

Network Systems & Telecommunications (2015): Grades 9, 10, 11, 12, Higher Education

Adopted 2015

Identify and analyze customer/organizational network system needs and requirements to design a network. ITNT.01

01. Gather data to identify customer/organizational requirements. ITNT.01.01

- a. Gather information using interviewing and questioning techniques and strategies. ITNT.01.01.A
- b. Identify input and output requirements. ITNT.01.01.B
- c. Identify physical and system requirements for various types of installations. ITNT.01.01.C
- d. Identify security and new application requirements within the system. ITNT.01.01.D
- e. Identify hardware, networking, and software system requirements. ITNT.01.01.E
- f. Identify environment requirements, conditions, and limitations. ITNT.01.01.F
- g. Analyze facilities' power and structural capacity. ITNT.01.01.G
- h. Demonstrate knowledge of non-functional requirements. (e.g., integrity response time, reliability, support and documentation). ITNT.01.01.H

02. Conduct requirements analysis. ITNT.01.02

- a. Analyze information from users and define business objectives to be achieved. ITNT.01.02.A
 - b. Perform a business process analysis (BPA) to understand the customer's business processes. ITNT.01.02.B
 - c. Analyze the Business Process Analysis document and customer's stated requirements to make a determination to move forward with the requested project. ITNT.01.02.C
 - d. Evaluate the potential effect of emerging technologies on the system. ITNT.01.02.D
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Design a network system using current technologies, tools, and standards. ITNT.02

- 01. Analyze requirements specifications and design the network.** ITNT.02.01
 - a. Assess documented requirements to create network design that meets needs of the customer/organization. ITNT.02.01.A
 - b. Identify roles of team members/customers in the network development process. ITNT.02.01.B
 - c. Demonstrate the use of current design tools in the design process. ITNT.02.01.C

- 02. Demonstrate knowledge of technologies, tools and standards in designing a network.** ITNT.02.02
 - a. Demonstrate knowledge of the basics of network architecture. ITNT.02.02.A
 - b. Demonstrate knowledge of basic network classifications and topologies. ITNT.02.02.B
 - c. Identify common network computing platforms and LAN physical media. ITNT.02.02.C
 - d. Characterize network connectivity basis and transmission line applications. ITNT.02.02.D
 - e. Demonstrate knowledge of communication standards for networks. ITNT.02.02.E
 - f. Characterize the use of Network Operating Systems. ITNT.02.02.F
 - g. Employ the use of prototyping to evaluate network system functionality. ITNT.02.02.G

Perform network installation and configuration to launch a network system. ITNT.03

- 01. Implement network system.** ITNT.03.01
 - a. Evaluate design requirements and install system in accordance with requirements. ITNT.03.01.A
 - b. Install a network infrastructure. ITNT.03.01.B
 - c. Install a Network Operating System. ITNT.03.01.C
 - d. Configure a Network Operating System. ITNT.03.01.D
 - e. Apply industry standards quality assurance to network and telecommunications systems. ITNT.03.01.E

- 02. Develop a test plan and perform testing and validation.** ITNT.03.02
 - a. Define and deploy test procedures using new or established procedures for testing, identifying, and tracking resolutions. ITNT.03.02.A
 - b. Develop and perform test cases using requirements and design specifications. ITNT.03.02.B
 - c. Document testing procedures and actions. ITNT.03.02.C

03. Summarize network quality assurance procedures. ITNT.03.03

- a. Use customer satisfaction in determining network characteristics (e.g. cost, efficiency, etc.). ITNT.03.03.A
 - b. Provide technical documentation as necessary. ITNT.03.03.B
 - c. Recognize the relationship between dependability, functionality, scalability and ease of use. ITNT.03.03.C
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Perform network maintenance and user support functions to maintain a network system. ITNT.04

01. Perform network administration and monitoring to maintain a network system. ITNT.04.01

- a. Monitor network performance including information management and infrastructure. ITNT.04.01.A
 - b. Demonstrate knowledge of disaster recovery and business continuance. ITNT.04.01.B
 - c. Perform network system administration tasks. ITNT.04.01.C
 - d. Apply and test software upgrades, service packs and patches. ITNT.04.01.D
 - e. Perform standard computer backup procedures. ITNT.04.01.E
 - f. Troubleshoot network system and data communications problems. ITNT.04.01.F
 - g. Update and maintain technical documentation as necessary. ITNT.04.01.G
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02. Perform user support services to support a network system. ITNT.04.02

- a. Identify various methods of technical support used to maintain and support a network system. ITNT.04.02.A
- b. Perform technical support duties. ITNT.04.02.B
- c. Provide and maintain user documentation as appropriate. ITNT.04.02.C