Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

CIS 1411 - Cisco Network Fundamentals

Division: Business and Public Services

Department: Computer Information Systems

Credit Hour Total: 3.0 **Lecture Hrs:** 3.0

Date Revised: January 2014

Course Description:

The focus of this course is on the fundamentals of networking. Students will learn both the practical and conceptual skills that build the foundation for understanding basic networks. Students will examine human and network communications to see the parallels between them. They will also understand the layers, functions and services associated with the two major models (OSI and TCP/IP) used to plan and implement networks. The various network devices, addressing schemes and media used in modern networks will be examined.

General Education Outcomes:

- Critical Thinking/Problem Solving
- Computer Literacy
- Information Literacy

Course Outcomes:

Network protocol models
Understand the layered approach to networks. Describe the operations and features of the 7 layers of the OSI model. Examine and identify the applications and services provided by the OSI model and the TCP/IP protocol suite. Demonstrate how communication works in data networks and the Internet.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Correctly answer 80% or more of exam questions.

Principles and Structure of Internet Protocol (IP) addressing (IPv4 and IPv6)
Describe the importance of addressing and naming schemes. Identify the major classes of addresses. Become familiar with network addressing schemes. Design, calculate and apply subnet masks and addresses to fulfill given network requirements.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Correctly answer 80% or more of exam questions.

Networking Devices (routers and switches)
Employ basic cabling and network designs to connect devices in accordance with stated objectives. Demonstrate use of command-line interface (CLI) commands to perform basic router and switch configuration and verification. Build a simple Ethernet network using routers, switches, and appropriate cabling.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Correctly answer 80% or more of exam questions.

Outline:

Network protocol models.
Principles and Structure of Internet Protocol (IP) addressing with IPv4 and IPv6.
Network Devices (routers and switches).