

# Northern Westmoreland Career & Technology Center

## Vocational- Technical Education

Students in ninth and tenth grade may enroll in vocational-technical course at Northern Westmoreland Career & Technology Center in New Kensington. One and two year programs may also be available for eleventh and twelfth grade students. A student who selects vocational-technical education may directly enter the workforce, or attend college or a career/technical school upon graduation.



Many programs at Northern Westmoreland Career & Technology Center are SOAR programs which incorporate secondary education and postsecondary elements. SOAR is the career and technical Program of Study (POS) educational plan, which leads students into a career pathway that aligns the secondary courses to a postsecondary program to complete a degree or certificate, where students meeting the criteria may be awarded post-secondary credits.

**Advanced Manufacturing:** Students are trained to operate industry-standard equipment which ranges from drill presses, lathes, milling machines and CNCs that shape metal into precise dimensions. Blueprint reading, applied math and mechanical reasoning prepares students for a manufacturing environment. Advanced manufacturing technology offers 9 different NIMS level (National Institution for Metalworking Skills) certifications. Students must pass 4 NIMS certifications to be eligible for the co-op program. The other components of the curriculum include: blueprint reading, safety and machine maintenance, surface grinders and CNC programming and operation. The machine tool technology program prepares students for a technology driven advanced manufacturing career. Advanced Manufacturing is a SOAR Program.

**Auto Body Technology (Collision Repair):** Student's in the Auto Body program are provided with the latest vehicle repair and restoration skills based on ASE/NATEF training standards. Within the program of study, students use advanced technology to develop technical skills and gain hands-on experience in a wide range of areas. The advanced curriculum includes refinishing and repair, welding, glass installation, automotive paint applications, detailing, sheet metal work, damage analysis and estimating, and many other related areas. Students work on actual automobiles in the school's well-equipped shop. During their senior year, eligible Auto Body Technology students work in co-op positions, where they gain valuable real-world experience and insights into what it is like to be employed in the automotive repair industry. Co-op experience can lead to part-time or full-time employment after graduation. Auto Body Technology students also engage in cross-curricular projects with their counterparts in Auto Mechanics. Auto Body (Collision Repair) is a SOAR Program.

**Auto Mechanics Technology:** Students in the Auto Mechanics program learn how to perform preventive maintenance and repair on automobiles and light trucks. First year students focus on core curricular components which consist of safety, brakes, minor suspensions and steering, and basic electrical systems. The second year program includes a more hands-on challenging curriculum which includes engine performance, emission controls, ignition systems and diagnostic techniques. Auto Mechanics Technology is an ASE (Automotive Service Excellence) accredited program in which students are required to pass four ASE Certification exams while at NWCTC. Auto Mechanics is a SOAR Program.

**Building Construction Trades:** Students in building construction trades learn a multitude of skills that prepare them for a variety of trade areas, including carpentry, masonry, plumbing, heating, electrical, and painting. Students will apply technical knowledge and skills in the erection and installation of buildings and structures through the use of assorted materials such as metal, wood, stone, brick, glass and concrete. Instruction in these trade areas include blueprint reading, cost estimating, operation of various hand and power tools, cutting, fitting, fastening and finishing. Building Construction Trades is **not** a SOAR Program.

**Carpentry:** Students in the carpentry program learn technical skills ranging from blueprint reading and design to rough and finish carpentry techniques. Second and third year students participate in the construction of an actual house which incorporates blueprints, foundations and footers, framing, subfloor, drywall, door and window installation, casing molding, stairs, railing, roofing and soffit & fascia application. Students learn how to operate various power tools and become proficient using routers, saws and sanders. In addition, students learn how to construct and install kitchen cabinets, custom furniture and millwork. The carpentry program is certified by the Home Builders Association (NAHB). Carpentry is a SOAR Program.

**Computer Networking/Engineering:** Computer networking is an instructional program with a focus on design, implementation and management of linked systems of computers and the associated software. This program will prepare students with the technical skills necessary to support networks and its users. Student instruction will include network technologies and standards, system design, architecture, operating systems, security, client support and troubleshooting. Network specialists work in a variety of environments including professional offices, businesses, government organizations and large corporations. Students may be prepared for employment as network technicians, network operators or client services analysts. Computer Networking/Engineering is a SOAR Program.

**Cosmetology:** The cosmetology program at NWCTC prepares students for a wide range of cosmetology professions through hands-on technical training in an actual salon environment. Students develop advanced skills in hair, skin and nail treatments. Emphasis is placed on haircutting, styling coloring and permanent waving. Students also learn skin and nail techniques which include facials, make-up applications, and manicures and pedicures. There is a comprehensive salon management component to the curriculum in which students are exposed to the business aspect of cosmetology. Students are required to pass a State licensing exam that demonstrates both the theoretical and practical mastery of cosmetology. With this license, students may enter directly into the workforce. Eligibility to take the PA State Board Cosmetology licensing exam requires 1,250 hours of practical experience. Cosmetology is **not** a SOAR Program.

**Culinary Arts:** Culinary students have the opportunity to participate in hands-on experiences in all aspects of the food service industry. Students learn fundamentals in food preparation, serving techniques, safety, sanitation and nutrition in a fully equipped commercial kitchen. The culinary arts program also consists of a full service restaurant in which the culinary department hosts several in-school and afterschool functions where students are provided with hands-on experience and training preparing lunch and banquet cuisine. Culinary students are encouraged to partner with local restaurants to give students opportunities in internships and co-op experiences. Culinary Arts is a SOAR Program.

**Health Occupations:** The health occupations program prepares students for future employment in a wide range of healthcare professions. Hands-on technical training and rigorous academics include: anatomy and physiology, medical terminology, infection control, legal and ethical issues related to healthcare as well as laboratory and physical therapy skills. Students also have the opportunity to become certified in Basic First Aid (American Red Cross) and in CPR for the Workplace (American Red Cross). A new addition to the curriculum includes a Nurse's Aide program. Students learn skills that will enable them to work as a nursing assistant in a long-term care facility, hospital or home healthcare environment. Students are required to complete 40 hours of clinical experience in a nursing home. The Nurse Aid component is offered during a student's senior year when students will be eligible to take the PA Nurse Aide Exam for accreditation. Health Occupations is a SOAR Program.

**HVAC Technology:** The heating /ventilation/air-conditioning (HVAC) program prepares students for a wide range of professions ranging from controls technician and energy auditors to sheet metal workers and electricians. Students are trained in safety, energy management, basic electricity, refrigeration training and the installation and maintenance of commercial and residential HVAC systems. A fundamental plumbing component, sheet metal and duct systems and weatherization is also addressed in the curriculum. The HVAC program is also accredited by the National Association of Home Builders (NAHB) and the HVAC Excellence. Students are able to obtain certifications in OSHA, HVAC Excellence (H.E.A.T.), and AHRI I.C.E. Competency exams. HVAC is a SOAR Program.

**Multi-media/ Digital Communications:** The multi-media/digital communication program trains students in a variety of areas which include web and graphic design, video and audio, television production, animation, and photography. In the school's Mac lab, students compose, design and produce a multitude of digital projects which include brochures, posters, print ads, logos along with other elements of graphic design. In addition, students will be exposed to curriculum that includes basic computer and communication operations and applications, as well as planning, analyzing and creating visual solutions to obstacles in communication. Multi-media and digital communications expose students to multiple skill areas so that students may specialize in a specific related career. This program prepares students for careers in advertising, web and graphic design, public relations and other related computer fields. Multi-media is a SOAR Program.

**Welding:** Students in the welding program are taught all of the major types of welds consisting of shielded metal arc welding (Stick welding), gas metal arc welding (MIG welding), and gas tungsten arc welding (TIG welding). Students also learn techniques related to plasma cutting, oxy-fuel cutting, and CNC programming operation. Safety training, blueprint reading and tool and machine operation are also included in the curriculum. The welding program is closely aligned to the AWS Structural Steel Welding Code standards. Students are able to earn OSHA and AWS (American Welding Society) certifications. Qualified students in their senior year have the opportunity to enter an actual work environment and apply their technical training. Welding is a SOAR Program.

For additional information, see your guidance counselor, or call NWCTC at 724-335-9389.