New Jersey CTE

Computer Networking Cybersecurity (2014)

9.3 CAREER AND TECHNICAL EDUCATION 9.3

IT. INFORMATION TECHNOLOGY (IT) 9.3.IT

1 Demonstrate effective professional communication skills and practices that enable positive customer relationships. 9.3.IT.1

2 Use product or service design processes and guidelines to produce a quality information technology (IT) product or service. 9.3.IT.2

3 Demonstrate the use of cross-functional teams in achieving IT project goals. 9.3.IT.3

4 Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors. 9.3.IT.4

5 Explain the implications of IT on business development. 9.3.IT.5

6 Describe trends in emerging and evolving computer technologies and their influence on IT practices. 9.3.IT.6

7 Perform standard computer backup and restore procedures to protect IT information. 9.3.IT.7

8 Recognize and analyze potential IT security threats to develop and maintain security requirements. 9.3.IT.8

9 Describe quality assurance practices and methods employed in producing and providing quality IT products and services. 9.3.IT.9

10 Describe the use of computer forensics to prevent and solve information technology crimes and security breaches. 9.3.IT.10

12 Demonstrate knowledge of the hardware components associated with information systems. 9.3.IT.12

13 Compare key functions and applications of software and determine maintenance strategies for computer systems. 9.3.IT.13

IT-SUP. INFORMATION SUPPORT & SERVICES (IT-SUP) 9.3.IT-SUP

1 Provide technology support to maintain service. 9.3.IT-SUP.1

2 Manage operating systems and software applications, including maintenance of upgrades, patches and service packs. 9.3.IT-SUP.2

3 Apply appropriate troubleshooting techniques in resolving computer hardware, software and configuration problems. 9.3.IT-SUP.3

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4 Perform installation, configuration and maintenance of operating systems. 9.3.IT-SUP.4

5 Demonstrate the use of networking concepts to develop a network. 9.3.IT-SUP.5

6 Evaluate the effectiveness of an information system. 9.3.IT-SUP.6

7 Employ system installation and maintenance skills to setup and maintain an information system. 9.3.IT-SUP.7

8 Employ system administration and control skills to monitor the performance of an information system. 9.3.IT-SUP.8

9 Employ technical writing and documentation skills in support of an information system. 9.3.IT-SUP.9

10 Apply quality assurance processes to maximize information system operation. 9.3.IT-SUP.10

IT-NET. NETWORK SYSTEMS (IT-NET) 9.3.IT-NET

1 Analyze customer or organizational network system needs and requirements. 9.3.IT-NET.1

2 Analyze wired and wireless network systems to determine if they meet specifications (e.g., IEEE, power and security). 9.3.IT-NET.2

3 Design a network system using technologies, tools and standards. 9.3.IT-NET.3

4 Perform network system installation and configuration. 9.3.IT-NET.4

5 Perform network administration, monitoring and support to maintain a network system. 9.3.IT-NET.5

IT-PRG. PROGRAMMING & SOFTWARE DEVELOPMENT (IT-PRG) 9.3.IT-PRG

1 Analyze customer software needs and requirements. 9.3.IT-PRG.1

2 Demonstrate the use of industry standard strategies and project planning to meet customer specifications. 9.3.IT-PRG.2

3 Analyze system and software requirements to ensure maximum operating efficiency. 9.3.IT-PRG.3

4 Demonstrate the effective use of software development tools to develop software applications. 9.3.IT-PRG.4

5 Apply an appropriate software development process to design a software application. 9.3.IT-PRG.5

6 Program a computer application using the appropriate programming language. 9.3.IT-PRG.6

7 Demonstrate software testing procedures to ensure quality products. 9.3.IT-PRG.7

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8 Perform quality assurance tasks as part of the software development cycle. 9.3.IT-PRG.8

9 Perform software maintenance and customer support functions. 9.3.IT-PRG.9

10 Design, create and maintain a database. 9.3.IT-PRG.10

IT-WD. WEB & DIGITAL COMMUNICATIONS (IT-WD) IT-WD

1 Analyze customer requirements to design and develop a Web or digital communication product. 9.3.IT-WD.1

2 Apply the design and development process to produce user-focused Web and digital communications solutions. 9.3.IT-WD.2

3 Write product specifications that define the scope of work aligned to customer requirements. 9.3.IT-WD.3

4 Demonstrate the effective use of tools for digital communication production, development and project management. 9.3.IT-WD.4

5 Develop, administer and maintain Web applications. 9.3.IT-WD.5

6 Design, create and publish a digital communication product based on customer needs. 9.3.IT-WD.6

7 Evaluate the functionality of a digital communication product using industry accepted techniques and metrics. 9.3.IT-WD. I 7

8 Implement quality assurance processes to deliver quality digital communication products and services. 9.3.IT-WD.8

9 Perform maintenance and customer support functions for digital communication products. 9.3.IT-WD.9

10 Comply with intellectual property laws, copyright laws and ethical practices when creating Web/digital communications. 9.3.IT-WD.10