

Computer Information Department Course Outline

NTWK 2014 NETWORKING AND INFORMATION SYSTEMS (ON DEMAND)

Catalog Description

This course provides an introduction to networking and information systems. Topics include: router and switch hardware and software; networks; subnetting; IPv6; cabling; the OSI model and protocols commonly used in the networking environment. Students will gain hands-on experience in the installation of a local area network including initial router setup. Students completing this course will have begun the preparation necessary for success in the following industry-recognized certifications: CCNA. 1st semester of Cisco Certified Networking Associate (CCNA). (Note: Preparation for the ICND1 exam (CCENT) should include semesters 1 and 2 of the Netacad Courses (NTWK 2014 and NTWK 2084). Preparation for the CCNA exam should include all four semesters of CCNA training (NTWK 2014, NTWK 2084, NTWK 2214, NTWK 2224)

Prerequisite/Corequisite

CISQ 1103 or equivalent knowledge (may be currently enrolled). (Outside lab time will be required.)

Credit hours/Contact hours/Load hours

4 /4/4

Target Audience/Transferability

The target audience includes but is not necessarily limited to the following:

- Students pursuing a career in a CIS field which requires general Networking knowledge
- Students who wish to enhance their understanding of computer Networking
- Students who wish to pursue CCNA certification – this course is part 1 of 4 parts
- Community members or professionals who wish to expand their understanding of computer networking systems

Student Learning Outcomes

Students will:

- Explain the importance of data networks and the Internet in supporting business communications and everyday activities
- Explain how communication works in data networks and the Internet
- Recognize the devices and services that are used to support communications across an Internetwork
- Use network protocol models to explain the layers of communications in data networks
- Describe the importance of addressing and naming schemes at various layers of data networks
- Describe the protocols and services provided by the application layer in the OSI and TCP/IP models and describe how this layer operates in various networks
- Analyze the operations and features of transport and network layer protocols and services and explain the fundamental concepts of routing
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements
- Explain fundamental Ethernet concepts such as media, services, and operation
- Build a simple Ethernet network using routers and switches and use Cisco command-line interface (CLI) commands to perform basic router and switch configuration and verification
- Analyze the operations and features of common application layer protocols such as HTTP, Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Simple Mail Transfer Protocol (SMTP), Telnet, and FTP
- Utilize common network utilities to verify small network operations and analyze data traffic

Forms of Assessment

On-line chapter quizzes, hands-on lab assignments, a case study, a comprehensive on-line final exam and a comprehensive hands-on final exam will be required.

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