

Midstate College
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Course:	MSE 245 Designing A Windows 2000 Network Infrastructure
Credit hours:	4 quarter credit hours
Text:	1. <i>ALS: Designing a Microsoft Windows 2000 Network Infrastructure</i> ISBN # 0-7356-1268-4 2. <i>ALS: Designing a Microsoft Windows 2000 Network Infrastructure Lab Manual</i> ISBN # 0-7356-0988-8
Author:	Kathleen Cole & Douglas H. Steen
Publisher:	Microsoft Press, 2001
Prerequisite:	MSE 210 Implementing & Administering a Windows 2000 Network
Course Description:	This course provides students with the information and skills needed to create a networking services infrastructure design that supports the required network applications. Each module provides a solution based on the needs of the organization. Some Microsoft Windows 2000 network solutions require a single technology, such a DHCP, to provide Internet Protocol (IP) address configuration support. In other situations, several technology options exist, such as Open Shortest Path First (OSPF), Routing Information Protocol (RIP), and Internet Group management Protocol (IGMP), to design an IP routing scheme. Upon completion of this course, the student will have covered the necessary topics to attempt Microsoft Certification Exam 70-221.
Topics:	Networking Protocol Design, IP Routing Designs, NAT, DHCP, DNS, WINS
Objectives:	Upon completion of this course, the student will be able to: <ul style="list-style-type: none">• Analyze the current business environment, including the company model, organizational structure, geographic scope, and company processes. Analyze the impact of infrastructure design on the existing and planned technical environment.• Assess an organization's current and future network needs, including existing hardware, current applications, existing protocols, scalability, performance, security, and disaster recovery. Create a design that incorporates an organization's IT management and technical support structure.• Design a TCP/IP networking strategy that includes analyzing IP subnet requirements, designing a TCP/IP addressing plan, optimizing a TCP/IP network design, and integrating TCP/IP with existing WAN requirements.• Design a data protection strategy for local and remote access that includes implementing security methods such as MPPE, L2TP, VPN tunnels, IPsec, and TCP/IP filters.• Design a DHCP strategy that includes integrating DHCP into a Windows 2000 routed environment and optimizing the DHCP network design.

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- Design name resolution services in the network, including DNS and WINS. Create a network design that is secure, highly available, and optimized. Develop a deployment strategy for these services.
- Evaluate multiprotocol routing designs and design a multiprotocol strategy. Protocols include IPX/SPX, AppleTalk, and SNA.
- Develop a remote access implementation strategy that uses Routing and Remote Access. The remote access solutions include dial-up connectivity, VPN, and RADIUS. The design should include authentication.
- Design an Internet and intranet access solution, including proxy server, firewalls, Routing and Remote Access, and NAT services
- Monitor and manage Windows 2000 network services and resources, including planning for the placement and management of resources. Also design a plan for the interaction of networking services such as WINS, DHCP, and DNS.

Midstate College grading scale:

90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

MSE 245
Winter 2002
Room 130

Instructor: Susan K. Dulinsky Room: 124 Email: sdulinsky@midstate.edu

Phone: 692-4092 ext. 40

Office hours:

Materials needed for this course: Removable hard disk drive and caddy
Note-taking materials

Participation requirement/policies and procedures/requirements to pass the course:

- 1) Assignments: Homework is due at the beginning of the class period. All homework is to be turned in with your name, date, and the name of the assignment at top. 70% is the highest score that late or make up work can earn. No make up work is accepted during finals week.
- 2) Exams: Must be taken on the dates scheduled by the instructor. Failure to take an exam on the scheduled date will result in a grade of "F" (0 points). Make-up exams will be given only when special circumstances are approved by the instructor. Make-up exams must be taken in the testing center. It is the student's obligation to make the appropriate arrangements to have a test administered.
- 3) Attendance: Regular attendance is expected. It is the student's responsibility to notify the instructor when a class will be missed. If you know of a conflict ahead of time, you are welcome to submit projects early. If the instructor receives no call or email before the missed class period you will be considered missing and no make-up is allowed for that day.
- 4) Academic Dishonesty: Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in course; and/or expulsion from the college. For more information refer to the "Academic Dishonesty" policy in the student handbook.
- 5) Grades: It is the students' responsibility to keep copies of all assignments turned in for a letter grade until the end of the quarter when a final grade has been earned. If a document is lost and no copy is available, the student will not receive credit.
- 6) Behavior: Cell phones / beepers are prohibited from use in this course.
- 7) Student Responsibility: The following are the student's responsibilities:
 - Reading the class textbook and any other material assigned by the instructor, including journals, magazines, white papers, and Internet materials
 - Participating in oral presentations and classroom discussions
 - Participating in the lab exercises

Assessment of learning/methods of evaluating student performance:

Homework assignments are used to assess students' critical thinking skills.

Lab work assignments will be used to measure the students' ability to apply concepts learned from lecture in a hands-on way.

Grading specifications:

These percentages are all approximate values

Attendance/participation	10%
Laboratory& Assignments	50%
Quizzes/exams	40%

Examination information:

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The quizzes and exams will be a combination of fill-in the blank, true/false, multiple-choice questions, and a hands-on practicum.

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MSE 245
Winter 2002 – Day
Room 130

The following is a tentative schedule for the course. The instructor reserves the right to make schedule changes based on the needs of the students in the class.

Day	Date	Assignment
Week 1	11/12-11/14	Class introduction/Chapter 1 & 2
Week 2	11/19-11/21	Chapter 3/Chapter4/Quiz 1 Ch 1-3
Week 3	11/26	Chapter 5
Week 4	12/03-12/05	Chapter 6/Quiz 2
Week 5	12/10-12/12	Chapter 7 & 8
Week 6	12/17-12/19	Midterm Exam
Week 7	01/07-01/09	Chapter 8/Chapter9
Week 8	01/14-01/16	Chapter 10
Week 9	01/21-01/23	Chapter 11/Chapter 12/Quiz 3
Week 10	01/28-01/30	Chapter 13
Week 11	02/04-02/06	Chapter 14/Chapter 15 /Quiz 4
Week 12	02/11-02/13	Portfolio Day/Paper Due
Week 13	02/18-02/20	Final Exam

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