

Eastern Illinois University
Revised Course Proposal
MIS 4700, Advanced Networking

1. Catalog Description

- A. Course number: MIS 4700
- B. Course title: Advanced Networking
- C. Meeting times and credit: 3-0-3
- D. Terms to be offered: S
- E. Short title: ADV NETWORKING
- F. Course description: Internetworking concepts, advanced internetwork design, security, and administration. Enterprise network design, management and user administration. WAN data analysis and troubleshooting.
- G. Prerequisite: Junior standing, MIS 3200, or permission of the Associate Chair, School of Business.
- H. Initial term of course offering: SP2008

2. Student Learning Objectives and Evaluation

- A. Upon completion of the course, the student will be able to:
 - 1. Analyze enterprise, metropolitan area, and wide area networks and their integration.
 - 2. Evaluate the enterprise business and information systems models
 - 3. Analyze how the unique components of enterprise networks integrate into the enterprise business model
 - 4. Evaluate the role of wireless technologies in local, metropolitan, and wide-area networks
 - 5. Design enterprise networks
 - 6. Configure and administer Internet servers, such as web servers, mail servers, DNS servers, FTP servers, and news servers
 - 7. Configure, administer, and troubleshoot security services for TCP/IP networks
 - 8. Administer TCP/IP network IP addresses and describe the various alternatives for IP management, including subnetting, supernetworking, DHCP, and other address pooling schemes
 - 9. Describe the various RFC documents that govern the Internet and key Internet functions
- B. The students' achievement of the stated objectives will be assessed and grades will be earned on the basis of examinations, projects, homework assignments and quizzes.

Objective	Exams (50%)	Homework Assignments (10%)	Projects (30%)	Final Exam (10%)
1	X	X		X
2	X	X		X
3	X	X		X
4	X	X		X
5		X	X	
6		X	X	
7		X	X	
8		X	X	
9	X	X		X

- C. This is not a technology delivered class
- D. This class is not numbered 4750-4999

- E. This class is writing active. Students will complete at least one project and one homework assignment in which they will analyze the use of networks and telecommunications systems in organizations.

3. Course Outline

Weeks	Topic
1	Review of TCP/IP fundamentals
2	IP Addressing
1	Data Link and Network Layer Protocols
1	Transport Layer Protocols
1	Basic Services
1	Domain Name Services
1	DHCP Services
1	Security
2	Wireless Technologies
1	IP Routing
2	LAN Server Management
1	Examinations
15	Total weeks

4. Rationale

- A. Purpose and need: This is an existing course (CIS4700) that is being modified as to content and prerequisite to better fit into a proposed new MIS curriculum. Content modifications are minor.
- B. Justification of course level and prerequisites: Success in this course requires that the student be acquainted with basic telecommunications concepts as contained in MIS 3200. Since the nature of internetworking presupposes substantial general background in computing, a senior level is desirable.
- C. Similarity to existing courses and/or effect upon programs in other departments: There is no similarity with any existing course at the university. This course replaces CIS 4700.
- D. Requirement or elective: Elective for both the MIS major and the MIS minor. This course is required for the MIS major with the network and security concentration.

5. Implementation

- A. Faculty members to whom the course may be assigned: Garrett, Illia
- B. Additional costs to students: None
- C. Text and supplementary materials to be used: *Guide to TCP/IP, Second Edition* by Laura A. Chappell and Ed Tittel (Course Technologies, 2004) and *The Essential Guide to Wireless Communications Applications* by Andy Dornan (Prentice-Hall, 2005)

6. Community College Transfer

A community college course will not be judged equivalent to this course.

7. Date Approved by the School Curriculum Committee: 2/15/06

8. Date Approved by College Curriculum Committee: 3/6/06

9. Date Approved by CAA: 4/20/06