

Course Description Guide – Handbook Insert

GENERAL CTE PROGRAM OVERVIEW

Students who attend Steel Center can gain a labor market advantage through active learning that meets the expectations of 21st century employers and colleges. Each program will guide students through rigorous career oriented practical activities reinforced through core academic instruction. Students' employability will be further promoted by their opportunity to gain industry standard certifications required by local employers. Students also have opportunities to join career and technical student organizations (CTSOs), where they will learn leadership and citizenship principles. For more information about the opportunities offered at Steel Center, please visit the school's website.

PDE PROGRAMS OF STUDY (POS)

In accordance with the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Act), all postsecondary institutions receiving funds under the Act are required to award college-level credit or equivalent clock hours to a matriculated student and apply that credit toward the completion of the approved Pennsylvania Department of Education (PDE) Program of Study (POS), leading to an industry-recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree. The purpose of this agreement is to ensure that students make the transition from a school entity (Steel Center) to another school entity, college or university, or a business/industry without experiencing delays in or duplication of learning. This agreement sets forth the terms and conditions for the awarding of college-level credit or equivalent clock hours to students who complete the approved PDE POS at a secondary school, so that those students can seamlessly continue their education in a related POS at a postsecondary institution. This agreement outlines the general conditions between secondary and postsecondary institutions.

STEEL CENTER CAREER MAJORS

Steel Center currently offers 17 career majors. Each major is based on currently state-approved curricula, inclusive of written (theoretical) activities, performance tasks, demonstration of work ethic, and professionalism. For each major, students may earn three (3) or more Carnegie Units (credits) per year, depending on local sending school district policies for credit acquisition. Students may also earn industry certifications in respective programs. Steel Center's career majors are as follows, listed alphabetically by local title and accompanied by Pennsylvania Classification of Instructional Program (CIP) codes:

Advertising & Design

Grades 10-12

CIP Code: 50.0402, 3 or more credits/year.

Articulation Agreements: PDE Program of Study, Community College of Allegheny County

Industry Certifications Available: Adobe Certified Associate Photoshop, InDesign, Illustrator, Adobe Premier Pro, OSHA 10 Hour Training & Pennsylvania Skills Certification

An instructional program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of printed media. This program includes instruction in concept design, layout, paste-up and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage and computer graphics.

Automotive Technology**Grades 10-12*****CIP Code: 47.0604, 3 or more credits/year.******Articulation Agreements: PDE Program of Study, Rosedale Technical College***

Industry Certifications Available: Pennsylvania State Automotive Safety Inspection, Pennsylvania State Emissions Inspection and EPA, Section 609 Certification for Refrigerant Recycling and Recovery, Lifting it Right, S/P2 Automotive Safety, OSHA 10 Hour Training & Pennsylvania Skills Certification

An instructional program that prepares individuals 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.

Baking/Pastry Chef**Grades 10-12*****CIP Code: 12.0501, 3 or more credits/year.******Articulation Agreements: PDE Program of Study, Community College of Allegheny County, Westmoreland County Community College***

Industry Certifications Available: ServSafe Manager Food Safety, ServSafe Food Handler, ServSafe Allergens, S/P2 Culinary Safety & Pennsylvania Skills Certification

Specialized classroom and practical work experiences associated with the preparation of breads, crackers, cakes, pies, pastries and other bakery products for retail distribution, for consumption in a commercial food service establishment or for special functions. Instruction includes making, freezing and handling of bake products; decorating; counter display; and packaging of merchandise. This is a comprehensive program to prepare individuals for employment in a variety of occupations in the baking industry.

Building Trades Maintenance (Program of Study)**Grades 10-12*****CIP Code: 46.0401, 3 or more credits/year.******Articulation Agreement: PDE Program of Study***

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA), OSHA-10 Hour Training CareerSafe, Forklift Operator, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single and Extension Ladder & Pennsylvania Skills Certification

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.

Carpentry (Program of Study)**Grades 10-12*****CIP Code: 46.0201, 3 or more credits/year.******Articulation Agreement: PDE Program of Study***

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA), OSHA 10 Hour Training, S/P2 Construction Safety, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single and Extension Ladder, Stop the Bleed, Basic Life Support CPR, Hilti Micro Credentials & Pennsylvania Skills Certification

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.

Collision Repair and Refinishing (Program of Study)**Grades 10-12*****CIP Code: 47.0603, 3 or more credits/year.******Articulation Agreements: PDE Program of Study, Rosedale Technical College***

Industry Certifications Available: S/P2 Collision Safety, & Pennsylvania Skills Certification

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.

Cybersecurity and Networking Technology (Program of Study)**Grades 10-12*****CIP Code: 11.0901, 3 or more credits/year.******Articulation Agreement: PDE Program of Study***

Industry Certifications Available: A+ Certification, Network+, ITF+, Cisco Certified Network Associate, OSHA 10 Hour Training & Pennsylvania Skills Certification

A program that focuses on the design, implementation and management of linked systems of computers, peripherals and associated software to maximize efficiency and productivity, and that prepares the individuals to function as network specialist and managers at various levels. Includes instruction in operating systems and applications; system design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuring; and troubleshooting.

Cosmetology (Career & Technical Program)**Grades 10-12*****CIP Code: 12.0401, 3 or more credits/year.******Articulation Agreements: Community College of Allegheny County, Douglas Education Center***

Industry Certifications Available: Cosmetology License, Nail Technician, Esthetician, S/P2 Cosmetology Safety & Pennsylvania Skills Certification

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.

Culinary Arts (Program of Study)

Grades 10-12

CIP Code: 12.0508, 3 or more credits/year.

Articulation Agreements: PDE Program of Study, Community College of Allegheny County

Industry Certifications Available: ServSafe Manager Food Safety, ServSafe Food Handler, ServSafe Allergen, S/P2 Culinary Safety & Pennsylvania Skills Certification

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 skills are provided to individuals desiring to become employed in all areas of the food service industry at entry level.

Electrical Construction (Program of Study)

Grades 10-12

CIP Code: 46.0399, 3 or more credit/year.

Articulation Agreements: PDE Program of Stud, Rosedale Technical College

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA), OSHA 10 & 30 Hour Training & Pennsylvania Skills Certification

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.

Health Assistants (Program of Study)

Grades 10-12

CIP Code: 51.0899, 3 or more credits/year.

Articulation Agreement: *PDE Program of Study, Community College of Allegheny County*

Industry Certifications Available: Patient Care Technician/PCT, Basic Life Support Health Care Providers, & Pennsylvania Skills Certification

A cluster program with a combination of subject matter and experiences designed to prepare individuals for entry-level employment in a minimum of three related health occupations under the supervision of a licensed health care professional. Instruction consists of core course content with clinical experiences in one or two health related occupations. The core curriculum consists of planned courses for introduction of health careers, basic anatomy and physiology, medical terminology, legal and ethical aspects of health care and communications and at least three planned courses for the knowledge and skills for the occupational area such as medical assisting, ward clerk, nursing assisting, etc.

Heating, Ventilation, Air Conditioning & Refrigeration (Program of Study)

Grades 10-12

CIP Code: 47.0201, 3 or more credits/year.

Articulation Agreements: *PDE Program of Study, Rosedale Technical College, University of Northwestern Ohio*

Dual Enrollment Opportunity: *Rosedale Technical College*

Industry Certifications Available: EPA 608 Technician Certification, Section 609 Certification for Refrigerant Recycling and Recovery, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single and Extension Ladder, Pennsylvania Builder's Association Certification (PBA), OSHA 30 Hour Training & Pennsylvania Skills Certification

An instructional program that 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.

Medical Professions (Program of Study)

Grades 10-12

CIP Code: 51.9999, 3 or more credits/year.

Articulation Agreements: *PDE Program of Study, Community College of Allegheny County*

Industry Certifications Available: Basic Life Support (BLS), Pharmacy Technician (CPhT), Phlebotomy Technician, Certified Pharmacy Technician & Pennsylvania Skills Certification

An instructional program that prepares 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.

Public Safety (Career & Technical Program)

Grades 10-12

CIP Code: 51.0904, 3 or more credits/year.

Articulation Agreement: Robert Morris University

Industry Certifications Available: Emergency Medical Technician, National Incident Management System, Basic Life Support CPR, Stop the Bleed, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single and Extension Ladder & Hazardous Materials Response Awareness

A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise ambulance personnel. Students will learn about basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations. Students will also learn fundamentals of police operations and fire protection, as well as technical and vehicle rescue. Physical development and self-confidence are emphasized due to the nature of the specific occupation(s) associated with public safety.

Sports Medicine & Rehabilitation Professions (Career Technical & Program)

Grades 10-12

CIP Code: 51.2604, 3 or more credits/year.

Articulation Agreements: Duquesne University, Waynesburg University

Industry Certifications Available: Basic Life Support CPR, First Aid, OSHA Healthcare Safety, OSHA 10 Hour Training, Certified Personal Training & Pennsylvania Skills Certification

A program that prepares individuals to pursue careers in rehabilitation services such as physical therapists, athletic trainers, personal trainers, occupational therapists, speech-language pathologists, and other therapeutic and sports medicine professionals. Students will perform routine functions in support of rehabilitation. Includes instruction in roles and responsibilities of rehabilitation providers, basic function of the human body, disabling conditions, injury prevention, sports performance, wellness training, therapeutic skills, client management, and communication skills.

Veterinary Assistant (Career & Technical Program)

Grades 10-12

CIP Code: 01.8301, 3 or more credits/year.

Articulation Agreements: Pennsylvania Western University, Pierpont Community Technical College

Industry Certifications Available: Veterinary Assistant I, Veterinary Assistant II, Kennel Assistant Training, OSHA-10 Hour Health Care Safety, Red Cross Pet Tech First Aid, Purina Weight Coach, Fear Free & Pennsylvania Skills Certification

An instructional program that prepares individuals to support veterinarians by providing assistance during animal examinations, treatment administration and monitoring; by keeping animal and related health record information; and by performing a range of selected practice-related duties. This program is designed to provide instruction in preparing the animal for examination and treatment, sterilizing equipment and performing selected routine laboratory procedures under direct supervision of the veterinarian. Instruction also includes maintaining medical and business records, charting and scheduling activities and a wide range of practice-related duties as applied to animal health care, the biomedical field and the pet industry. The health occupational planned courses include the study of life sciences with emphasis on animal anatomy, physiology, diseases, reproduction, genetics, nutrition, animal laboratory procedures, aseptic technique, OSHA regulations, infection control and procedures. 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.

Welding (Program of Study)

Grades 10-12

CIP Code: 48.0508, 3 or more credits/year.

Articulation Agreements: PDE Program of Study, Rosedale Technical College

Industry Certifications Available: AWS Certification, SP/2 Welding Safety, OSHA 10 Hour Training, & Pennsylvania Skills Certification

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 and chemical baths for surface cleaning; positioning and clamping; and welding standards established by the American Welding Society, American Society of Mechanical Engineers and American Bureau of Ships.