Computer Systems Technology

Recommended High School Courses/Levels

- Reading level 11.5
- Math Courses
  - Algebra I – First year
  - Geometry – Second year
  - Algebra II –Third year
- Science Courses
  - Chemistry – First year
  - Biology/Physics - Second/ Third year

**relates to student's years in program at ICTC and expectations during that year*
**detailed list of math skills noted in academic skills*

Recommendations for Success

- Keyboarding skills/basics
- Knowledge of basic computer applications
- Manual dexterity
- Ability to work independently
- Verbal and written communication skills
- Able to maneuver desktop applications
- Adaptability/Flexibility
- Ability to work independently
- Good attendance/homework completion

**This document is strictly intended to provide an overview of the program and to be used as an informative tool. Essentials skills is a tool to assist districts, parents, and students in the decision making process for program decisions, transition planning, and possible placement here at ICTC.*
**This document is not intended to and should not be used as a screening tool for student placement.*

Indiana County Career and Technology Center	Program Area Computer Systems Technology
Objective of field	The Computer Systems Technology program is designed to permit students to become proficient in skills needed to obtain employment in the Information Technology (IT) field.
Classroom Tests	*CEP students – one quiz and one exam per chapter First Year – one quiz and one exam per chapter Second Year – one quiz and one exam per chapter Third Year – one quiz and one exam per chapter *Career Exploration Program offered in 9th grade *Hands-on skills will be evaluated by performance standards and the number will vary for each chapter.*
Certification Tests	- NOCTI* - A+, N+, Ser+, Sec + *
Books	- CompTIA Network, - A+ Complete
Lecture Time	First Year and CEP students – 1 hour per day Second year – 1 hour per day Third year – 1 hour per day
Co-op/Clinical	ICTC requirements
Homework	- Preparing for tests - Research project - Chapter study guides - Vocabulary lists - Chapter review questions
Task Lists	Varies by course
Planned Courses	- CompTIA A+ Certification (First year) - A + (Computer and Electrical Safety, Computer Hardware Operating systems and Applications (First year) - Introduction to Networking (First year) - CompTIA's Network+ Certification (Seond year) - Network + (Networking Fundamentals, Internetworking (Second year) Fundamentals, TCP/IP Fundamentals, Network Operating Systems, Fault Tolerance, Disaster Recovery, and Troubleshooting (First, second, and third year) - Server + (Server Hardware, Installation and Configuration of Network Operations Systems, Disaster Planning and Data Recovery, Performance Monitoring and Troubleshooting (Third year) - Security + (General Security Concepts, Infrastructure Security, Basics of Cryptography, Operational and Organizational Security (Third year)
Prerequisites	- Manual dexterity for typing - Familiar with basic computer operations - Basic math/reading
Academic Skills	Reading Level 11.5 *Math Skills - Fractions (add, subtract, multiply, divide) - Decimals - Order of operations - Measurement - Proportions - Decimal/fractions/percent conversions - Solve equations/manipulating formulas - Proportion/imaging sizing - Linear measure in Standard and Metric units - Area and volume - Percentage
Soft Skills	Verbal and written communication skills
Computer Skills	Basic keyboarding, able to navigate desktop
Physical Requirements	- Sitting for long periods of time - Being exact/accuracy - Able to lift up to 50 pounds - Controlled
Vocational Testing	- Structural mechanical visualization/reasoning

Essential Aptitudes for lab recommended levels	- Manual dexterity - Discrimination by size/shape - Retention of mechanical and structural detail - Discrimination by touch/color
Job Duties/Training	The Computer Systems Technology program helps students gain the practical experience and knowledge needed to pass: - The entry-level certifications for A+, Network+ and Security+ and Server+ certifications
Uniform Requirements	Clean, casual attire
Articulation/Agreements (refer to course catalog for more)	Douglas Education Center PA Highlands Community College Westmoreland Community College Penn College Full year/3 credits per class Dual enrollment program
Employment/Job Outlook	The computer systems design and related services industry grew dramatically throughout the 1990s, as employment more than doubled. And despite recent job losses in certain sectors, this remains one of the 25 fastest growing industries in the Nation. Annual earnings of computer software engineers, applications ranged from less than $43,450 for the lowest paid 10 percent to more than $118,500 for the highest paid 10 percent. http://www.bls.gov/oco/cg/cgs033.htm **Career Opportunities** - Computer Technician/PC Specialist - Cabling Technician - Field Technician - Computer Analyst* - LAN/WAN Technician - Computer Design/Engineer* - Network Engineer* - Computer Programmer* - Network Administrator* - Computer/Network Security* - Computer Forensics* - Network Analyst* - ***Post-secondary education required***
How to find out more?	http://www.ictc.ws/Secondary/at/p_home.htm US Department of Labor www.bls.gov http://www.nationjob.com/computers/

* ***NOCTI*** *- National Occupational Competency Testing Institute*
* ***CompTIA's A+ Certification*** *– Program designed to give students the essential information for the CompTIA certification exam with a focus on hardware, installation and troubleshooting, as well as computer Operating systems.*
* ***A+*** *- Program is divided into 2 major components: lecture and lab. Skills learned: key concepts, Principles, and facts about computers hardware/software.*
* ***Networking*** *– Students gain experiences by setting up peer to peer networks, client/server network, installing network operating systems, creating user accounts and passwords.*
* ***Server +*** *- Program focus is installing server hardware and network operating systems.*
* ***Security +*** *- Program focus different types of computer and network attack used by hackers to breach security and proactively counter those attacks.*