

DEREE COLLEGE SYLLABUS FOR:

ITC 3219 NETWORK ADMINISTRATION – LEVEL 5

(Updated Fall 2013)

US CREDITS: 3/3/3

UK CREDITS: 15

PREREQUISITES:

CS 1070 Introduction to Information Systems

CS 3175 Communications and Networking Essentials

**CATALOG
DESCRIPTION:**

Installation and administration concepts. Configuring and troubleshooting devices and access to resources. Management, monitoring, and optimization of system performance, reliability, and availability. Design issues and support in a corporate environment. Troubleshooting and end user support.

RATIONALE:

The module provides students with the knowledge and the skills necessary to install, configure and administer a network on server machines that are part of a domain. The module approaches network administration on both operating system and hardware levels, and provides the foundations for the related Cisco certification.

LEARNING OUTCOMES:

As a result of taking this course, the student should be able to:

1. Install or upgrade a network operating system and gain practical experience in installing the Windows Server 200x operating System
2. Analyze and implement a security policy through: accounts, general network policy, file attributes, disk quotas and the distributed file system.
3. Manage and implement disaster recovery.
4. Implement Web servers, terminal services
5. Implement, administer and monitor a Windows-based LAN including configuring hardware devices
6. Evaluate troubleshooting alternatives.

**METHOD OF TEACHING
AND LEARNING:**

In congruence with the learning and teaching strategy of the College, the following tools/activities are used:

- Lectures, lab sessions, class discussions, problem-solving sessions, and review of real-world cases
- Office hours held by the instructor to provide further assistance to students.
- Use of the Blackboard Learning platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, and online submission of assignments.

ASSESSMENT:

Summative:

Project (evaluation of a network, or design and set-up of a network solution)	50
Final Examination (2 hour comprehensive) short answers to essay questions including problem solving	50

Formative:

In class case problems / exercises	0
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The formative assessments aim to shape teaching along the semester and prepare students for the summative assessments.

The project assesses learning outcomes 1-7 from a practical perspective

The final examination assesses learning outcomes 1-7 from a theoretical perspective

(Assignment instructions and assessment rubrics are distributed on the first day of class with the Course Outline.)

INDICATIVE READING:

REQUIRED READING:

Mastering Microsoft Windows Server 2008 R2 Minasi M., Gibson D., Finn A., Henry W., Hynes B., First Edition, Sybex (2010), ISBN: 978-0470532867

RECOMMENDED READING:

- Mark Minasi, Christa Anderson, Michele Beverridge, C.A. Callahan, Lisa Justice, Mastering Windows Server 2003, April 7, 2003, SYBEX, ISBN: 0782141307.
- Microsoft TechNet Knowledge Base – CD-ROM latest version

COMMUNICATION REQUIREMENTS:

Daily access to the course's site on the College's Blackboard CMS.
Use of word processing and/or presentation graphics software for documentation of assignments.

SOFTWARE REQUIREMENTS:

Microsoft Windows Server 200x, latest
Microsoft TechNet CD ROM, latest release
A Linux Server distribution

WWW RESOURCES:

Microsoft Certification Program
<http://www.microsoft.com/learning/en/us/certification/mcsa.aspx>

Cisco training and events
<http://www.cisco.com/web/learning/index.html>

Network Security Certification

http://www.eccouncil.org/certification/ec-council_network_security_administrator.aspx

Windows Server 2008

<http://www.microsoft.com/windowsserver2008/en/us/default.aspx>

Network Administration and security tutorials

<http://www.omnisecu.com/>

Windows Server Administration <http://www.msserveradmin.com/>

Windows Server Administration Assistance:

<http://www.aspdeveloper.net/tiki-index.php?page=WindowsAdmin>

Linux Network Administrators Guide

<http://tldp.org/LDP/nag2/nag2.pdf>

Network Security Journal <http://www.networksecurityjournal.com/>

INDICATIVE CONTENT:

1. Overview of Networking
2. Installing or Upgrading a Network Operating System
 - a. Preparing for installation
 - b. Installing from different installation mediums
 - c. Upgrade process
 - d. Identifying setup errors
3. Managing Hardware Devices
 - a. Understanding device drivers and PnP.
 - b. Adding new devices.
 - c. Hardware resource settings and driver signing
 - d. Hardware profiles
4. Creating and Managing Accounts
 - a. User authentication.
 - b. User profiles.
 - c. Creating, managing and troubleshooting user accounts.
5. Implementing Group and Computer Accounts
 - a. Creating group objects.
 - b. Group types and scopes.
 - c. Build-in groups
 - d. Creating and managing computer accounts.
6. Managing File Access
 - a. Introduction to file systems.
 - b. Creating and managing shared folders.
 - c. Managing shared folder permissions.
 - d. NTFS permissions
7. Managing Disks and Data Storage
 - a. Disk management concepts.
 - b. Managing partitions and volumes.

- c. Fault tolerant disk strategies.
 - d. Monitoring disk health.
 - e. Disk utilities.
- 8. Advanced File System Management
 - a. File and folder attributes.
 - b. Advanced attributes.
 - c. Disk quotas
 - d. The distributed file system.
- 9. Implementing and Managing Printers
 - a. Installing and sharing printers
 - b. Configuring and managing printer resources
- 10. Using Group Policy
 - a. Creating and editing group policy objects.
 - b. Group policy inheritance.
- 11. Server Administration
 - a. Procedures and standards.
 - b. Terminal services and remote administration.
 - c. Delegating administrative authority.
 - d. Software update services.
- 12. Monitoring Server Performance and Disaster Recovery
 - a. Task manager, event viewer and performance console.
 - b. Planning disaster recovery.
 - c. Backing up data.
 - d. Automated system recovery