solving Skills & Troubleshooting Skills Analytic Skills Ability to Work Independently and in a Team Communication Skills Knowledge of Algebra |

CAREERS:

| | | |
|-----|------------|--|
| HPO | 47-2111.00 | Electricians |
| | 49-2098.00 | Security & Fire Alarm Systems Installers |
| HPO | 49-9051.00 | Electrical Power-Line Installers & Repairers |
| HPO | 49-2095.00 | Electronics Repairers, Powerhouse Substation & Relay |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|------------------------------------|---|
| CareerSafe/OSHA | Texas Engineering Extension Service |
| NCCER Credentials (various trades) | National Center for Construction Education and Research (NCCER) |
| C-TECH, various certificates | C-TECH |

| | |
|--|---|
| Grades 9-12 | Electronic Technology CIP Code: 15.0303 |
| Classroom Tests | Bi-weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | ETA (Electronics Technician Association) – 5 modules |
| Number of Books | 5 |
| Lecture Time | 25 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 2-3 times a week |
| Task List | PDE Statewide Program of Study aligned with certifications |
| Prerequisites | Math and Science aptitude and Algebra I and Algebra II |
| Reading Levels | 9-12 grade level |
| Math Levels | Algebra I, Algebra II, and Geometry |
| Uniform & Tool Requirements | No uniform required |
| Dual Enrollment | Penn College (<i>NOW</i>) (up to 12 credits for qualifying students) |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology Northampton Community College Johnson College |
| Essential APTITUDES for this lab – Recommended levels | Ability to read schematic diagrams and perform calculations |
| Work Environment | Diverse and usually fast-paced |

ELECTRONICS TECHNOLOGY

15.0303 ELECTRICAL, ELECTRONIC AND COMMUNICATIONS ENGINEERING
TECHNOLOGY/TECHNICIAN
(PDE APPROVED PROGRAM OF STUDY)

Electronics Technology is an instructional program that prepares individuals to apply basic electronic principles and technical skills to the production, calibration, estimation, testing, assembling, installation and maintenance of electronic equipment. Emphasis is on passive components and solid-state devices; digital circuits; optoelectronic devices; operational amplifiers; audio and RF amplifiers; oscillators; power supplies; and AM, FM and PCM modulators. Knowledge is acquired through theoretical instruction, experimentation and hands-on activities. Instruction will develop basic levels of knowledge, understanding and associated skills essential for entry-level employment in communications, industrial electronics, digital processing, robotics, avionics, biomedical technology and other electronics occupations. Through collaborative curriculum planning with colleges and trade schools, students who participate in this program are eligible to obtain up to 12 credits advanced standing in a post-secondary program. This Program is certified by Electronics Technicians Association, International.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|--|--|
| Oscilloscope Function Generator Power Supplies Logic Probes | Production Repairer Electronic Assembler Electronic Technician Communication Technician *Electronic Engineer | Communication Skills Analytical Skills Manual Dexterity Trouble Shooting Skills |

CAREERS:

| | | |
|-----|------------|---|
| | 17-3023.00 | Electrical & Electronic Engineering Technicians |
| | 17-3023.01 | Electronics Engineering Technician |
| | 49-2092.00 | Electric Motor, Power Tool, and Related Repairers |
| HPO | 51-2022.00 | Electrical & Electronic Equipment Assemblers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--------------------------------------|--|
| Student Electronics Technician (SET) | Electronics Technicians Association, International |

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|--|--|
| Grades 9-12 | Graphic Arts CIP Code: 10.0399 |
| Classroom Tests | 1 test a week Pop quizzes |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | |
| Number of Books | 4 books |
| Lecture Time | 30-45 minutes – 3 days per week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-2 times a week |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Good computer skills, creative, self-motivated, and work independently |
| Reading Levels | Text written at 9 th grade level |
| Math Levels | General Math |
| Uniform & Tool Requirements | 8.5"x11" notebook, 3" binder, 4gig minimum flash drive, pens and pencils Graphic Art T-shirt - \$4 SkillsUSA T-shirt - \$5 X-Acto Knife - \$2 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements The Art Institute of Philadelphia Northampton Community College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Artistic mentality (This is not a drawing class) Familiarity of Adobe Software <ul style="list-style-type: none"> - Photo Shop - Illustrator - InDesign - Acrobat Appropriate internet search abilities |
| Work Environment | Student will be working with various chemicals used in the printing industry, meeting deadlines, sitting, working on a computer for long periods of time, and standing on hard floors for long periods of time working on tasks |

GRAPHIC COMMUNICATIONS

10.0399 GRAPHIC COMMUNICATIONS, OTHER
(PDE APPROVED PROGRAM OF STUDY)

Graphic Communications is an instructional program that generally prepares individuals to apply technical knowledge and skills to plan, prepare and execute commercial and industrial visual image and print products using mechanical, electronic and digital graphic and printing equipment. Students learn desktop publishing, layout, composition, presswork and bindery as well as photography, flexography, lithography, photoengraving and other graphic arts techniques. Emphasis is on typographical layout and design using computer graphics, photo typesetting, camera and plate making, offset preparation and operation, paper cutting, ink and color preparation and dynamics and airbrush and screen printing production.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|---|---|
| PC Computers Cano Scan 8800f Xante Laser Printers (B&W) XeroxDocuColor252 Copier/Printer Amer Graph Exposure System Screen printing 4 head/color Vinyl Cutters 24" DigiCut 205 Digital Paper cut Fletcher Board Trimmer Epson Stylur Pro 7800 PhotoTex, 36" Color Plotter Plate Maker 5 prepress system Renze Binding (coil, GBC, Wire'O) Morano Major air feed folder GBC Titan 1244, 42" Mounting & laminating unit Padding Station Illumina 502 Digital Press | Graphic Designer Desktop Publisher Commercial Printing Plants Magazine Publishers Advertising Agencies Self-Employment Sign Company/Vinyl Applications Screen Printer Finishing/Production Worker Off-Set Press Operator Art Director Project Management Specialty Shops | Artistic Ability/Creativity Communication Skills Creative Drive with a Vision Goal Oriented Patience Enjoys Hands-on Work Problem solving troubleshooting Skills Professional Mannerism Works Well in Groups |

CAREERS:

| | | |
|-----|------------|-----------------------------------|
| HPO | 27-1024.00 | Graphic Artist, Designer |
| HPO | 51-5112.00 | Printing Press Operators |
| | 27-1021.00 | Commercial & Industrial Designers |
| | 43-9031.00 | Desktop Publishers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|----------------------|
| | |

| | |
|--|---|
| Grades 10-12 | Health Professions CIP Code: 51.9999 |
| Classroom Tests | Chapter tests and quizzes Vocabulary tests Performance check list for skills |
| End-of-Year Assessment Test | NOCTI Tests: -Nursing Assisting or -Health Assisting |
| Certification Tests | First Aide, Nurse Aide, CPR, Home Health Aide Certification Test |
| Number of Books | Depends on occupational path chosen |
| Lecture Time | 40 minutes, 3 times per week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Clinical | Dependent upon career pathway |
| Homework | 3 times per week |
| Task List | PDE Statewide Program of Study aligned with various certifications |
| Prerequisites | Algebra I |
| Reading Levels | 10-12 grade depending on career path |
| Math and Science Levels | Algebra I and II, Geometry, Biology, Chemistry, and Physics |
| Uniform & Tool Requirements | Uniform required for clinical Must have physical exam, drug screen; immunizations; criminal background check; screenings i.e. TB and Hepatitis B |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements |
| Essential APTITUDES for this lab – Recommended levels | Critical thinking skills and teamwork Must be able to lift 40 lbs. to waist level without restrictions Clear handwriting Ability to maintain confidentiality People skills Must demonstrate ability to meet educational functions of performance of the program. |
| Work Environment | Hospitals, clinics, nursing homes, etc. |

HEALTH PROFESSIONS

51.9999 HEALTH CARE TECHNOLOGY (PDE APPROVED PROGRAM OF STUDY)

The Health Professions Program is designed to prepare individuals to apply knowledge and skills in the health occupations. Instruction is provided in the basic skills in a variety of areas associated with health occupations such as health and medical services, pharmaceutical and medical instruments and supplies. Instruction includes, but is not limited to, foundations of health (medical terminology); anatomy and physiology; legal, ethical and economic aspects of health care; clinical laboratory procedures; basic health occupational skills; aseptic techniques; OSHA regulations; and infection control. Clinical education is an integral part of the program. Science and math taught by certificated science and math teachers will be coordinated and deemed essential for students to successfully reach their career objectives.

Leadership is an integral part of the entire program through participation in HOSA (Health Science Technology Student Organization). A mandatory clinical assignment is integrated into the curriculum. Seniors are given the option to take either the Nurse Aide course or Medical Assistant/Health Unit Coordinator course.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|--|--|
| Datascope Pulse Oximeter Computer and Software Dental Operatory Operational Patient Units Stretcher Rehabilitation Equipment Mechanical Lifts CPR Mannequins Wheelchairs | Nursing Aide Dental Assistant Home Health Aide Pharmacy Technician *Nurse *Physical Therapist *Medical Physician | Dependable Problem Solving Skills Excellent Communication Skills Able to Work Independently and in a Team Critical Thinking Skills |

CAREERS:

| | | |
|-----|------------|--|
| | 29-2099.00 | Health Technologists and Technicians |
| | 29-9099.00 | Healthcare Practitioners and Technical Workers |
| HPO | 31-1011.00 | Home Health Aide |
| HPO | 31-1014.00 | Nursing Assistants |
| | 31-9095.00 | Pharmacy Aides |
| HPO | 31-9099.00 | Healthcare Support Workers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--------------------------------------|-----------------------------------|
| Adult CPR | American Red Cross |
| AED Essentials | American Red Cross |
| BLS Healthcare Provider | American Heart Association |
| Certified Nurse Technician (CNT) | National Healthcareer Association |
| Certified Pharmacy Technician (CPhT) | National Healthcareer Association |
| Community First Aid and Safety | American Red Cross |
| First Aid | American Red Cross |
| Heartsaver AED | American Heart Association |
| Heartsaver CPR | American Heart Association |
| Nurse Aide Registry | Pennsylvania Department of Health |

| | |
|--|--|
| Grades 9-12 | Horticulture/Floriculture CIP Code: 01.0601 |
| Classroom Tests | Bi-weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | National Safe Tractor and Machinery Operation Program Pennsylvania Pesticide Certification |
| Number of Books | 2 textbooks provided by school |
| Lecture Time | 30 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Study guides, test review sheets, and projects |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Ability to work in groups, customer skills, and good eye hand coordination |
| Reading Levels | 9 th grade minimum |
| Math Levels | Basic math and basic measuring skills |
| Uniform & Tool Requirements | Floriculture – FFA Apron - \$22 Sturdy sneakers Landscaping – FFA Shirt - \$15 Work boots |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Luzerne County Community College |
| Essential APTITUDES for this lab – Recommended levels | Ability to stand for long periods Ability to work with others Good manual dexterity |
| Work Environment | Indoors/outdoors Greenhouse Some chemicals used |

HORTICULTURE (Floriculture & Landscaping)

01.0601 APPLIED HORTICULTURE/HORTICULTURAL OPERATIONS, GENERAL
(PDE APPROVED PROGRAM OF STUDY)

An instructional program having a combination of organized subject matter and practical experiences that generally prepares individuals to produce, process and market plants, shrubs and trees used principally for ornamental, recreational and aesthetic purposes and to establish, maintain and manage horticultural enterprises. Instruction emphasizes knowledge, understanding and application important to establishing, maintaining and managing horticultural enterprises such as arboriculture, floriculture, greenhouse operation and management, landscaping, nursery operation and management and turf management.

| Specialized Equipment: | Related Occupations/Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Mowers Skid Steer Tractor String Trimmer Computers Tillers | *Landscape Architect Landscaping and Grounds Keeping *Agricultural Worker Nursery and Greenhouse Workers | Ability to Work Independently and in a Team Problem Solving Artistic Ability Analytical Skills Communication Skills |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 11-9013.00 | Farmers, Ranchers, and Other Agricultural Managers |
| | 11-9013.01 | Nursery and Greenhouse Managers |
| | 27-1023.00 | Floral Designer |
| | 37-1012.00 | Supervisors-Landscaping, Lawn Service, & Groundskeeping |
| | 37-3011.00 | Landscaping & Groundskeeping Workers |
| | 41-2031.00 | Retail Salespersons |
| | 45-2092.00 | Farmworkers & Laborers, Crop, Nursery & Greenhouse |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|---|--|
| National Safe Tractor and Machinery Operator | Hazardous Occupations and Safety Training in Agriculture (HOSTA) |
| Pennsylvania Pesticide Applicator Certification | Pennsylvania Department of Agriculture |

| | |
|--|---|
| Grades 10-12 | Hospitality & Tourism Management CIP Code: 52.1905 |
| Classroom Tests | Weekly test |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | CRDS (Certified Rooms Division Specialist) ServSafe (Pennsylvania Food Employee Certification) |
| Number of Books | 2 text books 2 workbooks 2 college-level textbooks are completed |
| Lecture Time | Theory class twice a week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Internship | Up to 3 days per week for qualified students |
| Homework | Daily homework and study is required |
| Task List | Tech Prep Program aligned with national certifications |
| Prerequisites | Must be mature and able to work independently |
| Reading Levels | 9 th grade minimum |
| Math Levels | 9 th grade minimum Frequent application of industry formulas and calculations |
| Uniform & Tool Requirements | Frequent business attire required Uniform needs vary with hotel placement Uniform shirt purchase (approx. \$10) is required |
| Dual Enrollment | |
| Articulation Agreements | National articulation posted at http://www.ahlei.org/content.aspx?id=31553 Northampton Community College Luzerne County Community College |
| Essential APTITUDES for this lab – Recommended levels | Must enjoy working with people Must be able to work as a team player Maturity is necessary |
| Work Environment | Work in a variety of resorts, hotels, and recreational facilities |

HOSPITALITY & TOURISM MANAGEMENT

52.1905 TOURISM AND TRAVEL SERVICES MARKETING OPERATIONS
(PDE APPROVED TECH PREP PROGRAM)

The Hospitality & Tourism Management Program (HTMP) is an instructional program that prepares individuals to perform marketing and management functions in operational responsibilities associated with a wide variety of careers within the hospitality and tourism industries. Students will be instructed in the areas of personal development, communications, leadership, guest services, sales, financial processes, front office operations, housekeeping, food and beverage service, facilities management, property safety/security, resort management and other occupational preparation activities that will develop the student in the necessary competencies for employment in the hospitality and tourism industry.

The program has been designed by the American Hotel & Lodging Association – Educational Institute with active industry involvement and approval. Through HTMP, partnerships are established with local hotels to provide student internships, field trips, and job shadowing.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|-------------------------------|--|--|
| Computers | Lodging Manager *Sales Manager *Food and Beverage Manager Housekeeping Supervisor *Marketing Manager Guest Services Clerk Sales Representative | Excellent Communication Skills Decision Making Skills Problem Solving Skills Pleasant Personality Ability to Work Independently and in a Team |

CAREERS:

| | | |
|-----|------------|--|
| | 11-2021.00 | Marketing Managers |
| | 11-2022.00 | Sales Managers |
| | 11-9051.00 | Food/Beverage Service Managers |
| | 11-9081.00 | Lodging Managers |
| | 37-1011.00 | First-line Supervisors/Managers of Housekeeping & Janitorial Workers |
| | 43-4081.00 | Hotel, Motel & Resort Desk Clerks |
| HPO | 41-4012.00 | Sales Representatives |
| HPO | 43-4051.00 | Customer Service Representatives |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|---|--|
| Certified Rooms Division Specialist (CRDS) | American Hotel and Lodging Educational Institute |
| Pennsylvania Food Employee Certification (ServSafe, etc.) | Pennsylvania Department of Agriculture |

| | |
|--|--|
| Grades 9-12 | Heating, Ventilation, Air Conditioning CIP Code: 47.0201 |
| Classroom Tests | Weekly, up to 10 tests per marking period |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | EPA 608 Certification NCCER NATE Certification RSES Student Technician |
| Number of Books | 1 core 1 NCCER |
| Lecture Time | 30-45 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Study for tests Research paper Daily reading assignment |
| Task List | PDE Statewide Program of Study |
| Prerequisites | |
| Reading Levels | 9 th grade |
| Math Levels | Algebra 1 |
| Uniform & Tool Requirements | Dark shirt Work pants Boots |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Ohio Technical College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Ability to use variety of tools |
| Work Environment | Dust, cold, heat, climbing ladders, work in tight spaces, and work outdoors |

HEATING, VENTILATION & AIR CONDITIONING

47.0201 HEATING, AIR CONDITIONING, VENTILATION AND REFRIGERATION MAINTENANCE TECHNOLOGY/TECHNICIAN (PDE APPROVED PROGRAM OF STUDY)

The Heating, Ventilation & Air Conditioning (HVAC) Program is an instructional program that combines classroom and practical learning experiences. This Program prepares individuals to apply technical knowledge and skills to install, repair and maintain commercial and domestic heating, air conditioning and refrigeration systems. Instruction includes theory and application of basic principles involved in conditioning of air (cooling and heating); filtering and controlling humidity; operating characteristics of various units and parts; blueprint reading; use of technical reference manuals; the diagnosis of malfunctions; overhaul, repair and adjustment of units and parts such as pumps, compressors, valves, springs and connections; and repair of electric/electronic and pneumatic control systems. This Program is certified by the National Center for Construction Education and Research.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|--|---|
| Electric Pipe Threader Acetylene and Propane Gas Torches Bacharach Tester Arc Welders Reclaim and Recovery Unit Refrigerant High Pressure Indicators Electrical Meters Thermal Testers Compressor Testers | Helpers- Installation, Maintenance, and Repair Workers Refrigeration Mechanic Air Conditioning and Heating Mechanics First Line Supervisors of Production and Operating Workers *Stationary Engineer | Mechanical Aptitude Ability to Work Independently and in a Team Problem Solving Troubleshooting Skills Communication Skills |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 49-9021.00 | Heating, Air Conditioning, & Refrigeration Mechanics & Installers |
| | 49-9021.01 | Heating and Air Conditioning Mechanics & Installers |
| | 49-9098.00 | Helpers--Installation, Maintenance, and Repair Workers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|---|
| CareerSafe/OSHA | Texas Engineering Extension Service |
| EPA 608 Certification | Air Conditioning, Heating & Refrigeration Institute |
| NATE Certification (various certification exams) | North American Technician Excellence (NATE) |
| NCCER Credentials (various trades) | National Center for Construction Education and Research (NCCER) |
| RSES Student Technician | Refrigeration Service Engineers Society (RSES) |

| | |
|--|---|
| Grades 9-12 | Marketing CIP Code: 52.1801 |
| Classroom Tests | Chapter tests and quizzes |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | A*S*K Certification Certified Rooms Division Specialist (CRDS) |
| Number of Books | 1 text book |
| Lecture Time | 40 minutes, 3-4 times a week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 1-3 assignments a week |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Basic computer skills |
| Reading Levels | 8th grade reading level |
| Math Levels | Calculations, word problems, decimals and fractions |
| Uniform & Tool Requirements | Frequent business attire required |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements |
| Essential APTITUDES for this lab – Recommended levels | Must be able to work on projects with groups |
| Work Environment | Generally indoors |

MARKETING

52.1801 SALES, DISTRIBUTION AND MARKETING OPERATIONS, GENERAL (PDE APPROVED PROGRAM OF STUDY)

The Marketing Program is an instructional program that provides instruction in the fields of sales, distribution and marketing operations and focuses on the process and techniques of direct wholesale and retail buying and selling operations. This Program is concerned with marketing, sales, distribution, merchandising and management including ownership and management of enterprises engaged in marketing. Marketing education programs prepare individuals to perform one or more marketing functions such as selling, pricing, promotion, product/service management, distribution, financing and marketing information management. In addition, instructional programs include varying emphasis on technical knowledge of products and/or services marketed; related communication, economic, technological and computation skills; and abilities and attitudes associated with human relations. The Program may also include management functions associated with owning and operating a business. Sales, distribution and marketing operations prepares individuals for occupations in such businesses as retail and wholesale trade, finance, insurance, real estate, entertainment, hospitality, food service, communications, storage and distribution.

This program does not include warehousing/logistics functions.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|-------------------------------|---|---|
| Computers | General and Operations Manager *Marketing Manager *Sales Manager *Advertising and Promotions Manager Supervisor/Manager Retail Sales Worker Customer Service Representative | Excellent Communication Skills Decision Making Skills Problem Solving Skills Pleasant Personality Ability to Work Independently and in a Team |

CAREERS:

| | | |
|-----|------------|---|
| | 11-1021.00 | General & Operations Manager (Entrepreneurship) |
| | 11-2011.00 | Advertising & Promotions Manager |
| | 11-2021.00 | Marketing Managers |
| | 11-2022.00 | Sales Managers |
| | 41-2031.00 | Retail Salesperson |
| | 41.1011.00 | Supervisor/Manger - Retail Sales Worker |
| HPO | 41.3011.00 | Advertising Sales Agent |
| | 41.3099.99 | Sales Representative - Services |
| HPO | 43-4051.00 | Customer Service Representative |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|--|
| A*S*K Certification | A*S*K Institute |
| Certified Rooms Division Specialist (CRDS) | American Hotel and Lodging Educational Institute |

| | |
|--|---|
| Grades 9-12 | Masonry CIP Code: 46.0101 |
| Classroom Tests | 1 weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | Career Safe OSHA |
| Number of Books | 2 books |
| Lecture Time | 3 hours per week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | 2 times a week |
| Task List | PDE Statewide Program of Study |
| Prerequisites | 9th grade reading level Basic Math |
| Reading Levels | Text written at 8th or 9th grade levels |
| Math Levels | Basic geometry, fractions, and decimals |
| Uniform & Tool Requirements | Leather work boots - \$30+ Shop shirt - \$8 Work pants - \$12+ |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Scores average or above on hand/eye/foot coordination Physical strength No fear of heights |
| Work Environment | Mainly outdoors in all weather conditions Dusty Dirty |

MASONRY

46.0101 MASON/MASONRY
(PDE APPROVED PROGRAM OF STUDY)

The Masonry Program is an instructional program that prepares individuals to apply technical knowledge and skills in the laying and/or setting of brick, concrete block, glass block, hard tile, marble and related materials using trowels, levels, hammers, chisels and other hand tools. The masonry curriculum combines classroom and practical learning experience including projects.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|--|---|
| Trowels Levels Hammers and Chisels Jointers Diamond Blade Saws Spacing Rulers Mortar Mixers Hydraulic Cutters Bull Floats | Brickmasons and Blockmasons Tile and Marble Setters Segmental Pavers Cement Mason and Concrete Finishers *First-line Supervisors and Managers/Supervisors-Construction Trade Workers | Ability to Work Independently and in a Team Creativity Patience Communication Skills |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 47-2021.00 | Brickmasons and Blockmasons |
| | 47-2022.00 | Stone Masons |
| | 47-2044.00 | Tile and Marble Setters |
| | 47-2051.00 | Cement Masons and Concrete Finishers |
| | 47-3011.00 | Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters |
| | 47.2161.00 | Plasterers and Stucco Masons |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|-------------------------------------|
| CareerSafe/OSHA | Texas Engineering Extension Service |

| | |
|--|--|
| Grades 9-12 | Plumbing CIP Code: 46.0503 |
| Classroom Tests | Weekly, up to 10 per marking period |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | CareerSafe/OSHA EPA 608 NCCER Certification |
| Number of Books | Plumbing Code Book & Textbook |
| Lecture Time | 30-45 minutes a day |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Study for test Research papers Daily assignments |
| Task List | PDE Statewide Program of Study aligned with certifications |
| Prerequisites | Algebra 1 |
| Reading Levels | 9 th grade |
| Math Levels | Algebra |
| Uniform & Tool Requirements | Dark blue shirt Work pants Boots |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Ohio Technical College Penn College of Technology |
| Essential APTITUDES for this lab – Recommended levels | Problem-solving ability Able to work in a team |
| Work Environment | Dusty, some chemicals used, climb ladders, work in tight spaces, work in heat and cold, and some heavy lifting |

PLUMBING TECHNOLOGY

46.0503 PLUMBING TECHNOLOGY/PLUMBER (PDE APPROVED PROGRAM OF STUDY)

Plumbing Technology is an instructional program that prepares individuals to practice as licensed plumbers by applying technical knowledge, safety and skills to lay out, assemble, install and maintain plumbing fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling and industrial processing systems in home and business environments. The Program includes instruction in source determination, water distribution, waste removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, brazing and soldering, plumbing inspection and applicable codes and standards.

The Program combines classroom and practical learning experiences. Students also become involved with many community service projects related to their program of study. This Program is certified by the National Center for Construction Education and Research.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Electric Pipe Threader Acetylene and Propane Gas Torches Burner Test Bench Bacharach Tester Gas Welders | Pipefitter and Steamfitter Plumbers Plumber Heating and Air Conditioning Mechanics First Line Supervisor Managers and Mechanics, Installers and Repairers | Mechanical Aptitude Ability to Work Independently and in a team Problem Solving Troubleshooting Skills Communication Skills |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 47-1011.00 | First Line Supervisors/Managers of Construction Trades & Extraction Workers |
| | 47-2152.00 | Plumbers, PipeFitters, & Steamfitters |
| | 47-2152.02 | Plumber |
| | 47-3015.00 | Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters |
| HPO | 49-1011.00 | First Line Supervisors/Managers of Mechanics, Installers, & Repairers |
| | 49-9021.01 | Heating, Air Conditioning Mechanics & Installers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|------------------------------------|---|
| CareerSafe/OSHA | Texas Engineering Extension Service |
| EPA 608 Certification | Air Conditioning, Heating & Refrigeration Institute |
| NCCER Credentials (various trades) | National Center for Construction Education and Research (NCCER) |

| | |
|--|---|
| Grades 9-12 | Power Sports and Small Engine Technology CIP Code: 47.0699 |
| Classroom Tests | Weekly |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | Sp/2 Safety Certifications (for qualified students) EETC (Equipment Engine and Training Council -6 credential certifications available for qualified students) |
| Number of Books | 1 textbook 1 workbook - \$24 |
| Lecture Time | 30 minutes, 3 times per week |
| Co-operative Education | Seniors who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Weekly and some on line posting |
| Task List | PDE Statewide Program of Study |
| Prerequisites | None |
| Reading Levels | 9 th grade |
| Math Levels | Algebra 1 |
| Uniform & Tool Requirements | Tool kit - \$100 Lab coat - \$25 Safety Shoes - \$30 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements |
| Essential APTITUDES for this lab – Recommended levels | Ability to stand Mechanical ability Some heavy lifting Ability to use hand tools Analytical skills Ability to process information quickly Spatial acuity |
| Work Environment | Outdoors, dusty, some chemicals, fumes, cramped conditions, and exposure to sharp equipment and tools |

POWER EQUIPMENT TECHNOLOGY

47.0699 VEHICLE MAINTENANCE AND REPAIR TECHNOLOGIES, OTHER
(PDE APPROVED PROGRAM OF STUDY)

An instructional program that prepares individuals to apply technical knowledge and skills to repair, service, maintain and diagnose problems on a variety of small internal-combustion gasoline engines and related systems used on portable power equipment such as lawn and garden equipment, chain saws, outboard motors, rottilers, snowmobiles, lawn mowers, motorcycles, personal watercraft and pumps and generators. This Program includes instruction in the principles of the internal-combustion engine and all systems related to the powered unit. Instruction also includes the use of technical and service manuals, state inspection code, care and use of tools and test equipment, engine tune-up/maintenance, engine overhaul, troubleshooting and diagnostic techniques, drive lines and propulsion systems, electrical and electronic systems, suspension and steering systems and service operations and parts management.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|---|---|---|
| Drill Press Band Saw Jaw Table Vise Bench Grinders Mower Blade Balancer/Sharpener Hydraulic Press Grinding Machine | Engine Repairer Service Gas-Engine Repairer Power-Saw Mechanic Small-Engine Mechanic | Handling and Moving Objects Making Decisions and Solving problems Standing Analytical Thinking Self-Control |

CAREERS:

| | | |
|-----|------------|--|
| HPO | 49-1011.00 | Supervisors-Mechanics, Installers, & Repairers |
| | 49-3051.00 | Motorboat Mechanics and Service Technicians |
| | 49-3052.00 | Motorcycle Mechanics |
| | 49-3053.00 | Outdoor Power Equipment and Other Small Engine Mechanics |
| | 49-9098.00 | Helpers, Installation, Maintenance, and Repair Workers |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|--|---|
| Outdoor Power Equipment Technician Certification S/P2 | Equipment & Engine Training Council S/P2 |

| | |
|--|---|
| Grades 9-12 | Welding CIP Code: 48.0508 |
| Classroom Tests | Chapter quizzes and tests |
| End-of-Year Assessment Test | NOCTI |
| Certification Tests | AWS - American Welding Society SMAW, GMAW, GTAW |
| Number of Books | 2 |
| Lecture Time | Level 1 - 1-1.5 hours a week Level 2 - 1.5-2 hours a week Level 3 - 3 hours a week Level 4 - 5 hours a week |
| Co-operative Education | Students who meet all requirements including teacher recommendation, grades, attendance, and discipline record |
| Homework | Level 1 - 3x a week Level 2 - 2x a week Level 3 - 3x a week Level 4 - 5 x a week |
| Task List | PDE Statewide Program of Study |
| Prerequisites | Math, Reading and Science |
| Reading Levels | 9 th grade |
| Math Levels | Basic Math and Algebra 1 |
| Uniform & Tool Requirements | Steel toe, 8" high leather boots Shop shirt - \$15 Black work pants Entry level tool kit - \$65-75 |
| Dual Enrollment | |
| Articulation Agreements | Perkins Statewide Articulation Agreements Northampton Community College Penn College of Technology Welders Training and Testing Institute |
| Essential APTITUDES for this lab – Recommended levels | Ability to follow safety procedures Some heavy lifting Follow detailed directions Long hours of standing Good eyesight Good physical strength |
| Work Environment | Inherently dangerous at all times. Requires long periods of intense concentration. Strong physical ability necessary to handle heavy equipment and material. May be very loud, dirty, confined, and hot. May be exposed to all natures of elements and/or adverse indoor environments. NOT recommended for people with diminished eyesight or reduced lung capacity. Corrected lens wearers are acceptable, but contact lenses are never recommended. |

WELDING TECHNOLOGY

48.0508 WELDING TECHNOLOGY/WELDER
(PDE APPROVED PROGRAM OF STUDY)

The Welding Technology Program is an instructional program that prepares individuals to apply technical knowledge and skills in gas, arc, shielded and non-shielded metal arc, brazing, flame cutting and plastic welding. Hand, semi-automatic and automatic welding processes are also included in the instruction. Students learn safety practices and types and uses of electrodes and welding rods; properties of metals; blueprint reading; electrical principles; welding symbols and mechanical drawing; use of equipment for testing welds by ultrasonic methods and destruction and hardness testing; use of manuals and specification charts; use of portable grinders; positioning and clamping; and welding standards established by the American Welding Society (AWS), American Society of Mechanical Engineers and American Bureau of Ships. The Program is certified by the American Welding Society.

| Specialized Equipment: | Related Occupations /Employment Opportunities: | Personal Qualifications: |
|--|--|--|
| MIG Welding Equipment Plasma Cutting Equipment TIG Welding Equipment All of the above equipment is used with steel, stainless steel, and aluminum | Production Laborer *Engineering Technician Welder and Cutter | Mechanical Aptitude Manual Dexterity Patience Able to Work Independently Balance and Agility |

CAREERS:

| | | |
|-----|------------|---|
| HPO | 51-4121.00 | Welders, Cutters, Solderers, & Brazers |
| | 51-4122.00 | Welding, Soldering, and Brazing Machine Setters, Operators, & Tenders |

Certifications available to qualified students:

| Industry Certification | Provider Name |
|-------------------------------|--------------------------|
| Level I - Entry Welder | American Welding Society |

DIVERSIFIED OCCUPATIONS

32.0105 JOB-SEEKING/CHANGING SKILLS (Diversified Occupations) (PDE APPROVED TECH PREP PROGRAM)

The Diversified Occupations Program (DO) is an instructional program that operates as an integral part of vocational education to provide a cooperative arrangement between the school and employers whereby the student receives general education instruction in the school and on-the-job training through part-time employment in business/industry. The area of training may be in any vocational education area where there are needs for trained persons and must relate to the student's career objective.

The DO Program is a partnership between MCTI, the sending district, the student and the student's parents, and the employer. This training program is designed to help the student to transition from school to the world of work while gaining valuable life and work experience. Students are responsible for finding part-time employment with a local employer which is directly related to the career field they wish to pursue after graduating from high school. This Program is conducted at the student's district high school campus.