

Administering Windows server 2012 (ITNW 1371)



Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: None

Course Description

Knowledge and skills necessary for the entry-level server administrator or information technology (IT) professional to implement, monitor, maintain and provision services and infrastructure in a Windows Server 2012 environment.

Required Textbook and Materials

1. *Exam 70-411, Administering Windows Server 2012, with Lab Manual Set*, Microsoft Official Academic Course, John Wiley & Sons, 2013.
 - a. ISBN number for print book is 978-1-118-66604-3
 - b. ISBN number for E-book is 978-1-118-62831-7
 - c. ISBN number for lab manual E-book: 978-1-118-62835-5
 - d. ISBN number for CourseSmart eBook: 978-1-118-62819-5 (text only)
2. Computer Networking and Troubleshooting Technology students are required to have one portable external Hard Drive with a capacity of 500GB or larger to be used for the duration of the time to complete their respective degree.

Course Objectives

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

1. Plan server deployment, server management, application and data provisioning, business continuity and high availability.
2. Monitor and maintain servers.

Course Outline

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| <p>A. Deploying and Managing Server Images</p> <ol style="list-style-type: none">1. Using Windows Deployment Services2. Installing the Windows Deployment Services Role3. Configuring the WDS Server4. Configuring and Managing Boot, Install, and Discover Images5. Updating Images with Patches, Hotfixes, and Drivers6. Installing Features for Offline Images | <ol style="list-style-type: none">7. Deploying Driver Packages with an Image <p>B. Implementing Patch Management</p> <ol style="list-style-type: none">1. Understanding Windows Updates and Automatic Updates2. Deploying Windows Server Update Services (WSUS)3. Understanding System Center Configuration Manager (SCCM) <p>C. Monitoring Servers</p> <ol style="list-style-type: none">1. Introducing the Microsoft Management Console (MMC) |
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Approved 1/2014

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2. Using Event Viewer
 3. Using Reliability Monitor
 4. Managing Performance
 5. Monitoring the Network
 6. Monitoring Virtual Machines (VMs)
- D. Configuring Distributed File System (DFS)
1. Using Distributed File System
 2. Installing and Configuring DFS Namespace
 3. Installing and Configuring DFS Replication
 4. Configuring Remote Differential Compression
 5. Configuring Fault Tolerance Using DFS
- E. Configuring File Server Resource Manager (FSRM)
1. Installing File Server Resource Manager
 2. Using Quotas
 3. Managing Files with File Screening
 4. Using Storage Reports
 5. Enabling SMTP
- F. Configuring File Services and Disk Encryption
1. Encrypting Files with EFS
 2. Managing EFS Certificates
 3. Encrypting Files with BitLocker
 4. Configuring the Network Unlock Feature
- G. Configuring Advanced Audit Policies
1. Implementing Auditing Using Group Policies
 2. Implementing Advanced Audit Policy Settings
 3. Implementing Auditing Using AuditPol.exe
 4. Viewing Audit Events
 5. Creating Expression-Based Audit Policies
6. Creating Removable Device Audit Policies
- H. Configuring DNS Zones
1. Understanding DNS
 2. Configuring and Managing DNS Zones
 3. Using the DNSCMD Command to Manage Zones
- I. Configuring DNS Records
1. Configuring DNS Record Types
 2. Using the DNSCMD Command to Manage Resource Records
 3. Troubleshooting DNS Problems
- J. Configuring VPN and Routing
1. Installing and Configuring the Remote Access Roll
 2. Configuring VPN settings
 3. Configuring Remote Dial-in Settings for Users
 4. Troubleshooting Remote Access Problems
 5. Implementing NAT
 6. Disabling Routing and Remote Access
 7. Configuring Routing
- K. Configuring Direct Access
1. Looking at DirectAccess Connection Process
 2. Understanding DirectAccess Requirements
 3. Running the DirectAccess Getting Started Wizard
 4. Running the DirectAccess Setup Wizard
 5. Preparing for DirectAccess Deployment
 6. Troubleshooting DirectAccess
- L. Configuring a Network Policy Server
1. Installing and Configuring Network Policy Server
 2. Configuring Multiple RADIUS Server Infrastructures
 3. Configuring RADIUS Clients
 4. Managing RADIUS Templates

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5. Configuring RADIUS Accounting
 6. Understanding NPS Authentication Methods
- M. Configuring NPS Policies
1. Configuring Connection Request Policies
 2. Configuring Network Policies
 3. Managing NPS Templates
- N. Configuring Network Access Protection (NAP)
1. Installing Network Access Protection
 2. Configuring NAP Enforcement
 3. Configuring System Health Validators
 4. Configuring Health Policies
 5. Configuring Isolation and Remediation
 6. Configuring NAP Client Settings
- O. Configuring Server Authentication
1. Configuring Server Authentication
 2. Managing Service Accounts
- P. Configuring Domain Controllers
1. Understanding Domain Controllers
 2. Installing and Configuring an RODC
 3. Cloning a Domain Controller
- Q. Maintaining Active Directory
1. Automating user Account Management
 2. Backing Up and Restoring Active Directory
 3. Managing Active Directory Offline
 4. Optimizing an Active Directory Database
 5. Cleaning Up Metadata
- R. Configuring Account Policies
1. Working with Account Policies
 2. Configuring Domain User Password Policies
3. Configuring Account Lockout Settings
 4. Configuring and Applying Password Setting Objects
 5. Configuring Local User Password Policy
 6. Delegating Password Settings Management
- S. Configuring Group Policy Processing
1. Configuring Processing Order and Precedence
 2. Using Filtering with Group Policies
 3. Configuring Security Filtering and WMI Filtering
 4. Configuring Loopback Processing
 5. Configuring Client-Side Extension Behavior
 6. Troubleshooting GPOs
- T. Configuring Group Policy Settings
1. Performing Software Installation Using Group Policies
 2. Using Folder Redirection
 3. Using Scripts with Group Policies
 4. Using Administrative Templates
 5. Using Security Templates
 6. Using Custom Administrative Template Files
 7. Converting Administrative Templates Using ADMX Migrator
 8. Configuring Property Filters for Administrative Templates
- U. Managing Group Policy Objects
1. Backing Up and Restoring GPOs
 2. Using a Migration Table
 3. Resetting the Default GPOs
 4. Delegating Group Policy Management
- V. Configuring Group Policy Preferences
1. Configuring Preference Settings

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2. Configuring Windows Settings
3. Configuring Control Panel Settings

Grade Scale

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

Course Evaluation

Final grades will be calculated according to the following criteria:

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| 1. Labs | 30% |
| 2. Study Guides | 10% |
| 3. Chapter Tests | 30% |
| 4. Final Exam | 30% |

Course Requirements

1. Demonstrate proficiency through hands-on labs as assigned.
2. Completion of Study Guides as assigned.

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. No late assignments will be accepted.
5. Certification. If a student passes the certification test that is associated with this class, you will receive an “A” on the final exam and credit for 25% of your labs. If you have missed a previous test, you must still take the final exam to substitute for that grade.
6. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.
7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an ‘F’ in the course.
8. Labs. Due dates will be announced by the instructor.
9. Tools. Return all tools and/or software to their designated place.

10. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
11. Additional class policies as defined by the individual course instructor.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

Week of	Topic	Reference
Week 1	Syllabus and policies Course Introduction Lesson 1: Deploying and Managing Server Images	pp. 1-41 Lab
Week 2	Lesson 2: Implementing Patch Management Lesson 3: Monitoring Servers	pp. 42-84 & Lab pp. 85-132 & Lab
Week 3	Lesson 4: Configuring Distributed File System (DFS)	pp. 133-164 Lab
Week 4	Lesson 5: Configuring File Server Resource Manager (FRSM) Lesson 6: Configuring File Services and Disk Encryption	pp. 165-187 Lab pp. 188-217 Lab
Week 5	Lesson 7: Configuring Advanced Audit Policies	pp. 218-254 Lab
Week 6	Lesson 8: Configuring DNS Zones Lesson 9: Configuring DNS Records	pp. 255-285 & Lab pp. 286-308 & Lab
Week 7	Lesson 10: Configuring VPN and Routing	pp. 309-347 Lab
Week 8	Lesson 11: Configuring DirectAccess	pp. 348-382 Lab
Week 9	Lesson 12: Configuring a Network Policy Server	pp. 383-414 Lab
Week 10	Lesson 13: Configuring NPS Policies Lesson 14: Configuring Network Access Protection (NAP)	pp. 415-439 & Lab pp. 440-476 & Lab
Week 11	Lesson 15: Configuring Server Authentication	pp. 476-493 Lab
Week 12	Lesson 16: Configuring Domain Controllers	pp. 494-521 & Lab

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Week of	Topic	Reference
Week 13	Lesson 17: Maintaining Active Directory Lesson 18: Configuring Account Policies	pp. 522-554 & Lab pp. 555-571 & Lab
Week 14	Lesson 19: Configuring Group Policy Processing	pp. 572-600 Lab
Week 15	Lesson 20: Configuring Group Policy Settings Lesson 21: Managing Group Policy Objects	pp. 601-630 & Lab pp. 631-645 & Lab
Week 16	Lesson 22: Configuring Group Policy Preferences	pp. 646-669 Lab

Contact Information:

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Additional Course Policies

- Lab Grading. You must answer all questions in the assigned labs, as well as any review questions at the end of the lab. Labs are submitted through Blackboard and must be turned in on or before the due date. 5 points will be deducted for each question in the lab that is not answered and 7 points will be deducted for each review question that is not answered. If none of the questions are answered then the lab will receive a '0'. Labs that are not turned in will receive a '0'. Do not do the lab challenges or the troubleshooting labs.