NT1330

NT1330 Client-Server Networking II

SYLLABUS

Credit hours: 4.5

Contact/Instructional hours: 56 (34 Theory, 22 Lab)

Prerequisite: NT1230 Client-Server Networking I or equivalent
COURSE SUMMARY

COURSE DESCRIPTION
The typical network server operating system and its functions are the focus of this course. Areas of study include installation, configuration, maintenance and routine administrative tasks of the network services provided by the server in relation to its clients and other servers.

MAJOR INSTRUCTIONAL AREAS

1. Networking Concepts
2. Configuring & Maintaining the DHCP and DNS Server Roles
3. Active Directory Domain Services, Implementing Active Directory
4. Working with Active Directory Sites
5. Global Catalog and Flexible Single Master Operations (FSMO) Roles
6. Active Directory Administration
7. Security Planning and Administrative Delegation
8. Introduction to Group Policy, Configuring the User and Computer Environment with Group Policy
9. Software Installation with Group Policy, Planning Group Policy Management and Implementation
10. Active Directory Maintenance
11. Troubleshooting
12. Disaster Recovery

COURSE OBJECTIVES

1. Install and configure a Microsoft Server 2008 server and a Windows 7 client.
2. Configure the Windows Server 2008 machine as a DHCP server.
3. Configure Active Directory.
5. Configure Universal Group Membership Caching
6. Transfer and seize FSMO roles.
7. Analyze Group Policy applications
8. Analyze different techniques to secure Windows Server 2008
9. Use different methods to maintain and troubleshoot Active Directory servers.
LEARNING MATERIALS AND REFERENCES

REQUIRED RESOURCES

<TEXTBOOK>


OTHER REQUIRED RESOURCES


RECOMMENDED RESOURCES

STUDENT'S CD FILES

- MOAC 70-640 Student CD Files
- MOAC 70-642 Student CD Files

These CD files are optional materials and are not mandatory reference for completing your assignments. You can click here to download these files from Questa.

ITT TECH VIRTUAL LIBRARY (ACCESSED VIA STUDENT PORTAL)

Books

Periodicals:

**Periodicals > ProQuest**

BlueCat networks; BlueCat networks sets new industry standard with five-hour on-site repair for IP address management, DNS and DHCP hardware appliances. (2011). *Computers, Networks & Communications*, 172.

Active directory domain migration assistance sought by commerce department. (2011, Jun 01). *Targeted News Service*.

**Periodicals > LexisNexis Academic**


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**OTHER RESOURCES**

- **Wiley Portal:**
  - Wiley Student Companion Site
    - Wiley offers a Student Companion Site for the course’s required texts.

    For the Microsoft Official Academic Course: Exam 70-640, Students can log on to: [http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0470874988&bcsId=5816](http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0470874988&bcsId=5816).

    For the Microsoft Official Academic Course: Exam 70-642, Students can log on to: [http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0470875011&bcsId=5829](http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0470875011&bcsId=5829).

    (Note: Do not use the lab manual worksheets from these sites. Your custom labs are in the custom lab manual).

- **Periodicals:**
  - 8 security considerations for IPv6 deployment. (2011). *Network World (Online)*.

• PR, N. (2011, April 7). Facebook Launches Open Compute Project to Share Custom-Engineered, Highly Efficient Server and Data Center Technology With the World. PR Newswire US.


**NOTE:** All links are subject to change without prior notice.

### COURSE OUTLINE

<table>
<thead>
<tr>
<th>Week Number</th>
<th>Course Objective Number</th>
<th>Assessment Labs, Projects, and Exams</th>
<th>Topical Outline</th>
<th>Text Books Reading Assignment (Chapter #, pp.)</th>
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<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>Forum: Intrasite vs Intersite Replication and Domain Functional Levels</td>
<td>Intrasite vs Intersite Replication and Domain Functional Levels  - Intrasite versus Intersite</td>
<td>Lesson 1  Lesson 2  70-642: Windows Server 2008 Network Infrastructure Configuration</td>
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<td>▪ Domain Functional Levels</td>
<td>70-640: Windows Server 2008 Active Directory Configuration</td>
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<td>3</td>
<td>5</td>
<td>Forum: Universal Group Membership Caching</td>
<td>Universal Group Membership Caching</td>
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<td>Essay: Active Directory</td>
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<td>▪ Lesson 10</td>
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  ▪  Group Policy Management  
  ▪  Security Group Filtering  
  ▪  Resultant Set of Policy | 70-640: Windows Server 2008 Active Directory Configuration |
| 6           | 1-9                     | Forum: Favorite Lab  
Final Exam | Review  
  ▪  Week 1  
  ▪  Week 2  
  ▪  Week 3  
  ▪  Week 4  
  ▪  Week 5  
Practice Exam | Review of all lessons |
EVALUATION AND GRADING

EVALUATION CRITERIA

The graded assignments will be evaluated using the following weighted categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Lab</td>
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<td>Essay</td>
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<tr>
<td>Forum</td>
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<tr>
<td>Final Exam</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>

GRADE CONVERSION

The final grades will be calculated from the percentages earned in the course, as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Credit</th>
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</thead>
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<tr>
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<td>90–100%</td>
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<td>B+</td>
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<tr>
<td>C+</td>
<td>75–79%</td>
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<td>2.0</td>
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<tr>
<td>D+</td>
<td>65–69%</td>
<td>1.5</td>
</tr>
<tr>
<td>Grade</td>
<td>Percentage</td>
<td>Credit</td>
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<td>-------</td>
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<td>D</td>
<td>60–64%</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60%</td>
<td>0.0</td>
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(End of Syllabus)
FORUM 1.1 (4 HOURS)

TITLE: DNS RESOURCE RECORDS AND TROUBLESHOOTING

You arrive at work to find the junior network admin has left you a message wanting to know more about the different types of DNS zones. In the environment he is working on they have desktops, servers, Microsoft Exchange, and DNS servers. Explain the different types of DNS Zones and provide an example of each one. The junior admin also said he is having an issue at a client’s site where he can type in an IP address of a particular site such as http://208.40.235.38 but can’t type the DNS name. What are some tools that can help him troubleshoot this issue? Please respond to at least two other students’ posts.

Participation Requirements:
Your instructor will use the following points for evaluating your performance in this assessment:

- Did you list the different types of DNS zones?
- Did you provide examples of each DNS Zone?
- Did you provide suggestions to help troubleshoot the DNS issue in the scenario?
- Did you respond to at least two other students’ posts?

ESSAY 1.1 (ESTIMATED TIME: 4 HOURS)

TITLE: CONFIGURING AND MAINTAINING DHCP

Scenario: You work for a small company that has just expanded. You have traditionally assigned static IP addresses for everything but with the addition of personal and equipment this is no longer an option.

- Explain the benefits of using DHCP instead of static addresses.

Assessment Preparation Checklist:
To prepare for this Exercise:

- Read Lesson 3: Configuring and Managing the DHCP Server Role in the Windows Server 2008 Network Infrastructure Configuration textbook.
- View the online lesson for Week 1.

Submission Requirements:
Submit your responses in a one-page Microsoft Word document through the Questa Learning Plan.

**Evaluation Criteria:**
Your instructor will use the following points for evaluating your performance in this assessment:

- Did you identify the benefits of using DHCP?
- Did you explain why DHCP is a better option than using static addresses?
- Did you use correct grammar, spelling, and punctuation?

**LAB 1.1 (2 HOURS)**

**TITLE: MS: CONFIGURING DOMAIN NAME SYSTEM IN WINDOWS SERVER 2008**

To access the vLab, click the **Lab Content** tab in the Answer/response: section. Then, click the **Access vLab** button to launch the vLab page.

For completing the vLab, you will be required to take screenshots specified in the vLab scenario and submit these to your instructor. To take a screenshot, do the following:

"In your RDP session of the vLab, use the **Acquire vLab Screenshot** shortcut from top of the Start->All Programs menu."

**Assessment Preparation Checklist:**

**View the Demonstration** of the lab before you attempt the assessment.

Following points will also help you prepare for assessment:

- Once you begin the lab, please fully complete the lab in one sitting. Some virtual labs restart to their initial state if you exit the lab while it is in progress.
- View the online lesson for Week 1.
- View the vLab online tutorial.
Submission Requirements:

Once you have completed the vLab, do the following:

1. Close the RDP session.
2. In the Tools section of the vLab page, click the Lab Report Editor.
3. On the Lab Report Editor window, click the Import Screenshots drop down list.
4. From the Import Screenshots drop down list, select the system that you want to import screenshots from.
5. You can import maximum of 5 screenshot at a time. If you took more than 5 screenshots while performing the lab, you should select the same system from the Import Screenshots drop down multiple times to import rest of the screenshots.
6. Click Save and then close the Lab Report Editor.
7. Click Quit Lab and click OK.
8. Click Exit and click OK.
9. Click Save Answer.
10. Click Submit For Grading to submit your vLab assignment to the instructor.

Note: If you use SCHEDULE LAB feature of vLabs, please ensure the following:

- If you have scheduled a vLab for a later time, do not submit your answer for grading until you complete the vLab at the scheduled time.
- Do not schedule a vLab for a date post your course end date. You will not be able access the vLab after the course end date.

(End of Week 1)
FORUM 2.1 (4 HOURS)

TITLE: INTRASITE VS INTERSITE REPLICATION AND DOMAIN FUNCTIONAL LEVELS

Assume that you are an IT administrator for a company with an existing AD Forest. The company is adding two, new branch offices and you have been tasked with designing a replication strategy prior to DC deployment.

Branch 1 will be connected to the Main Office via a pair of bonded T1 lines and will contain a Call Center with high employee turnover.

Branch 2 will be in a very remote location and will be connected to the Main Office via a 56k POTS line. What would you recommend for site-link protocols and replication schedule/frequency for the branches? Would you recommend having redundant links to each branch?

Participation Requirements:
Your instructor will use the following points for evaluating your performance in this assessment:

- Did you provide a recommendation for site-link protocols?
- Did you provide a replication schedule with frequency?
- Did you provide a recommendation for or against redundant links to each branch?
- Did you respond to at least two other students’ posts?

LAB 2.1 (2 HOURS)

TITLE: DESIGNING AD DS SITES AND REPLICATION IN WINDOWS SERVER 2008

To access the vLab, click the Lab Content tab in the Answer/response: section. Then, click the Access vLab button to launch the vLab page.

For completing the vLab, you will be required to take screenshots specified in the vLab scenario and submit these to your instructor. To take a screenshot, do the following:
"In your RDP session of the vLab, use the Acquire vLab Screenshot shortcut from top of the Start->All Programs menu."
Assessment Preparation Checklist:

**View the Demonstration** of the lab before you attempt the assessment.

Following points will also help you prepare for assessment:

- Once you begin the lab, please fully complete the lab in one sitting. Some virtual labs restart to their initial state if you exit the lab while it is in progress.
- Read the following lessons from Windows Server 2008 Active Directory Configuration Textbook:
  - Lesson 1: Overview of Active Directory Domain Services (pages 1-20)
  - Lesson 2: Implementing Active Directory (pages 21-58)
  - Lesson 3: Working with Active Directory Sites (pages 59-77)
- View the online lesson for Week 2.

**Submission Requirements:**

Once you have completed the vLab, do the following:

1. Close the RDP session.
2. In the Tools section of the vLab page, click the **Lab Report Editor**.
3. On the **Lab Report Editor** window, click the **Import Screenshots** drop down list.
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(End of Week 2)
FORUM 3.1 (2 HOURS)

**TITLE: UNIVERSAL GROUP MEMBERSHIP CACHING**

Review your peers’ examples, and explain why it would be good to use universal group membership caching in the cases presented.

**Participation Requirements:**
Your instructor will use the following points for evaluating your performance in this assessment:
- Did you provide examples of universal group membership caching?
- Did you explain why it would be beneficial to use group membership caching?
- Did you respond to at least two other students’ posts?

LAB 3.1 (2 HOURS)

**TITLE: MS: CONFIGURING ACTIVE DIRECTORY OBJECTS AND TRUSTS**

To access the vLab, click the **Lab Content** tab in the **Answer/response:** section. Then, click the **Access vLab** button to launch the vLab page.

For completing the vLab, you will be required to take screenshots specified in the vLab scenario and submit these to your instructor. To take a screenshot, do the following:
"In your RDP session of the vLab, use the **Acquire vLab Screenshot** shortcut from top of the Start->All Programs menu."

**Assessment Preparation Checklist:**

- **View the Demonstration** of the lab before you attempt the assessment.

Following points will also help you prepare for assessment:
- Once you begin the lab, please fully complete the lab in one sitting. Some virtual labs restart to their initial state if you exit the lab while it is in progress.
- View the online lesson for Week 3.
**Submission Requirements:**

Once you have completed the vLab, do the following:

1. Close the RDP session.
2. In the Tools section of the vLab page, click the **Lab Report Editor**.
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**ESSAY 3.1 (2 HOURS)**

**TITLE: FLEXIBLE SINGLE MASTER OPERATIONS ROLES**

Scenario: You work for a small company that is having problems with its two domain controllers. Explain how you would locate the FSMO roles on the current servers and how you would transfer or seize FSMO roles to new domain controllers.

**Assessment Preparation Checklist:**

Complete the following activities before attempting the assignment:

- Read Lesson 5: Active Directory Administration (pages 101-124 of the Windows Server 2008 Active Directory Configuration Textbook)
• View the online lesson for Week 3.

**Submission Requirements:**
Submit your response in a 1-2 page Microsoft Word document through the Questa Learning Plan.

**Evaluation Criteria:**
Your instructor will use the following points for evaluating your performance in this assessment:

• Did you identify how to locate FSMO roles?
• Did you explain how to transfer these roles?
• Did you explain how to seize these roles?
• Did you use correct grammar, spelling, and punctuation?

*(End of Week 3)*
FORUM 4.1 (2 HOURS)

TITLE: GROUP POLICY SOFTWARE INSTALLATION AND SOFTWARE RESTRICTION POLICIES

Scenario: Your boss has come to you and expressed that there are several software packages that he would like you to deploy to different departments. Explain how this can be done using group policy. Also explain the concept of software restrictions and how/when you might use this in an organization.

Participation Requirements:
Your instructor will use the following points for evaluating your performance in this assessment:

- Did you explain how they would deploy different software packages to different departments?
- Did you explain what a software restriction policy is?
- Did you explain how/when an organization would use a software restriction policy?
- Did you respond to at least two other students’ posts?

LAB 4.1 (2 HOURS)

TITLE: DEPLOYING AND MANAGING SOFTWARE USING GROUP POLICY

To access the vLab, click the Lab Content tab in the Answer/response: section. Then, click the Access vLab button to launch the vLab page.

For completing the vLab, you will be required to take screenshots specified in the vLab scenario and submit these to your instructor. To take a screenshot, do the following:

"In your RDP session of the vLab, use the Acquire vLab Screenshot shortcut from top of the Start->All Programs menu."

Assessment Preparation Checklist:

View the Demonstration of the lab before you attempt the assessment.

Following points will also help you prepare for assessment:
• Once you begin the lab, please fully complete the lab in one sitting. Some virtual labs restart to their initial state if you exit the lab while it is in progress.

• Read Lesson 7: Introduction to Group Policy (pages 138-154 of the Windows Server 2008 Active Directory Configuration Textbook)

• Read Lesson 8: Configuring the User and Computer Environment Using Group Policy (pages 155-180 of the Windows Server 2008 Active Directory Configuration Textbook)

• View the online lesson for Week 4.

Submission Requirements:

Once you have completed the vLab, do the following:

1. Close the RDP session.
2. In the Tools section of the vLab page, click the Lab Report Editor.
3. On the Lab Report Editor window, click the Import Screenshots drop down list.
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(End of Week 4)
FORUM 5.1 (1 HOUR)

**TITLE: GROUP POLICY DESIGN**

Explain some of the tools that can be used to verify that group policy is being applied the way you think it should be. Also explain how you can target groups and computers to receive group policy settings.

**Participation Requirements:**
Your instructor will use the following points for evaluating your performance in this assessment:
- Did you discuss tools that can be used to verify Group Policy is being applied?
- Did you explain how they can target groups and computers?
- Did you respond to at least two other students’ posts?

ESSAY 5.1 (2 HOURS)

**TITLE: ACTIVE DIRECTORY**

Scenario: The small business that you created new domain controllers for now wants you to develop a backup and recovery plan for Active Directory. You also need to develop a monitoring scheme to ensure the new Active Directory environment remains available. Explain this backup and recovery plan along with the tools needed to monitor the active directory environment.

**Assessment Preparation Checklist:**
Complete the following activities before attempting the assignment:
- Read Lesson 11: Active Directory Maintenance, Troubleshooting, and Disaster Recovery (pages 221-243 of the Windows Server 2008 Active Directory Configuration Textbook)
- View the online lesson for Week 5.

**Submission Requirements:**
Submit your response in a 1-2 page Microsoft Word document through the Questa Learning Plan.
Evaluation Criteria:

Your instructor will use the following points for evaluating your performance in this assessment:

- Did you discuss a backup strategy or Active Directory?
- Did you discuss a recovery plan for Active Directory?
- Did you discuss a monitoring scheme for Active Directory?
- Did you use correct grammar, spelling, and punctuation?

LAB 5.1 (2 HOURS)

**TITLE:** IMPLEMENTING GROUP POLICY ON WINDOWS SERVER 2008 [PERF]

To access the vLab, click the **Lab Content** tab in the **Answer/response** section. Then, click the **Access vLab** button to launch the vLab page.

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**Assessment Preparation Checklist:**

View the Demonstration of the lab before you attempt the assessment.

Following points will also help you prepare for assessment:

- Once you begin the lab, please fully complete the lab in one sitting. Some virtual labs restart to their initial state if you exit the lab while it is in progress.
- View the online lesson for Week 5.

**Submission Requirements:**

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(End of Week 5)
**FAVORITE LAB**

Discuss which lab was your favorite and why. You may also discuss if you would have liked to have seen a different lab on a topic covered in the course.

**Participation Requirements:**

Your instructor will use the following points for evaluating your performance in this assessment:

- Did you discuss which lab was your favorite?
- Did you discuss a lab or topic you would have liked to have seen?
- Did you respond to at least two other students’ posts?

**FINAL EXAM (2 HOURS)**

**FINAL EXAM**

**Assessment Preparation Checklist:**

Complete the following activities before attempting the exam:

- Review all course readings and assignments.
- Review all lesson presentations.
- View the lesson presentation for Week 6.