PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

ADMINISTERING NETWORK INFRASTRUCTURE (LAN)
NETW 1220

Class Hours: 3.0  Credit Hours: 4.0
Laboratory Hours: 3.0  Revised: Spring 04

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

This course is designed to provide instruction in implementing and administering a Windows 2000 network infrastructure. Topics include installing, configuring, managing, monitoring and troubleshooting DNS, WINS, network address translation; and certificate services.

Entry Level Standards:

The entering student should have a familiarity with the Windows 2000 Server operating system and the Windows environment. The entering student should be able to keyboard at least 23 words per minute with 5 or fewer errors.

Prerequisite:

NETW 1210 or consent of instructor

Textbook(s) and Other Course Materials:


I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Designing a Windows 2000 Network</td>
</tr>
<tr>
<td>2</td>
<td>Implementing TCP/IP</td>
</tr>
<tr>
<td>3</td>
<td>Implementing NWLink</td>
</tr>
<tr>
<td>4</td>
<td>Monitoring Network Activity</td>
</tr>
<tr>
<td>5</td>
<td>Implementing IPSec</td>
</tr>
<tr>
<td>6</td>
<td>Exam One</td>
</tr>
<tr>
<td>7</td>
<td>Resolving Network Host Names</td>
</tr>
<tr>
<td>8</td>
<td>Implementing Domain Name System (DNS)</td>
</tr>
<tr>
<td>9</td>
<td>Using 2000 Domain Name Service</td>
</tr>
<tr>
<td>10</td>
<td>Implementing Windows Internet Name Service (WINS)</td>
</tr>
<tr>
<td>11</td>
<td>Implementing Dynamic Host Configuration Protocol (DHCP)</td>
</tr>
<tr>
<td>12</td>
<td>Providing Your Clients Remote Access Service (RAS)</td>
</tr>
</tbody>
</table>
13 Supporting Network Address Translation (NAT)
14 Implementing Certificate Services
15 Implementing Enterprise-Wide Network Security
16 Group Project; Final Exam Period

II. Course Objectives*

A. Install and manage DNS in a Windows 2000 network infrastructure. II IV V VI
B. Configure and monitor DHCP in a Windows 2000 network infrastructure. III IV VII IX
C. Implement and troubleshoot remote access in a Windows 2000 network infrastructure. I VII VIII X
D. Deploy network protocols in a Windows 2000 network infrastructure. I IV V IX XI
E. Configure and troubleshoot WINS in a Windows 2000 network infrastructure. III V VII IX XI
F. Manage and troubleshoot IP routing in a Windows 2000 network infrastructure. III IV V VI IX

*Roman numerals after course objectives reference goals of the Business and Computer Technology department.

III. Instructional Processes*

Students will:

1. Use professional tools to install, configure, and troubleshoot in a Windows 2000 network infrastructure components and documentation. Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy, Problem Solving and Decision Making Outcome

2. Manage, monitor, and optimize the services in a Windows 2000 network infrastructure. Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome, Transitional Strategy, Active Learning Strategy

3. Participate in a network infrastructure deployment team for a large computing environment. Problem Solving and Decision Making Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy, Technological Literacy Outcome, Information Literacy Outcome

4. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. Personal Development Outcome

5. Present finished products to the class. Communication Outcome, Transitional Strategy, Active Learning Strategy

6. Participate in a peer review of individual and group projects. Problem Solving and Decision Making Outcome, Communication Outcome, Transitional Strategy, Active Learning Strategy

7. Use professionally accepted methods and materials in completion of installing network
components. Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

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

1. Install and monitor DNS and associated servers. A B
2. Install, configure, and manage DHCP. B D
3. Configure and troubleshoot remote access. C F
4. Manage and troubleshoot network protocols. C D F
5. Configure and resolve problems associated with WINS. D E
6. Update and implement IP routing protocols. A B C F
7. Install Network Address Translation (NAT). G
8. Issue and maintain certificate services. H

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

Exams will comprise 40% of the final grade. Two exams will be given during the course of the semester. Dates will be announced in class and each exam will count 200 points of the final grade. There will be no make-up tests unless prior arrangements have been made with the instructor.

B. Laboratory Expectations:

Lab assignments will be made during the course of the semester. A late penalty will be imposed on any overdue assignment. Failure to satisfactorily complete all labs may result in a grade of F in the course. Labs will count 100 points (10%) of the final grade.

C. Field Work:

N/A

D. Other Evaluation Methods:

1. Individual Project:
One project consisting of a case study based upon individual student interests will be assigned. This project is intended to familiarize students with the basic Active Directory design. Failure to satisfactorily complete the individual project will result in a grade of F for the course. This project will count 250 points (25%) of the final grade. A portion of the project grade will be determined by peer evaluation.

2. Group Project:
One extensive group project will be assigned to create a complete Active Directory plan for a local business based upon instructor specifications. This project is intended to familiarize students with more advanced Active Directory features. It also provides an opportunity for participating in a group application development and integration effort. Failure to satisfactorily complete the group project may result in a grade of F for the course. This project will count 250 points (25%) of the final grade. A portion of the project grade will be determined by class peer evaluation and
another portion by project group peer evaluation.

E. Grading Scale:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 - 1000</td>
<td>A</td>
</tr>
<tr>
<td>800 - 899</td>
<td>B</td>
</tr>
<tr>
<td>700 - 799</td>
<td>C</td>
</tr>
<tr>
<td>600 - 699</td>
<td>D</td>
</tr>
<tr>
<td>Below 600</td>
<td>F</td>
</tr>
</tbody>
</table>

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Academic Dishonesty:

Plagiarism, cheating, software piracy, non-educational use of computer systems and other forms of academic dishonesty are strictly prohibited.