

Master Syllabus

CIS 2426 - Connecting Networks

Division: Business and Public Services

Department: Computer Information Systems

Credit Hour Total: 4.0 **Lecture Hrs:** 4.0

Prerequisite(s): CIS 2416 AND CIS 2421

Other Prerequisite(s): Other CIS 2416 and CIS 2421 must be completed within the past two years.

Date Revised: December 2015

Course Description:

This course focuses on Wide Area Network (WAN) technologies and services required by converged applications in a complex network. Students will learn the selection criteria for devices and technologies to meet WAN requirements. Configuring devices and resolving issues with data link protocols will be emphasized.

General Education Outcomes:

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

Course Outcomes:

Network Policy

Demonstrate the capabilities of Policy and show how it can be implemented in a network using Policy Manager to effectively and efficiently manage Policy enabled enterprise networks to include the use of NetSight, traffic classification, Policy Manager, policy design, use QoS/CoS, scripting and dynamic policy.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain score of 80% or higher on exams.

Virtual Private Networks (VPNs)

Explain the concepts, processes and underlying protocols related to configuring VPNs. Explain the benefits associated with their use.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain score of 80% or higher on exam.

Network Address Translation (NAT)

Configure, verify and troubleshoot IP services on a router. Configure NAT operations and troubleshoot related issues.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain a score 80% or higher on exam.

Network Design

Explain network design concepts, principles, models and architectures and the benefits that are obtained by using a systematic approach.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain a score 80% or higher on exam.

Network monitoring

Explain, describe and configure the three protocols that a network administrator can use to monitor the network (Syslog, SNMP and Netflow). Describe the different strengths and weaknesses of each protocol and understand what is happening on a network.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain score of 80% or higher on exams.

Wide Area Network (WAN) connection options

Describe the various technologies used for connecting to a WAN. Troubleshoot WAN implementation issues. Configure and verify various Layer 2 protocols (HDLC, PPP, Frame Relay and Broadband) on routers.

Assessment Method: Simulations
Performance Criteria:

Obtain score of 80% or higher on assignments.

Assessment Method: Standardized national examinations
Performance Criteria:

Obtain a score 80% or higher on exam.

Outline:

Wide Area Network (WAN) connection options
Network Address Translation (NAT)
Network Design
Virtual Private Networks (VPNs)
Network Monitoring
Network Policy