

NorthWest Arkansas Community College
Division of Business and Computer Information (Networking)

NTWK 2014 NETWORKING AND INFORMATION SYSTEMS (ON DEMAND)

Course Name and Title

Networking and Information Systems (NTWK 2014)

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)

Prerequisites

High School Algebra, College Algebra or equivalent knowledge. Prerequisite: 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 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.