

## CUMBERLAND COUNTY COLLEGE

Course: CS 217 Introduction to Networks

Credits: 4

Prerequisites: None

Description:

Covers the fundamentals of network design and implementation, including cables and devices, widely used network protocols, and features and performances of network operating systems. The focus is on entry-level network support in a multi-level environment

Learning Outcomes

At the completion of this course, students will be able to:

- Identify and demonstrate use of basic features of networks;
- Describe network hardware and software components.
- Research and discuss common network protocols and standards;
- Describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks
- Use a simulator to construct a simple Ethernet network using routers and switches
- Demonstrate understanding of basic techniques and tools for configuring, managing, and troubleshooting networks, and explain how they can be applied to national and international business.
- Use command-line interface commands to perform basic router and switch configurations
- Utilize common network utilities to verify small network operations and analyze data traffic

Topical Outline

- Exploring the Network
- Configuring a Network
- Network Protocols and Communications
- Network Access
- Ethernet
- Network Layer
- Transport Layer

- IP Addressing
- Subnetting IP Networks
- Application Layer
- It's a Network

### Text:

*Cisco CCNA® Routing and Switching curriculum* available online to enrolled students

### Student Assessment

(Assessment may be accomplished through projects, portfolios, exams, labs, presentations and/or papers)

### Academic Integrity

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

### Tutoring & Project Assist

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

### **Before Withdrawing From This Course**

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) **BEFORE** withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA which can limit or eliminate future financial aid in addition to causing academic suspension.