



***Computer Networking
Program Guide***
CIP Code # 11.0901

Standard Occupational Classifications	2015 Pennsylvania High Priority Occupations
15-1150 Computer Support Specialist 15-1051.00 Computer Systems Analysts 15-1071.00 Network and Computer Systems Administrators 15-1071.01 Computer Security Specialists 15-1099.03 Network Designers 15-1132 Software Developers, Applications ³	15-1121 Computer Systems Analysts ³ 15-1142 Network & Computer Systems Administrators ³ 15-1151 Computer User Support Specialists ³ 15-1152 Computer Network Support Specialists ³
Industry Accreditation	Student Certifications
None at this time	ECTS Program Completer or Participant Pennsylvania Skills Certificate CareerSafe OSHA 10-Hour Safety Certificate CareerSafe Cyber Safety Certificate TestOut PC Pro Certificate TestOut Network Pro Certificate TestOut Security Pro Certificate CompTIA IT Fundamentals Certificate CompTIA A+ Certificate CompTIA Network + Certificate CompTIA Security+ Certificate

Key: ¹Statewide HPO ²Regional HPO ³Both Statewide and Regional HPO

For more information, go to: <http://online.onetcenter.org/find/family?f=17&g=Go>




Course Prerequisites

People who are employed in the networking technologies field need to be consistent yet flexible, be interested in solving problems and have the ability to communicate, either orally or in written form, with a variety of people at differing skill and authority levels. Since the technology of computers and networking are ever evolving, students must enjoy learning and be committed to being life-long learners.

Students entering this program should possess the following characteristics:

- Honest and ethical
- Positive and energetic
- A good communicator
- Able to accept both instruction and constructive criticism
- Able to follow safety rules
- Logical, able to think through scenarios
- Familiar with computer equipment and software
- Interested in reading and writing
- Basic math skills
- Able to create mental images to troubleshoot both simple and complex computer concepts and issues
- A self-starter who is able to stay on task
- Able to work individually and as part of a team
- Respectful attitude for authority in both the classroom and “customer opportunities”

Supplies List

Item Supplied by Students	Photo of Item	Estimated Cost
Two 4 GB USB Flash Drives		\$10.00-\$15.00 each \$20.00-\$30.00 total
One Pair of Earphones, Headset, or Earbuds for a Standard Audio Jack		\$10.00-\$25.00
At least one three ring binder that is 2” or larger (heavy duty preferred and two if possible) for each year enrolled in program		\$10.00-\$20.00

Computer Networking Program Planned Courses

Content Area	Course Title	Course Code	Course Hours
00	General Skills		
	Workplace Safety Awareness	CMN101	15
	Math for Computer Networking	CMN102	15
	Customer Service Skills	CMN103	15
	Cyber Safety Training	CMN201	15
	Industry Certification Preparation L2	CMN202	30
	OSHA General Industry Training	CMN301	15
	Industry Certification Preparation L3	CMN302	30
	Leadership	PFS109	7.5
	Leadership	PFS110	7.5
	Business Principles	PFS209	7.5
	Business Principles	PFS210	7.5
	Total Quality Principles	PFS309	7.5
	Total Quality Principles	PFS310	7.5
10	Hardware		
	Overview of PC Components	CMN111	45
	Motherboards, CPUs, and Memory	CMN112	45
	Storage Devices and I/O Systems	CMN113	30
	Laptops, Handhelds, and Printers	CMN114	30
20	Operating Systems		
	Overview of Operating Systems	CMN121	45
	Advanced Operating Systems	CMN122	30
	Network Hardware Operating Systems	CMN221	30
	Microsoft Network Operating Systems	CMN321	30
	Other Network Operating Systems	CMN322	30
30	Fundamentals of Networking		
	Networking Fundamentals	CMN131	30
	Networking Models and Protocols	CMN132	15
	Wired Network Media	CMN133	45
	Wireless Network Media	CMN134	30
	TCP/IP Essentials	CMN135	45

40	Local Area Network Components		
	Client and Server Integration with Virtualization Basics	CMN141	30
	Network Directory Fundamentals	CMN241	30
	Network Policies and Procedures	CMN242	30
	Server and Network Virtualization	CMN243	30
	Name Resolution Techniques	CMN341	30
	File and Print Services	CMN342	30
	Backup and Recovery Techniques	CMN343	30
50	Wide Area Network Components		
	Console-Based Switching and Routing	CMN251	45
	Wireless and Unified Communications	CMN252	30
	Web-Based Switching and Routing	CMN351	45
	Web Server and Services	CMN352	30
	Remote Access Communications	CMN353	30
60	Security and Forensics		
	Firewalls and IDS/IPS Devices	CMN261	45
	Computer Forensics and Response	CMN262	15
	General Security Strategies	CMN263	30
	Attacks, Exploits, and Encryption Basics	CMN264	30
	Computer and Network Security	CMN361	45
	Network Forensics and Response	CMN362	15
70	Network Analysis and Documentation		
	Network and PC Integration L2	CMN271	45
	Network Performance Monitoring	CMN272	30
	Network and PC Integration L3	CMN371	45
	Network Documentation Techniques	CMN372	30
80	Network Design and Implementation		
	Network Plan, Design, and Implement L2	CMN281	45
	Network Plan, Design, and Implement L3	CMN381	45
90	Troubleshooting Tools		
	Troubleshooting Skills and Procedures	CMN191	15