Program Name	Network Technologies
Program CIP Code	15.1200.30
Program Description and Coherent Sequence	The **Network Technologies** program is designed to prepare students for employment/postsecondary education related to the design, development, installation, implementation, use and management of computers, routers, servers and other network devices. The program prepares students for employment in various positions such as Cryptologic Technician, Cyber Risk Manager, Hardware Technician/Engineer, Help Desk Technician/Manager, Intelligence Analysis Intern, IT Designer, Network Administrator/Analyst/Technician, PC Technician, Program Analyst Systems Analyst, Systems Operations Specialist, Technical Sales Representative, Technical Support Technician/Manager, Training Manager and Wireless Network Specialist. An integrated approach of teaching and learning is provided as students enhance their technical knowledge and skills that are associated with functions of application integrity, cyber threat management and infrastructure security within Network Technologies occupations. In addition to the occupation-related skills, students completing this program will also develop advanced critical thinking, applied academic foundational skills, interpersonal relations, life management, business, economic and leadership skills as well as required workplace employability skills. The program uses a delivery system made up of four integral parts: formal/technical instruction, experiential learning, supervised occupational experiences and the Career and Technical Student Organizations FBLA and/or SkillsUSA. **Fundamentals of Information Technologies:** This course introduces principles of computers and telecommunications for retrieving, storing or sending electronic information in industries as e-commerce, electronics, health, internet or semi-conductor. Emphasis is on basic concepts of computer maintenance, computer security, data management, network technologies, programming, software development and web page development while also providing an understanding of the IT industry, computer mathematics and the evolution of the computer. **Network Technologies:** This course prepares students to apply their academic foundational skills of math and communication to technical knowledge and skills to install, configure and troubleshoot basic networking hardware used to transmit modern digital information, including audio, data and visual files in communication and mobile systems. This option will offer the skills necessary to execute query techniques, gain knowledge of intelligence topics by applying creativity and appropriate judgment to identify cyber threats, data leaks and understand how to

DRAFT

	appropriately respond. Students will competently perform in the industrial environment as well as pass the necessary exams to obtain an industry-recognized certification. **Work-based Learning:** Students have the opportunity to participate in either an Information Technologies Cooperative Education experience or an Internship.
Industry Validated Standards	http://www.azed.gov/career-technical-education/files/2015/05/technical-standards-network-technologies-15120030.pdf
Specialized Equipment	Network switches Specialized hand tools WAP wireless Access Point Routers UCS Bit error rate testers Network bridges Network cables LAN analyzer Tone tracers Protocol analyzer
Industry Recognized Certifications	• Cisco o Certified Entry Network Technician (CCENT) o Certified Network Associate (CCNA) Routing and Switching Certification o Certified Design Associate (CCDA) o Certified Entry Networking Technician (CCENT) • CompTIA A+, 70% • TestOut PC pro includes o TestOut PC Pro Certification • Network+ 720/900 score • Global Information Assurance Certification o Global Security Essentials Certification (GSEC) • Network Pro (networking basics) • Security Pro (entry-level IT security administrator) • Linux Pro (Linux prep certification) • Client Pro (Windows 7-8 management troubleshooting certification) • Server Pro (Windows server skills) • Microsoft o Certified Solutions Associate (MCSA) certification o Certified IT Professional (MCITP) o Certified Technology Specialist (MCTS) o Microsoft Certified Professional (MCP) 70% • ISACA o Cybersecurity Fundamentals Certificate

DRAFT

CTE End-Of- Program (EOP) Technical Skill Assessment (TSA) Y/N	Y
Current EOP TSA Pass Score	60%
Participation in JTED Program Qualifies Students for These Employment Opportunities	Cryptologic Technician Cyber Risk Manager Hardware Technician Help Desk Technician/Manager Intelligence Analysis Intern Network Administrator/Analyst/Technician PC Technician Program Analyst Systems Analyst Systems Operations Specialist Technical Support Technician/Manager Wireless Network Specialist

DRAFT

SB1525 JTED Course and Program Requirements

Requires students obtain passing score of 60% on assessment 15-391(3)(b) Page 1/20-24 & 15-391(5)(b) Page 2/1-6	Yes Technical Skill Assessment requires a 60% pass score. Most industry certification will not publish or release their pass scores. Available Industry Certification pass scores: • CompTIA A+, 70% • Network+ 720/900 score • Microsoft Certified Professional (MCP) 70%
Not a Course Required under Minimum Course of Study including Honors 15-391(3)(d) Page 1/27-29	Courses in this program are not required for graduation.
Majority of Instructional Time in Lab / Field / Work Based Learning Environment 15-391 (3)(e) Page 1/30-32 and **Requires CTSO Participation** 15-391(5)(d) Page 2/10-13	Yes Network Technologies is a lab-based program. The majority of instructional time in courses is in lab or work-based environments. FBLA or SkillsUSA
Demonstrated Need for Extra Funding for a course 15-391 (3)(f) Page 1/33-34	Yes, this program demonstrate the need for extra funding due to the cost of specialized equipment, instructional materials, lab set up and work-based learning.
Specialized Equipment Exceeds Cost of Standard Course 15-391(3)(g) Page 1/35-36 and 15-391(5)(c) Page 2/7-9	Yes, specialized equipment includes, but is not limited to: • Network switches • Specialized hand tools • WAP wireless Access Point • Routers • UCS • Bit error rate testers • Network bridges • Network cables • LAN analyzer • Tone tracers • Protocol analyzer
Alignment through Curriculum, Instructional Model and Courses Sequence 15-391(5)(e) Page 2/15-18	Yes State-established course sequence for the Networking Technologies program consists of a minimum of 2 Carnegie Units of Instruction.
Defined Pathway to Career and Postsecondary Ed in Specific Vocation or Industry 15-391(5)(f)	Yes Community College offers additional industry certifications and Associate Degrees in Network Technologies.

DRAFT

Page 2/19-21	Industry entry jobs: • Cryptologic Technician • Cyber Risk Manager • Hardware Technician, • Help Desk Technician/Manager • Intelligence Analysis Intern • Network Administrator/Analyst/Technician • PC Technician • Program Analyst Systems Analyst • Systems Operations Specialist • Technical Support Technician/Manager, and Wireless Network Specialist
Fills High Need Vocation or Industry as Determined by CTE/ADE 15-391(5)(j) Page 2/30-31	Yes Network Technologies is ranked 42nd on the 2016 CTE Program List based on Labor Market Data from the Office of Employment and Population Statistics ranking high skill, high demand and high wage occupations.
Requires a Single or Stackable Credential or a Skill that allows a student to obtain work 15-391(5)(k) Page 2/32-35	Yes • Cisco o Certified Entry Network Technician (CCENT) o Certified Network Associate (CCNA) Routing and Switching Certification o Certified Design Associate (CCDA) o Certified Entry Networking Technician (CCENT) • CompTIA A+, 70% • TestOut PC pro includes o TestOut PC Pro Certification • Network+ 720/900 score • Global Information Assurance Certification o Global Security Essentials Certification (GSEC) • Network Pro (networking basics) • Security Pro (entry-level IT security administrator) • Linux Pro (Linux prep certification) • Client Pro (Windows 7-8 management troubleshooting certification) • Server Pro (Windows server skills) • Microsoft o Certified Solutions Associate (MCSA) certification o Certified IT Professional (MCITP) o Certified Technology Specialist (MCTS) o Microsoft Certified Professional (MCP) 70% • ISACA o Cybersecurity Fundamentals Certificate
Leads to certification or licensure verified by that vocation or industry	Yes Network Technologies programs must offer one or more of

DRAFT

that qualifies student for employment which the student would not otherwise qualify. 15-391(5)(l) Page 2/36-39	the following certifications: • Cisco o Certified Entry Network Technician (CCENT) o Certified Network Associate (CCNA) Routing and Switching Certification o Certified Design Associate (CCDA) o Certified Entry Networking Technician (CCENT) • CompTIA A+, 70% • TestOut PC pro includes o TestOut PC Pro Certification • Network+ 720/900 score • Global Information Assurance Certification o Global Security Essentials Certification (GSEC) • Network Pro (networking basics) • Security Pro (entry-level IT security administrator) • Linux Pro (Linux prep certification) • Client Pro (Windows 7-8 management troubleshooting certification) • Server Pro (Windows server skills) • Microsoft o Certified Solutions Associate (MCSA) certification o Certified IT Professional (MCITP) o Certified Technology Specialist (MCTS) o Microsoft Certified Professional (MCP) 70% • ISACA o Cybersecurity Fundamentals Certificate
If no certification or licensure is accepted by vocation or industry, completion of program must qualify student for employment for which student would not otherwise qualify without completing JTED program. 15-391(5)(l) Page 2/39-43	N/A
Requires instruction and instructional materials substantially different from and exceed scope of standard instruction and include skills, competencies and knowledge to be successful in JTED program vocation or industry. 15-391(5)(m) Page 2/44-45 and 3/1-3	Yes, Curriculum, specialized software and instructional materials specific to the industry certification sought are substantially different and exceed the cost of standard instruction.
Industry provided financial or technical support. 15-391(5)(n) Page 3/4-8	Industry provides support in the following ways: • Serves on industry standards development and validation committees • Serves on state and local advisory boards • Provides work-based learning experiences • Donates equipment and supplies

DRAFT

	• Serves as classroom speakers and resources
Demonstrated need for extra funding in order to provide JTED program 15-391(5)(o) Page 3/9-11	Yes, this program demonstrates the need for extra funding due to the cost of specialized equipment, instructional materials, lab set up and work-based learning.

Eligibility		**Yes**	**No**
JTED	The **Network Technologies** program meets the requirements for **JTED** compliance and eligibility	x	
CTE Federal Perkins and State Priority	The **Network Technologies** program meets the requirements for **Perkins** and is eligible to generate **CTE State Priority funding**.	x	

DRAFT