

## **INTRODUCTION TO THE CAREER INSTITUTE OF TECHNOLOGY**

Career Institute of Technology is an extension of Pen Argyl Area High School. Therefore, the number of programs being offered there enables an increase in the number of course selections for our students. Students who select the career programs may do so for a period of one, two or three years in tenth, eleventh and/or twelfth grades. Special circumstances enable students in ninth grade to attend. All programs provide instruction during a half-day schedule.

Career programs are designed to help students acquire the skills, knowledge and attitudes needed to secure employment. Although many of the students who take a career program will enter the world of work upon graduation, approximately fifty percent of the program completers seek higher education. This is possible with advanced planning and by carefully balancing course selections. CIT has advanced placement agreements with colleges and technical and trade schools that qualify as tech prep programs. The quality and quantity of what is learned is determined by the time and effort applied. The length of enrollment should be determined by career goals.

Students are encouraged to research their career plans by reading related information and reviewing and discussing their plans with counselors and parents. Brochures, program pamphlets, applications, curriculum outlines, placement studies, and lists of competencies are available for review in the guidance office. Student visitations are encouraged for students to see the actual class and lab atmosphere and course content in action.

The basic clusters with their related programs are listed below:

### **Arts and Humanities:**

CAD/Engineering Graphics

### **Engineering and Industrial:**

Automotive Collision & Refinishing Technology  
Automotive Technology  
Building Trades Cluster Program  
Building Construction Technology  
Electrical Occupations Technology  
Electronics Technology  
Groundskeeping & Building Maintenance  
Heating, Ventilation, Refrigeration & Plumbing  
Machine Tool Technology  
Masonry  
Welding Technology

### **Business and Communications:**

Information Systems Technology  
Marketing and Advertising Technologies

### **Health and Human Services:**

Cosmetology  
Culinary Arts  
Health Related Technology  
Hospitality and Lodging  
Occupational Child Care  
Protective Services

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# Career Institute of Technology

## Programs of Study (College Level for High School Work)

Programs of Study are statewide curriculum approved by the Pennsylvania Department of Education that allow students in High school career and technical programs to seamlessly continue their education in a related Program of Study on the College level. Upon successful completion of the high school program, students will be awarded at least nine (9) college-level credits. The following programs have achieved the Programs of Study status at CIT:

Automotive Technology  
Automotive Collision & Refinishing  
Building Construction Technology  
CAD & Engineering Graphics  
Electronics  
Electrical Occupations Technology  
Health Related Technology  
Heating Ventilation Air Conditioning & Plumbing  
Hospitality and Lodging  
Machine Tool Technology  
Marketing and Advertising Technologies  
Occupational Childcare  
Welding Technology

Contact CIT Student Services Office for a list of colleges in PA that accept Programs of Study and provide credit to program completers.

## Tech Prep

Tech Prep programs also have individual articulation agreements with local colleges. The number of credits that a student can receive varies between programs and colleges.

The following programs are approved as Tech Prep:

\*Protective Services  
\*Culinary Arts  
Information Systems Technology

## Occupational Programs

Occupational programs are designed to prepare the student for a career. This does not preclude continuing education, although at this time there are no articulation agreements with colleges:

Cosmetology  
\*Groundskeeping and Building Maintenance  
\*Masonry

\*These programs may be developed as Programs of Study for the 2010-11 school year.

# **CAREER INSTITUTE OF TECHNOLOGY**

## **Programs are available for 10<sup>th</sup>, 11<sup>th</sup>, & 12<sup>th</sup> grade students**

### **Automotive Collision and Refinishing Technology Rm. #460**

Students in this program learn all phases of repair and refinishing work necessary to restore a damaged automobile based on I-CAR National Standards. Major and minor collision repair skills taught include use of auto body tools, removing and replacing body parts, frame and body straightening, welding, body work preparation, spray painting, air brushing and estimating repair costs.

### **Automotive Technology Rm. #480**

This program teaches students marketable skills in automotive repairs, which are based on NATEF National Standards. Program components will include, work safety, hand tools, suspension and steering, brakes, engines, engine performance, transmissions, electrical and air conditioning. Students will have access to the latest computerized equipment for automotive diagnosis and repairs. Students will be able to participate in shadowing, internships and apprenticeships at automotive dealerships through the A-YES Program.

### **Building Construction Technology Rm. #100**

The Building Construction Technology Program addresses the technological advances in the construction industry and the training of future employees in the application of necessary skills and techniques. This is accomplished by up-to-date instruction in equipment, methods and materials used in residential and light commercial construction. Included are permit requirements, blue print reading, site clearing, site layout, foundations, framing (steel and wood), insulation, sheathing, roofing, windows and doors, exterior and interior finish and cabinet construction and installation. Special emphasis is placed on safety and the use of modern tools, materials, along with engineered prefabricated components. Both model construction and live work are used to provide students with hands on experience. Students in this program will participate in the CIT Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **Building Trades Cluster Program**

This program offers introductory skills needed to build and maintain residential buildings and equipment. Students entering this program spend one semester in each of the Construction Related areas gaining a working knowledge of Building Construction, Plumbing and Heating, Electrical and Masonry and are given the option of spending a third year to specialize in one of the program areas. Students in this program will participate in the CIT Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **CAD and Engineering Graphics Rm. #430**

Students enrolled in CAD develop marketable job skills in Computer Aided Design (CAD). They may seek employment under the supervision of an architect or a mechanical or civil engineer. Students use the latest technology in CAD to develop skills common to all drafting specialties. The student has the opportunity to demonstrate skills such as how to make orthographic projections, assembly and presentation drawings. Through field trips, presentations and research, students become aware of career opportunities, wages and working conditions. In the third year of this program, students will have the opportunity to specialize in Mechanical or Architectural Design. After graduation, the student may enter the work force or become a full time student. To enhance employment opportunities after graduation, students should continue their education in a post-secondary school. Several colleges, upon review and approval, accept portfolios for advanced placement.

### **Cosmetology Rms. #630 & #640**

After completing the 1250 hours of instruction provided through this program, students will be prepared to take the Pennsylvania State Board of Cosmetology Examination which, when passed, certifies them to be Licensed Cosmetologists. Units of instruction include anatomy, physiology, facial treatment, manicuring and the coloring, cutting and styling of hair. Students gain practical experience through the services they provide to clients in our on-site Clinic Department.

### **Culinary Arts Rm. #217**

Culinary Arts students spend their days working in the actual production setting of a restaurant and cafeteria. They prepare and serve the food and beverages at in-school functions such as breakfasts and luncheons, provide the refreshments needed for meetings and cater special events such as school banquets. Through this hands-on approach, the students obtain marketable job skills necessary to get and keep a job in the food service industry. Special emphasis is given to the development of both a strong work ethic and teamwork skills. Students who complete the program may continue to work and advance within the industry or may choose to pursue further education at a culinary school. The present and future outlook for the availability of job opportunities within this field, especially for people skilled in the culinary arts, is outstanding!

### **Electrical Occupations Technology Rm. #180**

The Electrical Program provides students with the marketable skills and knowledge needed to pursue employment in the electrical field or advanced training at a technical school or college. Students gain a working knowledge of basic electrical theory, circuits, wiring, maintenance and installation of motors and blueprint reading and the emerging field of telecommunications cabling technology. The National, State and Local Electrical Codes, along with the tools and equipment as it pertains to the electrical trade, are studied and used. Students in this program will participate in the CIT Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **Electronics Technology Rm. #530**

Students in this course learn and develop marketable job skills for employment as electronics technicians. Utilizing lab assignments, electronic experiments, testing instruments and mathematics as it relates to electronic theory, students gain knowledge of all integral components of Electronics. The practical experience gained through troubleshooting and repairing electrical devices such as radios, car stereos, televisions, VCR's, microprocessors, and computer networks will be emphasized. Students also have an opportunity to obtain A+ computer hardware maintenance certification. To enhance employment opportunities, students should continue their education at a post-secondary technical school or college. Several community colleges currently have articulation agreements to accept the CIT electronics program of study as a credited course at their schools. This placement saves the student time and money when starting college to pursue a career in electronics or engineering.

### **Groundskeeping and Building Maintenance Rm. #110**

The Groundskeeping and Building Maintenance program is intended for the training and placement of students for employment in a variety of related occupations. Because training activities occur in an integrated setting throughout CIT, students are exposed to a working environment with students and staff of the school. The program emphasizes the learning of specific skills such as the use and care of hand and power equipment concerned with all phases of the care and cleaning of buildings and grounds. Instruction is also provided in work environment safety, job seeking/keeping skills, cleaning/maintenance services and characteristics of various cleaning agents and protective coatings, sanitation and disinfectants. Real job experiences are a necessary step in the sequence to independence. The students benefit from a practical instructional approach which provides opportunities to learn by doing, first within the lab, then in actual work settings. Students in this program will participate in the CIT

Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **Health Related Technology Rm. #417**

This program provides students with opportunities for health careers exploration and/or preparation for health related college programs. Marketable skill training is available for entry into a variety of health care careers including nursing, medical, recreation or activities assisting. Students participate in a variety of learning experiences – both in the classroom and outside the school. Our on-site adult day care center provides students with practical instruction and experience in adult day care procedures and therapeutic recreation. Units of instruction include first aid, medical terminology, growth and development, gerontology awareness, nutrition, and home health aide. Medical assisting is also a component of Health Related Technology. Students will learn entry level skills in management of an office, appointment scheduling, and telephone techniques. Students will have the opportunity to perform both clinical and clerical skills.

### **Heating, Ventilation, Refrigeration and Plumbing Rm. # 150**

This course is designed to prepare students for employment in residential and commercial air conditioning, refrigeration and heating trades in addition to preparing them for post-secondary college opportunities. Students study the theory, construction and repair of gas and oil burners, component parts, and water and air systems. Students are also taught plumbing basics as they relate to the HVACR trades and residential construction. Using tools and test instruments, forming sheet metal and materials, job and material estimating and learning how to read and follow blueprints and building code requirements are skills developed through this course. Students in this program will participate in the CIT Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **Information Systems Technology Rm. #505**

Information Systems Technology provides students with marketable computer skills in a theory and hands-on, project driven learning environment. Students will use state-of-the-art personal computers in a server-based environment to prepare for a career in Information Systems Technology. Each student will be exposed to programming, applications software, networking technologies, hardware maintenance and operating system fundamentals. The opportunity to learn and prepare for certification exams in MOS (Microsoft Office Specialist), A+ (CompTIA) and CCNA (CISCO Certified Networking Associate) is also provided. Students will obtain programming knowledge using web page design fundamentals, HTML coding techniques and a variety of web page development tools. Application software will focus on the Microsoft Office suite of products preparing students for MOS certification. Students will be able to present an animated presentation using PowerPoint, prepare business cards and brochures using Publisher, create business letters, memos and resumes using Word, calculate expenses and keep accurate business records using Excel, and create and maintain various databases using Access. The A+ portion of the program teaches students how to maintain and support PC hardware and operating systems. In partnership with Northampton Community College (NCC), the CISCO Networking Academy is offered by CIT to prepare students for the CCNA certification. This comprehensive course teaches students to design, build and maintain computer networks using state-of-the-art routers, switches, cabling and other tools and equipment that support local network (LAN) and wide area network (WAN) infrastructures. The partnership provides qualifying students the opportunity to obtain college credits towards an Associates Degree program, saving time and money when continuing their education at NCC.

### **Hospitality and Lodging Rm. #710**

Are you a people, creative, hands-on, visual, or can-do person? There's a place for you in the Hospitality and Lodging program! Today's hospitality industry is looking for people who enjoy variety, challenge, and above all, people. The Hospitality and Lodging Program provides students with the classroom learning and real-life work experiences needed to take advantage of the boundless opportunities in lodging. The Hospitality and Lodging Program is a curriculum that introduces students to the lodging industry and teaches them the principles that will

enable them to achieve success in the hospitality industry. Completing this program will open many doors of opportunity and set the students on an exciting career path. The program includes an internationally recognized certification, created especially for the Hospitality and Lodging curriculum. Hospitality and Lodging is a fast-paced career often times working in glamorous hotels, resorts, casinos, theme parks, and other diverse businesses. Because of the popularity of the Lehigh Valley, there is a need for qualified employees in this field. Students enrolled in this program will gain a hands-on approach to real-world knowledge learned both in the classroom and in the business world. The program provides training for hospitality positions in the rooms, food, and beverage division of a lodging operation. This includes front desk, reservations, housekeeping, and banquet setup and service. Following completion of the course and an internship, the student will receive a Line-Level Hospitality Skills Certification from the Educational Institute of the American Hotel & Lodging Association. Successful students may also continue their education by completing an advanced curriculum that includes management principles that will enable them to achieve success in a leadership role.

### **Machine Tool Technology Rm. # 440**

Students in the Precision Machining course learn hands-on skills and related technologies that are in great demand by local industries. Experience is gained by the use of lathes, milling machines, precision grinders and saws. Machining skills are supported by blueprint reading, mathematics and the use of precision measuring instruments. Advanced students can also gain valuable experience in our state-of-the-art automated manufacturing lab. Students use the lathes in CAD - C.A.M. technology to design, manufacture, and inspect precision machined components. Students can receive a National Skill Standards (N.I.M.S.) credential through CIT and apply for apprenticeship in the related fields of tool & die making, mold making and precision machining. Upon completion of the course content, students can apply their skills in one of many local manufacturers or apply their credits towards a degree in Engineering or Automated Manufacturing.

### **Marketing and Advertising Technologies Rm. #710**

This program explores the nine functions of Marketing Technology. Our on-site Mini-Market provides students with practical instruction and hands-on experience in customer service, warehousing and distribution, inventory and control, pricing, food marketing principles and concepts, the basics of marketing and customer relations. Computers, computerized cash registers and scanners are also utilized as part of the practical experience. These marketable skills can be applied to careers in the Retail, Customer Service, Food Merchandising, Hospitality and Managerial Fields. DECA, an Association of Marketing Students is integrated into this program. Students completing this course may pursue employment or continue their education with advanced standing at a business school or college.

### **Masonry Rm. #140**

Students in the masonry program learn seven different trade areas: bricklaying, block laying, concrete work, tile work, plastering, stone work and laboring. The program is taught utilizing hands-on experience through the use of lab projects and live work for the school and the local community. Upon completion of the program, students can acquire employment in one or more of the seven areas taught. Students in this program will participate in the CIT Student-Built House Project. Students work in all aspects of the construction project. At the completion of the project, the house is sold to the highest bidder.

### **Occupational Child Care Rm. #610**

The program prepares students for a variety of jobs available in the early childhood education and child care field. Our on-site, Tech Tykes Center, provides students with practical instruction and experience in an early learning center with professional personnel. The daily interaction with young children will provide exposure to their routines along with student led activities. The classroom curriculum of child growth and development, nutrition, safety, behavior guidance and management will be enhanced by their practical hands-on experience here at CIT.

### **Protective Services Rm. #850**

The Protective Services program is a comprehensive public safety course that is designed to assist students in pursuing a career in Law Enforcement, Emergency Medical Technician, and Firefighting. Successful students will have an opportunity to acquire up to thirteen (13) college credits towards a degree at the Northampton Community College through concurrent enrollment. Law enforcement covers the PA crimes code and vehicle code books, arrest procedures and processing, use of force, crime scene investigations and an introduction to corrections. Students who have an interest in law enforcement will have the opportunity to start their non-academic Criminal Justice courses at the Northampton Community College. The Emergency Medical Technician portion of the program covers patient care and transportation of the sick and injured. This course helps prepare students to enroll in the PA Department of Health EMT-B course offered through Northampton Community College and allows qualified students to obtain their PA EMT state certification. Students may also obtain their CPR/AED certification through the Protective Services program. The Fire Fighting training covers the Essentials of Firefighting. This portion of the program covers personal protective equipment, tools and hose lines, fire fighting equipment such as ladders and ropes and basic rescue techniques. The firefighting training is designed to help students enter the Northampton County Fire School and receive their certificate of training in the Essentials of Firefighting Module I. Students that complete a required percentage of the course in their third year, may have the opportunity to: enroll in the community college and begin taking their college credits towards their Emergency Services degree or their degree in Criminal Justice, enroll in the Northampton County Emergency Medical Technician course, enroll in the Northampton County Fire School, or enter the coop/internship program and enter the work force within their respected careers.

### **Welding Technology Rm. #450**

Welding has become a very sophisticated and technical science, requiring not only mental application, but also, hands-on abilities. Thus, it is imperative that the training given be of a quality and quantity that adequately prepares trainees for industrial assignments at various levels of skill development. CIT has been chosen by the American Welding Society as an educational institution of such high caliber that we may train and certify students to the National Skills Standards required by today's employers. Students may also, upon successful completion, receive advanced standing at post-secondary institutions. The welding curriculum includes all basic forms of welding and metal cutting.