DELAWARE COUNTY TECHNICAL SCHOOL DCTS www.dciu.org/Page/3343

THE DEPARTMENT OF CAREER AND TECHNICAL EDUCATION Applications due February 18, 2021

<u>Directions for applying:</u> Complete application and return to Counseling Office Fill out the DCTS Application Registration form on the Counseling website

PROGRAM GUIDE 2020-2021

LOCATIONS

ASTON CAMPUS 100 Crozerville Rd., Aston, PA 19014 Phone: (610) 459-3050 | Fax: (610) 459-4110

FOLCROFT CAMPUS 701 Henderson Blvd., Folcroft, PA 19032 Phone: (610) 583-7620 | Fax: (610) 583-6537

EXERCISE THERAPY AND SPORTS SCIENCE - Aston

PROGRAM OVERVIEW This program provides both a theoretical and lab component and is designed for those students whose career objective includes college and a career within the Sports Medicine, Athletic Training, Physical Therapy, Occupational Therapy, Exercise Physiology, Fitness Training, and/ or Nutrition fields. Program graduates are prepared to pursue postsecondary education, while developing a foundation of technical knowledge.

MEDICAL CAREERS – Multiple Sites

PROGRAM OVERVIEW This program provides students with the opportunity to participate in clinical rotations at their assigned hospitals. They will be working and observing alongside doctors and nurses while visiting patient rooms. Students will observe various aspects of their assigned hospitals including Emergency Room, Operating Room, Pediatrics, Hospital Pharmacy, and more. This year-long program is offered at seven different area hospitals. Students benefit from career-based presentations from an array of healthcare professionals including nurses, physician assistants, physical therapists, medical technologists and pharmacists. The curriculum includes anatomy, physiology, pathophysiology, medical terminology, safety, infection control and medical law and ethics. Students graduate from the program with a solid understanding of the integral relations of the hospital team and a vision of their potential role in the healthcare industry

HEALTH SCIENCES - Folcroft

PROGRAM OVERVIEW This is a healthcare career exploration program culminating with the opportunity to choose a Medical Assistant or Nursing Assistant pathway. The Health Sciences curriculum is a foundation for all health career pathways in which students may choose to train

for a Clinical Medical Assisting certification or a Nursing Assistant certification in their senior year. Medical Assistants work in the offices of physicians, podiatrists, chiropractors, and other health practitioners. They assist doctors and physicians, take patient history, manage online medical records, measure vital signs, give injections, schedule appointments and administer blood tests. Nursing Assistants work in long-term care facilities such as nursing homes. This program provides opportunities to gain experience in real life situations. Students can learn to feed, bathe, care for patients and monitor patient vitals. The hands-on experiences and training students receive will provide strong preparation for future careers.

DENTAL OCCUPATIONS - Aston

PROGRAM OVERVIEW Students who enroll in the Dental Occupations Program learn a variety of skills that will enable them to become a dental assistant, dental laboratory technician, and/ or pursue a career as an Expanded Function Dental Assistant (EFDA), or dentist. There is a focus on patient-centered care in support of improving oral health as a key to personal health and well-being. The major areas of study in this program include: dental radiology, oral pathology, chair-side dental assisting, anatomy and physiology, dental materials, sterilization, and dental office business procedures. Students will be introduced to Dental Anatomy, Dental Charting Systems, Infection Control Procedures, Dental Instruments and Procedures for General Dentistry, Chairside Assisting Techniques, and Radiology Basics. As students continue in this program, they receive more lectures on advanced dental anatomy, dental software programs, dental specialties, prep for certified dental assisting and radiology Board Exams.

BIOMEDICAL TECHNOLOGY & LABORATORY SCIENCES - Aston

PROGRAM OVERVIEW This program provides students with the opportunity to use state-ofthe-art equipment to learn the principles of scientific investigation and how they apply to environmental health, forensics, genetic engineering, and medicine. An emphasis is placed on DNA fingerprinting, polymerase chain reaction, microbiology, and immunology. Students leaving this program have the strong foundation necessary to pursue postsecondary and career opportunities in pathology, biomedical engineering, genetics, medical technology, and molecular and cellular biology. Students explore the principles of biomedical science. By engaging in activities such as dissecting a sheep heart, students learn concepts of biology and medicine to determine the factors that led to the death of a fictional person. Students learn about human body systems through projects such as determining the identity of a skeleton using both forensic anthropology and DNA analysis. Students examine the interactions of human body systems and apply what they know to solve real-world medical cases. Students delve into activities such as designing a prosthetic arm and investigate how to prevent, diagnose, and treat disease.

EMERGENCY & PROTECTIVE SERVICES- Folcroft

PROGRAM OVERVIEW The Emergency and Protective Services program offers a comprehensive public safety education to students interested in pursuing a career or volunteering in the emergency medical, law enforcement, fire, security, industrial safety or emergency management services. Students work with protective service professionals to gain first-hand experience in all areas of these exciting professions. Units of study include cadet firefighting, law enforcement, emergency medical services, communications and report writing, public speaking and physical training

ADVERTISING DESIGN & COMMERCIAL ART - Aston

PROGRAM OVERVIEW This program introduces students to visual design, graphic design, and the interaction design industry. In a world where commercial art has never been more relevant, DCTS Advertising Design and Commercial Art offers students a community in which to develop the conceptual foundation and skills needed for admission to a post- secondary institution to refine their skills. Students learn the fundamentals to finish each project at an entry level. They are introduced to the Adobe Creative Cloud and explore media messages in print, electronic, and film. Students learn the fundamentals to finish each project at a beginner level. They explore graphic design, advertising, print design, illustration, interior design, digital photography, and game art & design. Students gain an exceptional amount of knowledge and understanding of creative software such as Photoshop and Illustrator.

MANAGEMENT INFORMATION SYSTEMS (MIS) - Aston

PROGRAM OVERVIEW Programming and system design testing and implementation are foundational components of the program. This can be applied to future training at the post-secondary level for students interested in computer science, video game design and database development and administration. This program offers the initial skills and knowledge needed to begin a career in Management Information Systems (MIS). MIS is a series of methods of collecting, compiling, and analyzing large quantities of data to satisfy society's ever-increasing need for information. With increasing frequency, it is apparent that an understanding of technology is a necessary part of general education for students who live and work in our technological society. In the MIS program, students create a relational database and receive instruction in a variety of computer programming languages. This instruction includes writing, testing, debugging code, and writing related system user documentation. Students are required to demonstrate an understanding of core computer concepts and analyze common hardware, software, and network processes. Students learn office safety, computer fundamentals, database administration, and computer maintenance and troubleshooting.

COMPUTER NETWORKING & DIGITAL FORENSICS - Aston

PROGRAM OVERVIEW The Computer Networking & Digital Forensics program centers on networks and the computer devices that comprise a typical network. This includes building, maintaining, and supporting computer network systems. Completion of this program provides the foundation for beginning a career in Information Technology (IT). With a solid understanding of network fundamentals, a variety of careers related to information technology are possible. These careers include desktop support, network engineering and administration, computer forensics, and IT security. Industry certifications align with CompTIA including A+, Network+ and Security+. Students have the opportunity to pursue Microsoft Technology Associate Certifications including Windows Operating System Fundamentals, Networking Fundamentals, and Security Fundamentals. Other Industry Certifications to pursue include Cisco Certified Entry Networking Technician (CCENT) and AccessData Certified Examiner (ACE).

ENGINEERING & ROBOTICS - Aston

PROGRAM OVERVIEW This program prepares students for high-demand, life sustaining, STEM careers in the engineering and advanced manufacturing fields. Students have the opportunity to take an invention from concept to design to production by utilizing hi-tech equipment such as 3D printers and after Computer Numerical Control (CNC) machine. This comprehensive curriculum covers topics such as engineering philosophy, principles, ethics, safety and quality control. Students learn a variety of topics, including computer-aided design, electronics, hydraulics, mechanical drawing, robotics, and precision measurement. Students in the Engineering Technologies program have the opportunity to complete STEM- enhanced curriculum through five Project Lead The Way (PLTW) modules. Students have the opportunity to choose from Introduction to Engineering, Principles of Engineering, Computer Integrated Manufacturing, Digital Electronics, Civil Engineering & Architecture. Students are introduced to problem solving, learning about engineering principles, teamwork, and Computer-Aided Design (CAD).

BUILDING TRADES - Folcroft

PROGRAM OVERVIEW This program teaches general construction skills and knowledge necessary to build a house. Practical experience and classroom training prepares students enrolled in the Building Trades program for employment in general construction or property maintenance. Students are taught carpentry, masonry, plumbing, roofing, drywall application, painting, and framing/finishing. Students learn basic safety, the use of hand tools and power tools, and construction technology. Students explore floor systems, wall systems, ceiling joists, and roof joists. They also learn plumbing with copper tubing and fittings. Students learn about exterior finishes, basic stair layout, electrical safety, residential electrical work, and PVC plumbing for drains, waste, and vents. Also, the opportunity is provided to students for creating a National Occupational Competency Testing Institute (NOCTI) box for their exam.

CARPENTRY - Aston

PROGRAM OVERVIEW This program provides students the opportunity to learn building layout, framing, roofing, window and door installation, and finish trim work. On-site projects include the use of hand and power tools to do building layout, flooring, framing and wall construction, roofing, and the application of exterior and interior finishes. Upon graduation, students can continue their education through local union apprenticeships, a variety of partnering college programs, or the Association of Builders and Contractors. Through this project-based program, students learn about hand and power tool safety, measuring, layout, basic blueprint reading, basic wood joints, and material sizing. Additionally, they learn basic trim methods, advanced framing methods, interior trim package installation, exterior, roofing, window and door installation, blueprint reading, and estimation. Advancement in the program means students will be eligible to increase their knowledge on roof framing, building layout, advanced exterior finishes, blueprint reading, deck construction, and advanced estimation.

ELECTRICAL CONSTRUCTION TECHNOLOGY - Aston

PROGRAM OVERVIEW This program provides students with an introduction to the basic concepts of residential and commercial wiring. With an emphasis on safety, students install circuits, switches, conductors, circuit breakers, and other electrical devices. Topics covered include selecting and ordering materials, key supplies and tools, codes, blueprint reading, and low voltage wiring. Students are taught in compliance with the National Electrical Code (NEC) and the Residential Construction Academy (RCA) industry standards. Students begin working toward their RCA and OSHA 10 certifications immediately. When students first explore this program, they learn safety, tools, residential wiring, blueprints, circuitry, devices, raceways,

bending, OHM's Law, and work to complete OSHA 10. As students continue in the program, they attain employability skills. Students gain more in-depth knowledge with respect to safety & tools, commercial wiring, review of blueprints, devices, raceways, bending, panels, disconnects, and circuitry.

HEATING, VENTILATION & AIR CONDITIONING (HVAC) & PLUMBING - Aston

PROGRAM OVERVIEW HVAC and plumbing professionals are instrumental in ensuring that homes and buildings function properly on a daily basis. The HVAC and Plumbing Technology program introduces students to the basic concepts of residential and commercial work. With an emphasis on safety, students work with copper, black pipe, electric, and full HVAC systems. Topics covered include selecting and ordering materials, supplies, tools, codes, blueprint reading, and low voltage wiring. Students learn about safety, tools, residential work, blueprints, basic HVAC systems, and basic plumbing skills. Students are taught in compliance with the International Code Council (ICC) Plumbing, Mechanical, Fuel Gas Code and the Residential Construction Academy (RCA) industry standards.

WELDING - Aston

PROGRAM OVERVIEW The welding industry can be extremely rewarding due to the fact that employers have a constant need for skilled welders. Welding is used in manufacturing, construction and many other industries. In the Welding Technology program, students are taught oxy-fuel gas cutting principles and practices, are cutting principles and practices, and welding inspection and testing principles. Welding Technology students research careers in the welding field and learn how to weld in all positions. Further, they learn how to interpret blueprints and layout projects from cutting to tacking to full completion of projects. Students learn about precision cuts in steel plates using superheated gases and learn how steel is formed from a liquid to solid. Students also gain hands-on training in a variety of welding procedures including shielded metal arc welding (STICK), gas metal arc welding (MIG), flux cored arc welding (FCAW) and gas tungsten arc welding (TIG). In this program, students learn how to use the proper equipment for testing welds, destruction, and hardness testing. They gain experience in reading and understanding manuals and specification charts for the welding process. The students learn how to use grinders and chemical baths for surface cleaning, proper clamping techniques, and welding standards established by the American Welding Society.

EARLY CHILDHOOD EDUCATION - Aston

PROGRAM OVERVIEW The Early Childhood Education (ECE) program prepares students to work with young children in a variety of settings. This requires an understanding of how children grow, learn, and develop. The curriculum is aligned with the National Child Care Association's core of 15 "Professional Abilities." Field experiences and practicums provide opportunities to become involved in actual work with children. The program also prepares students to be a Child Development Associate (CDA). The Early Childhood program prepares students for college and pathways in Early Childhood. Students learn about children through observation, study family characteristics, parenting and caregiver skills, prenatal development, children with special needs, and recognizing child abuse and neglect. Techniques are taught for guiding children and creating a safe, healthy learning environment. Also included in the program are brain development theories, observation and assessment, promoting children's safety, planning nutritious meals and snacks, guiding children's health, and developing guidance skills. Students develop and prepare

classroom lesson plans and learning experiences while working with the preschool children enrolled within DCIU Head Start and Early Intervention programs. Experiences are provided for children in guiding art, block building, sensory experiences, storytelling, play and puppetry, manuscript writing, math and science, social studies, food and nutrition, music, and field trips.

CULINARY ARTS - Folcroft

PROGRAM OVERVIEW The Culinary Arts program prepares students for success in the food service and hospitality industry. Students are taught food preparation, dining service, inventory control, safety, and sanitation. Students also learn nutrition, healthy cooking, equipment identification, use of hand tools, and culinary vocabulary. Students prepare soups and sauces, breakfast entrées, sandwich production, pies, cakes, yeast-raised products, entrée preparation, international dishes, vegetable preparation, garnishing, salads, and dressings. Students may seek immediate employment, enter an apprentice program or continue culinary or management studies at the postsecondary level. Culinary Arts is a creative program for students to learn teamwork, different techniques, and preparation skills. Students learn safety and sanitation efficiency as well as hospitality services.

COSMETOLOGY – Aston and Folcroft

PROGRAM OVERVIEW The Cosmetology program focuses on the fundamentals of the profession. This enables students to confidently begin working with hair, skin and nails early in their training. Technical skill development blends with applied sciences to guide them toward a successful career as a salon professional. During this three-year, 1250-hour training program, students learn hair sculpture, color application, chemical texture, and skin and nail procedures. Students study a wide variety of scientific applications, such as the chemistry of cosmetics, biology, human anatomy, and physiology. Upon completion, graduates are fully prepared to take the Pennsylvania State Board of Cosmetology examination. Students learn the history and career opportunities of Cosmetology. Topics of study include Life Skills, Professional Image, Communicating for Success, Infection Control: Principles and Practices, Basics of Electricity, Properties of the Hair and Scalp, Principles of Hair Design, Scalp Care, Shampooing & Conditioning, Hairstyling, Braiding and Extensions, Hair Cutting, Hair Removal, Facials, Make-up, Manicuring, and Pedicuring.

Students must successfully complete the 1250 hour training program to qualify for the Pennsylvania State Board of Cosmetology Examination.

AUTOMOTIVE TECHNOLOGY - Folcroft

PROGRAM OVERVIEW Automotive Technology is a recognized NATEF/ASE accredited instructional program that emphasizes skills to diagnose, service and maintain all types of automobiles. Upon graduation and following one year of employment in the field, students are eligible to take the automotive NATEF/ASE exam. Successful graduates of this program are qualified to enter the automotive field as entry-level service technicians in new car dealerships or related automotive businesses. When students start in the program, they are introduced to topics such as brakes, steering and suspension, electrical, and engine performance. If students believe a smooth-running engine is a beautiful sound, and want to keep cars running that way while using the most up-to-date tools and equipment, that student is in the right place! To be successful, students should be ready to work with constantly changing technology. They have the opportunity to put that knowledge to use with their hands in a timely manner to repair vehicles.

COLLISION REPAIR TECHNOLOGY - Folcroft

PROGRAM OVERVIEW The Collision Repair Technology course is based on an occupational analysis of the auto body field and reflects the entry-level job requirements of Inter-Industry Conference on Auto Collision Repair (I-CAR) and the Automotive Collision Technology standards. The Collision Repair Technology program is designed to give each student the knowledge, understanding and training needed to secure a position in the collision repair field and/or enter a post-secondary institution. Using state-of-the-art equipment, students are taught metal arc welding/cutting, metal repair, corrosion protection, masking, refinishing, undercoating, unibody inspection, and detailing. They are also taught safety compliance, proper use of tools, and equipment identification. Additionally, students learn details of electrical systems and suspensions, and continuously review safety resources, refinishing, and basic welding.

LOGISTICS & INVENTORY MANAGEMENT - Folcroft

PROGRAM OVERVIEW The Logistics & Inventory Management program introduces students to the distribution service industry. The course curriculum prepares students to work in distribution centers, warehouses, and supply rooms. Students learn safety standard compliance, tool and equipment identification, operation of industrial lift and transport equipment, data entry, and communication skills. People with careers in Logistics and Inventory Management work with an inventory of raw materials and finished parts. They move raw materials to the production line, unload trucks with raw materials, wrap pallets of finished products for shipment, and communicate with traffic managers. Students develop these skills while managing and operating the DCIU Distribution Center, the Science Material Center for Delaware County.