IT C201: INTRODUCTION TO NETWORKING (CISCO CCNA 1)

Item	Value
Curriculum Committee Approval Date	10/27/2023
Top Code	070810 - Computer Networking
Units	3 Total Units
Hours	68 Total Hours (Lecture Hours 54; Lab Hours 14)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

Formerly: CST C201D. This is the first course in the Cisco Certified Network Associate (CCNA) series. The course introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks. It includes IP addressing and Ethernet fundamentals. Hands-on preparation for the CCNA exam is emphasized. ADVISORY: IT C128. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Describe the foundational concepts of computer networking.
2. Explain concepts and terminology related to the OSI model, the CLI, IPv4 and v6 routing, routers and switches.
3. Given a scenario configure a basic switch/router network.

Course Objectives

- 1. Explain concepts and terminology associated with the networking field.
- 2. Demonstrate the ability to code Cisco routers and switches to set up a secure network.
- 3. Demonstrate an understanding of IPv4 and IPv6 addressing.
- 4. Explain how the upper layers of the OSI model support network applications.

Lecture Content

Networking Concepts Network Operations Protocols and Models Physical Layer Number Systems Data Link Layer Ethernet Switching Network Layer Address Resolution IPv4 Addressing IPv6 Addressing ICMP Transport Layer Network Troubleshooting and Tools Network Security Fundamentals

Lab Content

Students will use Cisco switches and routers to build and test simple network topologies. Configure basic router and switch settings using the CLI Install and use Wireshark Build, Configure and Troubleshoot a Switch and Router Network

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

This course will utilize a combination of lecture, hands-on guided laboratory assignments, classroom/discussion board student interactions, Internet problem solving, quizzes, tests, and troubleshooting assignments to achieve the goals and objectives of this course. All instructional methods are consistent across all modalities.

Reading Assignments

A. Read materials about computer networking from the Academy Curriculum.B. Read articles about the Cisco CLI (Command Line Interface)

Writing Assignments

A. Complete questions related to hands-on labs.

Out-of-class Assignments

A. Complete assigned labs using Packet Tracer.B. Compete assigned labs using Wireshark.

Demonstration of Critical Thinking

Given sets of operational data, the student will be able to critically analyze the data and make recommendations on how to improve the operations based on those findings.

Required Writing, Problem Solving, Skills Demonstration

Given a scenario, students will be able to troubleshoot a specific problem, write a detailed outline of the tasks that need to be accomplished to rectify the problem, complete the tasks as outlined, and test to determine if the problem has been solved.

Eligible Disciplines

Computer information systems (computer network installation, microcomputer ...: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Computer service technology: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Computer service technology: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Other Resources

1. Curriculum and labs are provided at cisco.netacad.com 2. Coastline Library 3. OER - Open Educational Resources.