

**MIDSTATE COLLEGE
411 W NORTHMOOR RD
PEORIA, IL 61614
(309) 692-4092 or (800) 251-4299**

Course Number & Name: MSE 218 Planning and Maintaining a Microsoft Windows 2003 Network Infrastructure

Credit Hours: 4 quarter hours

Method of Delivery: Classroom

Textbook: Craig Zacker. *70-293 Planning and Maintaining a Microsoft Windows 2003 Network Infrastructure*. Microsoft Press, 2004. ISBN 0-7356-2029-6.

Prerequisite(s): MSE 115 - Windows Server Administration

Course Description: This course is designed to provide students with the knowledge required by system administrators, network administrators, and IT professionals who implement, manage, and troubleshoot existing network and server environments based on the Microsoft Windows Server 2003 operating system. Upon successful completion of this course, the student will have covered the necessary topics for the corresponding Microsoft certification exam.

Requirements for Completing the Course: To successfully complete this course, the student must receive a passing grade as outlined in the Grading Scale and Grading Specifications sections of this syllabus.

Learning Objectives:

Upon completion of this course, the student will be able to:

- Describe the network infrastructure design process and understand the security ramifications of network design decisions.
- Select the appropriate data-link and network/transport layer protocols for a given environment.
- Plan locations for workstations, peripherals, cables, connectivity devices, and servers on your network.
- Describe the structure of IP addresses and subnet masks and calculate IP addresses and subnet masks for subnetted networks.
- Understand how Dynamic Host Configuration Protocol (DHCP) automatically configures TCP/IP clients.
- Understand the functions of a router and the structure of a routing table.
- Select, install, and configure the dynamic routing protocol most suitable for your network.
- Use routers to connect LANs and wide area networks (WANs).
- Describe the structure of the DNS architecture and the DNS name resolution process.
- Create and implement an effective DNS domain hierarchy.
- Install and configure a WINS server.
- Describe the various wide area network (WAN) technologies used for Internet connections.

- List the criteria for determining how much Internet bandwidth a network needs.
- Determine the Internet access security requirements for a network.
- List the types of server clusters and determine which type of cluster to use for your applications.
- Describe how Network Load Balancing and server clusters work.
- Deploy NLB clusters and server clusters.
- List the default security settings for the Windows Server 2003 and Windows XP Professional operating systems.
- Describe the problems inherent in keeping the software on a large network installation updated.
- Use Microsoft Baseline Security Analyzer (MBSA) and Microsoft Software Update Services (SUS).
- Describe the security problems inherent in wireless networking.
- Control remote access with user account properties and remote access policies.

Grading Scale:

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

Midstate Plagiarism Policy: Matters related to academic honesty or contrary action such as cheating, plagiarism, or giving unauthorized help on examinations or assignments may result in an instructor giving a student a failing grade for that academic effort and also recommending the student be given a failing grade for the course and/or be subject to dismissal.

Plagiarism is using another person’s words without giving credit to the author. Original speeches, publications, and artistic creations are sources for research. If you use the author’s words in your papers or assignments, you must acknowledge the source. Plagiarism is strictly against the academic policy of the college and is grounds for failing the course. If repeated, plagiarism may result in suspension from the college.

Instructor Information: Brian Hughes bhughes@midstate.edu

Policies & Procedures:

- 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 the top. 70% is the highest score that late or make up work can earn without prior arrangement with the instructor. No makeup 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 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 you find that an absence is unavoidable, contact the Midstate Office at 692-4092 and leave a message or email me at the address above. If I do not receive a call or email before the missed class period, you will be considered unexcused and no make-up will be allowed for that day. Lab work must be completed in class on furnished equipment. Make-up lab work can be

scheduled with the instructor if an absence is unavoidable. Lab work may be scheduled during any class.

- 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 / pagers are prohibited from use in this course. Also, do NOT use email/messenger programs during class. This is not only rude to your instructor, but also distracts you and others around you from the learning experience.
- 7) **Student Responsibility:** The following are the student's responsibilities:
 - Reading the class textbook and any other materials assigned by the instructor, including journals, magazines, white papers, and Internet materials. Chapter materials covered during class should be read BEFORE the start of class.
 - Participating in oral presentations and classroom discussions
 - Participating in lab exercises
 - Completing all assignments and quizzes/exams

Assessment of Learning:

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 approximate values

• Homework Assignments	(100 pts.)	29%
• Lab assignments / Lab journal	(50 pts.)	14%
• Quizzes/Exams	<u>(200 pts.)</u>	<u>57%</u>
Total:	350 pts	100%

Examination Information:

The quizzes and exams will be a combination of fill-in-the-blank, true/false, multiple-choice and matching questions. A hands-on practicum may be utilized where appropriate. Quizzes will focus mostly on recently covered material, however earlier material will still be included at some points to ensure foundation concepts are fully understood. The midterm will be comprehensive and cover all chapters covered in class to that date. The final will be comprehensive and will cover all chapters covered since the midterm.

TENTATIVE COURSE SCHEDULE

Week	Dates	Chapter	Topic	Assignment Due
1	11/11	1	Introduction	N/A
2	11/18	2	Assigning IP Addresses	Ch. 2
3	11/25	3	Routing IP	Ch. 3
4	12/2	4,5	Planning Name Resolution, Connecting to the Internet	Ch. 4
5	12/9	5,6	Connecting to the Internet, Server Clustering	Ch. 5 & 6
6	12/16	Midterm Exam		N/A
7	1/6	7	Securing a Network Infrastructure	Ch. 7
8	1/13	8	Hardening Servers	Ch. 8
9	1/20	9	Designing PKI	Ch. 9
10	1/27	10	Securing Network Communication	Ch. 10
11	2/3	11,12	Maintaining a Network Infrastructure, Troubleshooting	Ch. 11 & 12
12	2/10	Final Exam		