Wayne County Community College District

COURSE SYLLABUS

CT 215 Computer Networking III

CREDIT HOURS: 3.00

CONTACT HOURS: 60.00

COURSE DESCRIPTION:
This course covers implementing, managing, and maintaining a Microsoft Windows Server 2003 Network Infrastructure. Topics include networking overview, IP addressing, implementing and managing DHCP,DNS, WINS, configuring name resolution, remote access, routing and security templates and network traffic.

PREREQUISITES: CT 211

EXPECTED COMPETENCIES:
Upon successful completion of this course, the student will:
1. Plan what network model to apply to your network
2. Compare the differences between Windows 2003 Professional, Server, Advanced Server, and Data center
3. Explain Windows 2003 capabilities as a server operating system.
4. Explain the new features in Windows 2003.
5. Describe the file systems that are compatible with Windows 2003 and choose the file system that is right for your server.
6. Explain the hardware requirements for Windows 2003 Server
7. Explain the importance of using Microsoft's hardware compatibility list.
8. Determine specifications for your server in terms of the right processor type, bus type, and advanced bus features.
9. Select the right network interface card (NIC) for your server.
10. Calculate the amount of memory needed for your server
11. Plan disk capacity, disk architecture, and fault tolerance.
12. Plan a backup system and CD-ROM specifications.
13. Explain basic network concepts, including network terms, types of networks, and network interface cards.
14. Explain the NIDIS and ODI network driver specifications.
15. Explain the communications protocols used in Windows 2003 Server, including TCP/IP, NWLink, NetBEUI, DLC, and AppleTalk.
16. Plan network binding order, change the binding order, and bind and unbind protocols
17. Plan how to implement protocols on different types of networks
18. Explain the contents of the Active Directory
19. Plan how to set up Active Directory elements such as organizational units, domains, trees, forests, and sites.
20. Plan which Windows 2003 security features to use in an organization, including interactive logon, object security and services security
21. Plan how to use groups, group policies, and security templates
22. Plan IP security measures
23. Make installation, hardware, and site-specific preparations to install Windows 2003 Server.
24. Install Windows 2003 Server using different methods, including from a CD-ROM, from the installation disks, over a network, unattended and from another operating system.

25. Go through a Windows 2003 server, installation step by step, and test the installation.
26. Upgrade a Windows NT server and domain
27. Create an emergency repair disk
28. Install a service pack
29. Troubleshoot installation problems and uninstall Windows 2003 Server.
30. Explain how to use the tools in the Control Panel
31. Install and configure the display, pointing devices, keyboard, computer hardware, recovery options, protocols, and additional Windows 2003 Server components
32. Use the Device Manager to view hardware properties and troubleshoot problems
33. Explain basic and dynamic disks
34. Partition, format, and manage basic disks and convert them to dynamic disks
35. Create and manage simple, spanned, striped, RAID-5, and mirrored dynamic disks.
36. Mount a drive
37. Manage removable storage and set up media pools.
38. Perform disk backups
39. Tune server performance
40. Configure Windows 2003 Server for an uninterruptible power supply (UPS)
41. Establish account naming conventions
42. Configure account security policies
43. Create and manage accounts, including setting up a new account, configuring account properties, delegating account management, and renaming, disabling, and deleting an account.
44. Create local user profiles, roaming profiles, and mandatory profiles.
45. Configure client network operating systems to access Windows 2003 Server, and install client operating systems through Remote Installation Services.
46. Set up groups, including local, domain local, global, and universal groups, and covert Windows NT groups to Windows 2003 groups.
47. Manage objects, such as folders, through user rights, attributes permissions, share permissions, auditing, and web permissions.
48. Troubleshoot a security conflict
49. Determine how crating, moving and copying folders and files affect security.
50. Design, configure, and manage the Distributed File System (Dfs) on a network
51. Publish a shared folder and a Distributed File System shared folder in the Active Directory
52. Enable and configure disk quotas
53. Install and manage application software
54. Edit and configure the Windows 2003 Server Registry
55. Set up and use the Microsoft License Manager
56. Explain and apply the fundamentals of Windows 2003 Server printing
57. Install local, network, and Internet printing services in Windows 2003 Server
58. Configure printing services for all types of needs
59. Manage printers and print services
60. Solve common printing problems.
61. Explain how remote access and virtual private network (VPN) services work.
62. Explain how to implement remote access communications devices and protocols.
63. Configure remote access services, security, dial-up connectivity, and client access.
64. Configure VPN services, security, dial-up connectivity and client access
65. Troubleshoot remote access, VPN services, and client connectivity.
66. Install and configure a Web server and a Media Services server
67. Install and configure DNS and WINS servers
68. Install and configure a DHCP server.
69. Install and configure a terminal server.
70. Configure a Telnet server
71. Install and configure a NetWare gateway

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72. Establish monitoring benchmarks
73. Monitor server services, logged-on users, and server function
74. Use Task Manager to monitor processes and performance data
75. Use the System Monitor to monitor page file, memory processor, disk and other critical server performance functions and to tune these functions as needed.
76. Set up performance logs and alerts for monitoring
77. Identify key system elements to monitor for problems.
78. Establish network benchmarks
79. Install Network Monitor Driver
80. Install, configure, and use Network Monitor, including setting up filters and triggers.
81. Install and configure the SNMP service.
82. Use System Monitor to monitor a network
83. Troubleshoot and tune a network
84. Develop your own problem-solving strategy.

ASSESSMENT METHODS:
Student performance may be assessed by examination, quizzes, case studies, oral reports, group discussion, written reports or presentations and/or in-house or field projects. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:
90%-100% = A
80%-89.9%= B
70%-79.9%= C
60%-69.9%= D
<60% = E