

**Configuring and Troubleshooting a  
Windows Server 2008 Network Infrastructure  
Course 1821 SERVER & NETWORK OS**

**Worcester Technical High School  
Telecommunications Department  
Junior Related Theory Q1-Q4**

**Course Description:** This instructor-led course provides students with the knowledge and skills to configure and troubleshoot a Windows Sever 2008 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2008 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

This course will help the student prepare for the following Microsoft Certified Professional exam:

70-642: TS: Windows Server 2008 Network Infrastructure, Configuring

This is the second course in the Microsoft Certified Technical Specialist (*MCTS*) curriculum. The course duration is one semester, beginning in the student's junior year.

**Prerequisites**

This course is intended for new entrants and career changers new to the IT industry. They have experience using Microsoft Office and have basic Microsoft Windows have basic navigation skills.

The completion of this course requires the following:

Reading Age Level (RAL) of 13

**Instructional Philosophy:** This course requires extensive student reading, completion of written assignments and completion of hands-on laboratory projects. There will be a balance of lecture and demonstration throughout the course. The course is comprised of the following learning styles:

1. Weekly Module Reading Assignments
2. Daily Lectures Covering Module Material
3. Weekly Hands-On Lab Assignments Covering Module Material
4. Weekly Review Lectures
5. Weekly Test Assessments

The course presentation is designed to continually reinforce the material covered each week on approximately a module per week schedule. First there is a daily lecture covering the material in the module and paced with the reading and homework assignments. Second, the students independently read the material as a first pass at self-learning the material. The Third re-enforcement is the completion of weekly hands-on laboratory assignments directly related to the module material. Typically 4 or 5 labs are

completed for each module and each lab has a set of review questions used to evaluate the completion of the lab. The last re-enforcement is a comprehensive review of the material presented during the week and an open question and answer session to finalize the material learned. A final test assessment is completed the day following the review. The assessment for the course is a module test.

### **Course Goals**

The primary audience for this course includes Active Directory technology specialists aspiring to be Enterprise Administrators (Tier 4 day-to-day network operations) or Network Administrators (Tier 2). Experienced Server Administrators aspiring to be Enterprise Administrators would also benefit from this course.

The secondary audience for this course includes Storage Area Network Administrators who need to understand this information to deploy or extend their current storage infrastructure. Operations Managers who need this information to support troubleshooting efforts and business decisions would also benefit from this course.

### **Major Course Projects and Assignments**

After completing this course, students will be able to:

- Install and configure servers.
- Configure and troubleshoot DNS.
- Configure and manage WINS.
- Configure and troubleshoot DHCP.
- Configure and troubleshoot IPv6 TCP/IP.
- Configure and troubleshoot Routing and Remote Access.
- Install, configure, and troubleshoot the Network Policy Server Role service.
- Configure Network Access Protection.
- Configure IPsec.
- Monitor and troubleshoot IPsec.
- Configure and manage Distributed File System.
- Configure and manage storage technologies.
- Configure availability of network resources and content.
- Configure server security compliance.

**1. Technical Performance Projects.** Module Laboratory Assignments will be completed throughout the duration of the course:

**2. Applied Academics Projects.** For each of the modules, the student's will be responsible for reading the Module and completing reading assignments. Daily lectures, a weekly review and a test are completed to finalize the material in each module. Completing this course is an important step toward achieving Microsoft Certified Technology Specialist (MCTS), Microsoft Certified IT Professional (MCITP), or a more advanced certification.

**3. Problem Solving Projects.** The student's will develop and practice their problem solving skills by supporting the computers throughout the school. The various problems

and issues that are presented serves as an effective means for the students to develop broad-based, practical troubleshooting skills required to tackle any networking issue.

### **Course Assessment Plan**

**Performance Standards:** Grades for the course will be based on the following levels of performance:

#### **Grade Performance Standard**

##### **A Independent Learner**

Did research, designed and planned; applied academic skills; evaluated work and made adjustments; did quality work; needed little help from the teacher; sought and found resources independently; displayed a positive attitude; demonstrated knowledge with a grade of 90 or higher.

##### **B Semi-Independent Learner**

Did research, designed and planned; needed some help from the teacher; did quality work with a few flaws; needed feedback from the teacher to realize work could use improvement; redid work to meet standards; displayed a generally positive attitude; demonstrated knowledge with a grade of 80 or higher.

##### **C Dependent Learner**

Needed help to research, design and plan or had to be given a plan; relied a great deal on the teacher; had to be given procedures for performing tasks; required significant help to produce a quality product; needed help to evaluate a product; final product still did not meet standards; attitude displayed could use improvement; demonstrated knowledge with a grade of 70 or higher.

##### **D Highly Dependent Learner**

Needed significant help to research, design and plan or had to be given a plan; relied a solely on the teacher; had to be given procedures for performing tasks; could not produce a quality product independently; needed help to evaluate a product; final product still did not meet standards; poor attitude; demonstrated knowledge with a grade of 65 or higher.

##### **F Failure**

Did not complete assignments; if assignments were completed, they were of such low quality that they did not pass; failed to follow procedures; did not show criteria for determining quality; behavioral problem; scored less than 65 on knowledge tests; produced a poor or no portfolio.

<b>Assessment Description</b>	<b>Percent of Grade</b>
Tests	80
Homework	20

Tests will be scheduled on the assessment server for 7 days each week with appropriate time limits. It is the student's responsibility to take, or in some cases re-take, scheduled tests.

The instructor reserves the right to change any portion of this syllabus at any time.