Spring 1-2003

IS 495.01: Advanced Network Administration

Ken Burrington
University of Montana, Missoula

COURSE SYLLABUS
IS 495
Advanced Network Administration
Spring 2003

Instructor:
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Office Hours: Wednesday from 1:00 pm – 2:00 pm or by appointment

Meeting Time: Wednesday, 2:10 to 5:00 p.m.

Meeting Place: GBB 206 Computer Lab

Course Description:
> This course focuses on teaching advanced networking principles that include design, setup, operations, and maintenance networks for an organization. There will be a special emphasis on network security, directory services, and network infrastructure. This course will utilize the networking lab in GBB 206 as well as will bring in outside experts to speak on networking topics. Every class will include a lecture or discussion on network topics along with a hands-on lab demonstrating the concepts.

Credits:
> The Advanced Network Administration course can be used to meet the IS option degree requirements.

Textbook:
> *Mastering Windows 2000 Server* by Mark Minasi, Sybex, ISBN: 0-7821-4043-2

Course Objectives:
- ? To expose students to advanced networking concepts in the information technology industry.
- ? To expose students to the language and terms of information technology and the impact of information systems on the strategic operations of businesses or organizations.
- ? To give students hands-on experience working with state-of-the-art networking hardware and software.
- ? To allow students to implement information systems theories and practices in a lab environment that simulates real business scenarios.
- ? To enable students to develop network plans and implement those plans in a laboratory setting.
- ? To expose students to the ethical issues facing information technology workers in the areas of networks, security, and data integrity.

Prerequisites:

This course requires students to have a basic knowledge of computers and networks that can come from courses offered in the MCSE program, Computer Science Department, Information Systems Department, or through work experience. Consent of instructor is required to take this course.

Grading:

Student performance will be based on a combination of projects, presentations, tests, and class participation. Students wishing to take this class for graduate credit will be required to prepare a research paper on an advanced networking topic. The research paper should address the organizational issues for implementing and operating a network to meet the information technology needs of a business or organization. Students should research the issues associated with directory services, network infrastructure, and network security for the selected topic. The paper should be written in APA format and show that the student has synthesized the research material into a document that makes recommendations for successful implementation of a network system for a business or organization. Students are required to get the research topic approved by the instructor.

Course Topics:

? OSI Model and Networking Protocols
? Network Infrastructure and Topologies (Ethernet, Hubs, Switches, and Network Interface Cards)
? Designing Wide and Local Area Networks
? Designing Domains and Directory Services
? Implementing Network Security
? Managing Domain Controllers, Servers, and Workstations
? Managing Users, Printers, Files, Permissions, and Other Network Resources
? Disaster Planning and Recovery with Backups, RAID, and Virus Protection
? Using Network Management Tools to Install Software as well as Diagnose and Troubleshoot Hardware and Software Issues
? Ethics of Network Administration

Microsoft Certification Preparation:

This course will cover the certification topics of Designing Directory Services Infrastructure, Designing Networking Services Infrastructure, and Designing Security for a Network. Students will be presented the foundation materials along with a list of additional outside readings to help prepare them for the following certification exams:

? Exam 70-216: Implementing and Administering a Microsoft® Windows® 2000 Network Infrastructure.
? Exam 70-217: Implementing and Administering a Microsoft® Windows® 2000 Directory Services Infrastructure.
? Exam 70-219: Designing a Microsoft® Windows® 2000 Directory Services Infrastructure.
? Exam 70-220: Designing Security for a Microsoft® Windows® 2000 Network.
? Exam 70-221: Designing a Microsoft® Windows® 2000 Network Infrastructure.