CIS 2162

Division: Career and Technical Education
Department: Computer Information Systems
Course: CIS 2162
Title: Cisco Internetworking III & IV
Catalog Description:

This course is a continuation of CIS 2152. In this course students are provided with classroom instruction to prepare them in the Cisco Internetworking area to pass the CCNA certification exam. CIS 216L Cisco Internetworking Lab 2 must be taken concurrently with this course.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 0
Clock/Hour Requirements: 45
Offered for Non-Credit: No
Prerequisites: CIS 2152

Corequisites: CIS 216L

Justification:

This course has been approved by the program advisory committee. This is the second of two courses which will prepare students to take the Cisco Certified Network Associate (CCNA) certification exam.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- list required IPX address and encapsulation type
- configure IPX access lists and SAP filters to control basic Novell traffic
- enable Novell IPX protocol & configure interfaces
- monitor Novell IPX operation on router
- describe advantage of LAN segmentation
- describe LAN segmentation using bridges, routers, and switches
- describe full and half-duplex Ethernet networks
- describe benefits of network segmentation
- describe benefits of Fast Ethernet
- distinguish between cut-through and store-and-forward LAN switching
- describe operation of the spanning tree protocol and its benefits
- describe the benefits of virtual LANs
- differentiate between the following WAN services; LAPB, Frame Relay, ISDN/LAPD, HDLC, PPP, and DDR
- recognize key frame relay terms and features

- list commands to configure frame relay LMIs, maps, and sub-interfaces
- list commands to monitor frame relay operation in the router
- identify PPP operations to encapsulate WAN data on Cisco routers
- state relevant use and context for ISDN networking
- identify ISDN protocols, function groups, reference points, and channels
- describe Cisco s implementation of ISDN BRI.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- intro Threaded Case Study (TCS)
- LAN switching
- VLANS
- LAN design; TCS
- IGRP; TCS
- access lists; TCS
- access lists; IPX, TCS
- WANs
- WAN design
- PPP
- ISDN
- frame relay.

General Education Outcomes:

1) Read effectively, constructively, and critically.
Students will be required to read from the assigned text, reference manuals, and industry journals to retrieve, analyze, and synthesize information into design, repair, and troubleshooting situations.

2) Write clearly, informatively, and persuasively.
Students are required to write response papers on current topics in the IT industry. These papers are reviewed and returned to students for improvement.

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.
Students will research technical issues through the internet, industry journals, and reference manuals.

5) Apply a cultural and historical awareness to a variety of phenomena.
Students will be aware of the changing nature of the computer field and how it impacts use of dated software with newer and older hardware. An awareness of the history and development of computers is a must for professional preparation.

6) Apply computational skills to a variety of contexts.
Students will be required to utilize the binary, hexidecimal, and base-10 numbering systems in situations such as network addressing and screen display colors.

Key Performance Indicators:

In class:

- Student grades will be based on a combination of lab exercises (5-25%), quizzes (5-25%), tests (10-50%), and a final exam or project (20-50%).

Following class:

- Post evaluation will be measured by success in subsequent classes and success in passing the CCNA certification exam.

Representative Text and/or Supplies:

- *Cisco Networking Academy: Second Year Companion,* current edition, Cisco Press.
- *Cisco Networking Academy Online Curriculum,* (locally hosted URL).

Optimum Class Size: 12
Maximum Class Size: 16

Signatures:

I hereby submit this course syllabus:

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I hereby find this course consistent with the goals and resources of the Computer Information Systems Department:

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Michael P. Medley, MBA, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

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Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

_____

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)