

ITT Technical Institute  
**NT1330**  
**Client-Server Networking II**

**SYLLABUS**

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**Credit hours:** 4.5

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

**Prerequisite(s) and/or Corequisite(s):**

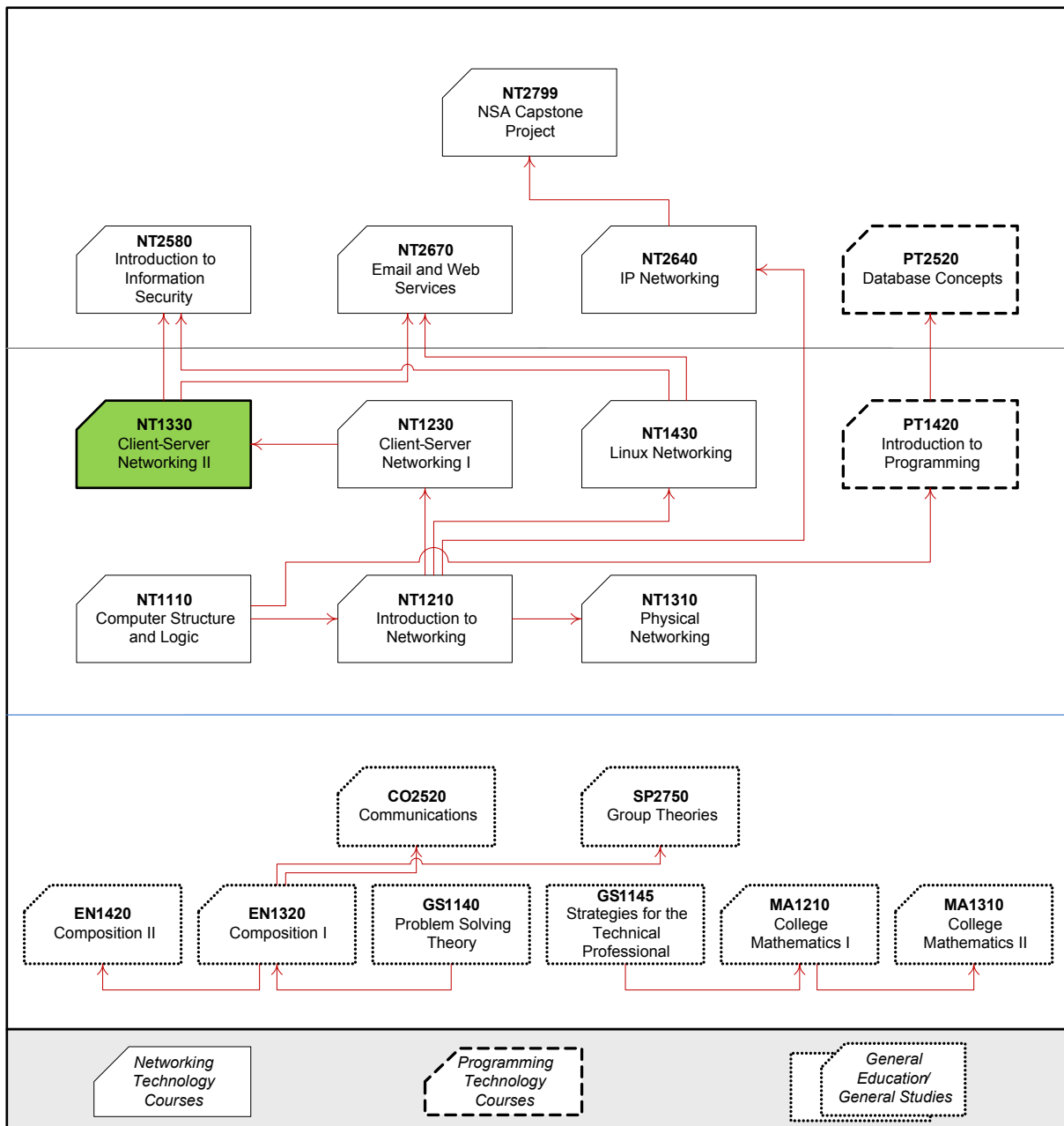
Prerequisites: NT1230 Client-Server Networking I or equivalent

**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.

## Where Does This Course Belong?

The following diagram demonstrates how this course fits in the standard version of the NSA program:



## Course Summary

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### 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.
4. Explain intrasite and intersite replication between the Windows Server 2008 machines.
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

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### Required Resources

Complete Textbook Package	New to this Course	Carried over from Previous Course(s)	Required for Subsequent Course(s)
<i>Microsoft Official Academic Course</i> (2011). <i>Exam MOAC 70-640 and 70-642</i> Hoboken, NJ: John Wiley and Sons, Inc. [Custom Update Edition]	■		
<i>Custom Lab Manual</i> (2011). <i>Exam MOAC 70-640, 70-642 and 70-646</i> . Hoboken, NJ: John Wiley and Sons, Inc.	■		

### Recommended Resources

#### Internal

- ITT Tech Virtual Library:  
<http://myportal.itt-tech.edu/library/Pages/HomePage.aspx>.

ITT Tech Library:

Books

Books > Books24x7

- Hannifin, D. (2008). *Microsoft windows server 2008 R2 administrator's reference: The administrator's essential reference*. Syngress Publishing.
- Reimer, S., Kezema, C. Mulcare, M. Wright, B. & Microsoft Active Directory Team (2008). *Windows server 2008 active directory resource kit*. Microsoft Press.
- Rommel, Florian. (2008). *Active directory disaster recovery*.
- Shapiro, J. (2008). *Windows server 2008 bible*. Hoboken, NJ: John Wiley and Sons, Inc.
- Tittle, E. and Koriec, J. (2008). *Windows server 2008 for dummies*. Hoboken, NJ: John Wiley and Sons, Inc.

- 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

Glanz, J. and Markoff, J. (December 5, 2010). *Vast hacking by a China fearful of the web*. The New York Times.

- Brodtkin, J. (2011). Microsoft: Next level of virtualization unlocks server OS, applications. *Network World (Online)*.

#### External

- 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>.

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>.

(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)*.
  - Solid passwords, PC firewalls stop ID thieves. (2011, Jun 25). *Chattanooga Times Free Press*, pp. C.1.
  - Kaufmann, M. and Beaumont, L. (2005) *Content networking: Architecture, protocols, and practice*. Amsterdam, Boston Elsevier, 2005.
  - Parui, U. (2010, Installing client tools on a SQL server 2008 failover cluster. *SQL Server Magazine*, 12(2), 9-9.
  - 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.
  - Saran, C. (2008). Microsoft revamps certification for Server 2008. *Computer Weekly*, 32. Retrieved from EBSCOhost.
  - Romero, D., & Molina, A. (2011). Collaborative networked organisations and customer communities: value co-creation and co-innovation in the networking era. *Production Planning & Control*, 22(5/6), 447-472.

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

## Information Search

Use the following keywords to search for additional online resources that may be used for supporting your work on the course assignments:

- - DHCP and DNS Server Roles
  - Active Directory Domain Services
  - Global Catalog and Flexible Single Master Operations (FSMO) Roles
  - Active Directory Administration
  - Security Planning and Administrative Delegation
  - Group Policy Management and Implementation
  - Disaster Recovery

## Learning Outcomes and Readings by Unit

Upon completion of this course, the students are expected to:

**Unit 1:** Introduction to Networking Concepts

Upon completion of this unit, the students are expected to:

- Explain IP address components.
- Contrast classful and classless IP addressing.
- Explain the function of DNS.
- Explain the function of DHCP.
- Install Windows 2008 Server.
- Prepare a virtual workstation image.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Network Infrastructure Configuration MOAC 70-642  Lessons 1 & 2	Assignment	Unit 1. Assignment 1. Windows 2008 Network Services	2%
	Lab	Unit 1. Lab 1. Preparing a Virtual Workstation Image	4%
	Exercise	Unit 1. Exercise 1. IP Addressing Scenario	3%

**Unit 2:** Configuring & Maintaining the DHCP and DNS Server Roles

Upon completion of this unit, the students are expected to:

- Explain how DHCP works.
- Install the DHCP Server role.
- Analyze DHCP configuration options.
- Explain DNS.
- Install the DNS Server role.
- Describe DNS Record Types.
- Use DNS command-line tools.
- Make recommendations about DNS Server.
- Configure DNS.
- Configure DHCP.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Network Infrastructure Configuration MOAC 70-642	Assignment	Unit 2. Assignment 1. DHCP Troubleshooting	2%
	Lab	Unit 2. Lab 1. Configuring DNS and DHCP	4%
	Exercise	Unit 2. Exercise 1. DNS Scenario	3%

Lessons 3 & 4			
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**Unit 3:** Overview of Active Directory Domain Services, Implementing Active Directory

Upon completion of this unit, the students are expected to:

- Explain Active Directory (AD) Services
- Describe AD Components
- Explain AD Functional Levels
- Install Active Directory Domain Services
- Configure Active Directory Domain Services
- Determine necessary information for the design of a domain hierarchy.
- Determine the necessary information to design a solution in a merger scenario.
- Create a replica domain controller.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Network Infrastructure Configuration MOAC 70-640 Lesson 1 & Lesson 2	Assignment	Unit 3. Assignment 1. Active Directory Design Scenario	2%
	Lab	Unit 3. Lab 1. Creating a Replica Domain Controller	4%
	Exercise	Unit 3. Exercise 1. Company Merger Scenario	3%

**Unit 4:** Working with Active Directory Sites

Upon completion of this unit, the students are expected to:

- Explain Active Directory Sites
- Explain Active Directory Replication
- Configure Active Directory Replication
- Make recommendations in an AD Design Replication scenario.
- Suggest a plan of action for troubleshooting replication.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640  Lesson 3	Assignment	Unit 4. Assignment 1. AD Design Replication Scenario	2%
	Lab	Unit 4. Lab 1. Working with Active Directory Sites	4%
	Exercise	Unit 4. Exercise 1. Site-to-Site Connectivity Scenario	3%

**Unit 5: Global Catalog and Flexible Single Master Operations (FSMO) Roles**

Upon completion of this unit, the students are expected to:

- Explain the functions of a Global Catalog Server
- Explain the FSMO Roles
- Plan FSMO Role Holders
- Maintain FSMO Roles
- Determine the necessary information for the development of an FSMO/GC implementation plan.
- Determine the best tools for determining FSMO roles.
- Develop a plan for the failure of a role holder.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640  Lesson 4	Assignment	Unit 5. Assignment 1. AD Design Scenario: FSMO Role & GC Placement	2%
	Lab	Unit 5. Lab 1. Global Catalog and Flexible Single Master Operations (FSMO) Roles	4%
	Exercise	Unit 5. Exercise 1. AD FSMO Role Management Research: Alternate Methods	3%

**Unit 6: Active Directory Administration**

Upon completion of this unit, the students are expected to:

- Explain user account types and functions
- Analyze group types and scopes
- Explain default and special ID groups
- Create users, computers and groups
- Recommend a strategy for creating groups.
- Recommend as strategy for creating user accounts.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640  Lesson 5	Assignment	Unit 6. Assignment 1. AD User/Group Design Scenario	2%
	Lab	Unit 6. Lab 1. Creating and Managing Users and Groups†	4%
	Exercise	Unit 6. Exercise 1. AD User and Group Account Creation	3%

**Unit 7: Security Planning and Administrative**



Upon completion of this unit, the students are expected to:

- Plan user-account security
- Implement user-account security
- Secure access to active directory
- Plan organizational unit structure
- Recommend a password policy.
- Determine the necessary information for recommending an OU Structure.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640  Lesson 6	Assignment	Unit 7. Assignment 1. AD Password Policy Planning	2%
	Lab	Unit 7. Lab 1. Employing Security Concepts	4%
	Exercise	Unit 7. Exercise 1. AD OU Planning Scenario	3%

**Unit 8:** Introduction to Group Policy, Configuring the User and Computer Environment with Group Policy

Upon completion of this unit, the students are expected to:

- Describe Group Policy.
- Implement Group Policy.
- Configuring Group Policy to install and manage software on the Windows 7 client machine.
- Manage and Maintain Group Policy.
- Configure Group Policies in a Mixed Client OS environment.
- Contrast Group Policies supported by different operating systems.
- Recommend policies to control user/computer configuration.
- Use advanced Group Policy management tools to control Group Policy application.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640 Lesson 7 & 8	Assignment	Unit 8. Assignment 1. Group Policy in a Mixed Client OS Environment	2%
	Lab	Unit 8. Lab 1. Exploring Group Policy Administration	4%
	Exercise	Unit 8. Exercise 1. Administrative Control versus Trust: Research/Scenario	3%

**Unit 9:** Performing Software Installation with Group Policy, Planning Group Policy

**Management and Implementation**

Upon completion of this unit, the students are expected to:

- Manage Software through Group Policy.
- Install Software with Group Policy.
- Manage Group Policy.
- Filter Group Policy Scope.
- Test and Troubleshoot GPO Results.
- Perform software installation with Group Policy.
- Determine information needed to develop an implementation scenario.
- Recommend an approach for installing software.

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640 Lesson 9 & 10	Assignment	Unit 9. Assignment 1. GPO Planning Scenario	2%
	Lab	Unit 9. Lab 1. Software Distribution and Controlling Group Policy	4%
	Exercise	Unit 9. Exercise 1. Research Software Deployment Options	3%

**Unit 10: Active Directory Maintenance, Troubleshooting and Disaster Recovery**

Upon completion of this unit, the students are expected to:

- Explain how to monitor and maintain Active Directory.
- Recommend a backup and restore strategy for Active Directory.
- Troubleshoot Active Directory.
- Recommend a maintenance schedule.
- Backup and restore Active Directory

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Windows Server 2008 Active Directory Configuration MOAC 70-640 Lesson 11	Assignment	Unit 10. Assignment 1. AD Disaster Recovery Planning Scenario	2%
	Lab	Unit 10. Lab 1. TBD	4%
	Exercise	Unit 10. Exercise 1. AD Troubleshooting Scenario: Troubleshooting Tools	3%

**Unit 11: Course Review and Final Examination**

READING ASSIGNMENT	GRADED ACTIVITIES / DELIVERABLES		
	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
Review of all assigned readings and labs	Final Exam	Unit 11. Final Examination	10%

† Candidate for the ePortfolio

## Evaluation and Grading

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### Evaluation Criteria

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

Category	Weight
Assignment	20%
Lab	40%
Exercise	30%
Exam	10%
<b>TOTAL</b>	<b>100%</b>

### Grade Conversion

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

Grade	Percentage	Credit
A	90–100%	4.0
B+	85–89%	3.5
B	80–84%	3.0
C+	75–79%	2.5
C	70–74%	2.0
D+	65–69%	1.5
D	60–64%	1.0
F	<60%	0.0

## Academic Integrity

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All students must comply with the policies that regulate all forms of academic dishonesty, or academic misconduct, including plagiarism, self-plagiarism, fabrication, deception, cheating, and sabotage. For more information on the academic honesty policies, refer to the Student Handbook and the Course Catalog.

*(End of Syllabus)*