

## AAS Degree in Networking System Administration / 3208

Program Prerequisites:	Credits
CIS 105 - Survey of Computer Information Systems (3) and CRE 101 - Critical and Evaluative Reading I (3)	
<b>I. General Studies Core Areas (12 - 14 Credits)</b>	
English	
ENG 101 - First Year Composition	3
ENG 102 - First Year Composition	3
Communication	
COM 100 - Introduction to Human Communication (3) or COM 225 - Public Speaking (3) or COM 230 - Small Group Communication (3)	3
Mathematics	
MAT 150 - College Algebra (5) or MAT 151 - College Algebra (4) or MAT 152 - College Algebra (3)	3-5
<b>II. General Studies Distribution Area (10 Credits)</b>	
Humanities and Fine Arts	
PHI 214 Business Ethics or any approved General Studies courses in the Humanities and Fine Arts Area	3
Social Behavioral Science	
ECN 111 - Macroeconomic Principles (3) or ECN 112 - Microeconomic Principles (3)	3
Natural Science	
PHY 101 - Introduction to Physics	4
<b>III. Core Courses (29-31 credits)</b>	
BPC 170 - Microcomputer Maintenance I : A+Prep (3) or BPC 270 - Microcomputer Maintenance II	3
CIS 109AM - Networking Technology I (Windows XP)	2
CIS 126 - Unix Operating Systems (note: any module)	3
CIS 163AA - Java Programming: Level I (3) or CIS 162- C Programming I (note: any module)	3
CIS 191++ - System Administration, (note: any module) (3) or CIS 175DB- Implementing Microsoft Windows 2000 Professional (3) or MST 150++- Microsoft Windows 2000 Professional (note: any module)	3
CIS 240 - Local Area Network (LAN) Planning and Design	3
CIS 266 - Network Service and Support	4
CIS 270 - Essentials of Network and Information Security	3
CNT 140 - Cisco Networking Basics (4) or CIS 190 - Introduction to Local Area Networks (3)	3-4
ELE 100 - Concepts of electricity and Electronics	3
<b>Restrictive Electives (select 12 credits)</b>	
CIS 175CB - Designing a Microsoft Win 2000 Directory Services Infrastructure	2
CIS 175CC - Designing a Microsoft Win 2000 Networking Services Infrastructure	2
CIS 175CE - Supporting a Microsoft Win 2000 Network Infrastructure	3
CIS 175CF - Implementing & Administering Microsoft Win 2000 Dir Services	3
CIS 175CG - Designing a Secure Microsoft Win 2000 Network	3
CIS 238 - Advanced Unix Systems Administration	3
CIS 245AD - Advanced System Administration	3
MST 150++ Microsoft Windows Professional (note: any module)	3
MST 152++ Microsoft Server (note: any module)	4
MST153WC - Windows 2003 Server Administration Level II	3
MST155 - Implementing Windows Network Infrastructure	3
MST157 - Implementing Windows Directory Services	3
MST240 - Microsoft Transmission Control Protocol/Internet Protocol (TCM/IP)	3
MST253 - Designing Microsoft Windows 2000 Directory Services Infrastructure	3

## AAS Degree in Networking System Administration continued...

CNT150 - Cisco Networking Router Technologies	4
CNT160 -Cisco Switching Basics and Intermediate Routing	3
CNT170 - Cisco Wide Area Networks (WAN) Technologies	3
CNT200 - Cisco Networking Advanced Routing	4
CNT210 - Cisco Networking Remote-Access Networks	4
CNT220 - Cisco Networking Multi-Layer Switching	4
CNT230 - Cisco Network Troubleshooting	4
CNT145 - Voice and Data Cabling	4
CNT185 - Cisco Network Security	4
CNT186 - Fundamentals of Wireless LANs	4
CSC/EEE120 - Digital Design Fundamentals	4
ELT131 - Digital and Logic Circuits	4



For information on how you can earn a Bachelor of Applied Science degree at ASU after completing your AAS Degree at MCC call 480-727-1202 or go to <http://www.east.asu.edu/eastweb/bas>

## MCSE Microsoft Windows 2000 Certificate Requirements:

Candidates are required to pass seven exams: 5 Core Exams and 2 Elective Exams. These exams provide a reliable measure of technical proficiency.

Core Course: Exam Number

### Core Courses and their exams (5 Exams Required):

#### Core Exams: Client Operating System (1 Exam Required)

CIS175DB Implementing Microsoft Windows 2000 Professional #70-210  
Test: 'Installing, Configuring, & Administering Microsoft Windows 2000 Professional'

#### Core Exams: Networking System (3 Exams Required)

MST152 Microsoft Windows 2000 Server #70-215  
Test: 'Installing, Configuring, & Administering Microsoft Windows 2000 Server'

CIS175CE Supporting a Microsoft Windows 2000 Infrastructure #70-216  
Test: 'Implementing & Administering a Microsoft Windows 2000 Network Infrastructure'

CIS175CF Implementing & Administering Microsoft Win2000 Directory Services #70-217  
Test: 'Implementing & Administering a Windows 2000 Directory Services Infrastructure'

#### Core Exams: Design (1 Exam Required)

MST253 Designing a Microsoft Windows 2000 Directory Services Infrastructure #70-219  
Test: 'Designing a Microsoft Windows 2000 Directory Services Infrastructure'

CIS175CG Designing a Secure Microsoft Windows 2000 Network #70-220  
Test: 'Designing Security for a Windows 2000 Network'

CIS175CC Designing a Microsoft Windows 2000 Network Infrastructure #70-221  
Test: 'Designing a Microsoft Windows 2000 Network Infrastructure'

#### Elective Courses and their exams (2 Exams Required)

Microsoft SQL Server Design and Implementation #70-229  
Test: 'Installing, Configuring, and Administering SQL Server 2000 Enterprise Edition'

MST244 Microsoft SQL Server Administration/ SQL Server Level I #70-228  
Test: 'Designing & Implementing Databases with SQL Server 2000 Enterprise Edition'



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# MICROSOFT IT ACADEMY

**Microsoft®**  
IT Academy Program

- MCC Certificate of Completion in Network Administration: Microsoft Windows
- Microsoft Certification Exam Preparation
- AAS Networking System Administration Degree Requirements



**Business & Industry Institute**

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MCC Certificate of Completion in Network Administration: Microsoft Windows (5124):		
<b>Program Prerequisites:</b>		<i>Credits</i>
CIS 105 - Survey of Computer Information Systems		3
CRE 101 - Critical and Evaluative Reading I		3
<b>Required Courses (28-31 Credits):</b>		
BPC170      Microcomputer Maintenance I: A + Prep (3)		
or BPC270      Microcomputer Maintenance II (3)		3
CIS109AM      Networking Technology I		2
CIS126++      Unix Operating Systems (note: any module)		1-3
CIS175CE      Supporting a Microsoft Windows 2000 Network Infrastructure (3)		
or MST155      Implementing Windows Network Infrastructure (3)		3
CIS175CF      Implementing & Administering Microsoft Windows 2000 Directory (3)		
or MST157      Implementing Windows Network Infrastructure (3)		
or CIS175CB      Designing a Microsoft Windows 2000 Directory Services Infrastructure (2)		
or MST253      Designing a Microsoft Windows 2000 Directory Services Infrastructure (3)		2-3
CIS175DB      Implementing Microsoft Windows 2000 Professional (3)		
or MST150      Microsoft Windows Professional (3)		3
CIS190      Introduction to Local Area Networks. Network Essentials Plus (3)		
or CNT140      Cisco Networking Basics (4)		3-4
CIS266      Network Service and Support		4
CIS270      Essentials of Network Information and Security		3
MST152++      Microsoft Windows Server (3-4)		
or MST153WC      Windows 2003 Server Administration: Level II (3)		3-4

## Industry Certifications

**CompTia A+**  
BPC170      Microcomputer Maintenance I

**Network +**  
CIS190      Introduction to Local Area Networks  
Network Essentials Plus

## INTRO Microsoft Course Pathways and Descriptions:

Vendor certification exams are structured to be extremely difficult to rigorously test for proficiency. Greater overall computer knowledge will enhance a student's ability to pass these vendor exams. The following course pathways provide students with broader computer knowledge:

Step 1	<b>BPC170      Microcomputer Maintenance I: A + Prep</b>	<b>3 Credits</b>
	Technical aspects of the microcomputer, including system setup (hardware and software) and basic troubleshooting. Emphasizes troubleshooting, use of tools, hardware components and hardware and software interfaces, and operating systems. Students use Cisco certified course IT Essentials I. Course content prepares students for Computer Technology Industry Association (CompTIA) A+ certification exam. PR: None.	
	<b>BPC270      Microcomputer Maintenance II</b>	<b>3 Credits</b>
	Intensive introduction to network and desktop operating systems, Linux, Windows 200, NT and XP. Includes introductory concepts in multi-user, multi-tasking capabilities of the operating systems, installation of operating systems, understanding security issues, backup procedures, remote access, and trouble shooting. Students use Cisco certified curriculum IT Essentials II. PR: BPC170 or completion Cisco Certified course IT Essentials I, and CIS105.	
	<b>BPC273      Advanced Server Computer Maintenance: Server+ Prep</b> <i>(substitute for BPC270)</i>	<b>3 Credits</b>
	Focuses on complex technical aspects of the microcomputer server, including server operating installation, configuration, and trouble-shooting. Preparation for the CompTIA Server+ and Linux+ examinations. PR: CIS105 or department approval.	

Step 1	<b>CIS109AM      Networking Technology I (Windows XP)</b>	<b>2 Credits</b>
	Computer workstation basics. Network services, transmission media, and connectivity devices covered. Open Systems Interconnection (OSI) Reference Model emphasized. PR: None.	
	<b>CIS190      Introduction to Local Area Networks</b>	<b>3 Credits</b>
	<b>Network Essentials Plus</b>	
	Overview of local area networks. Emphasizes the elements of a local area network, current issues and products, and use of a local area network. Includes terminology, hardware and software components, connectivity, resource monitoring and sharing, electronic mail and messaging, and security issues. PR: CIS105, or department approval. Can be taken concurrently with BPC170/273 and/or CIS109AM.	
	<b>CNT140      Cisco Networking Basics</b>	<b>3 Credits</b>
	Introduction to the computer networking field. Covers network terminology and protocols, local area networks (LAN), and wide area networks (WAN). Includes Open Systems Interconnection (OSI) models, cabling and cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. First of four courses preparing for CCNA certification or first of two courses preparing for Cisco CCNA INTRO test. Prerequisites: None.	
	<b>CIS126AA      UNIX Operating System Level I</b>	<b>1 Credit</b>
	Use of the UNIX operating system: system components, built-in commands, files and directories, editors and UNIX Shell and command lines. No open labs for this class. This is on-line distance learning. You must have Internet access and meet CBT (Computer- Based-Training) system requirements. PR: CIS105. CBT courses are closed to registration. To register call 480-461-6100.	
	<b>CIS126AL      Linux Operating System I</b>	<b>1 Credit</b>
	Introduction to the Linux Operating system. Develop knowledge and skills required to install and configure a Linux-based workstation, including basic network functions. PR: None.	
	<b>CIS126BL      Linux Operating System II</b>	<b>1 Credit</b>
	Introduction to the Linux Operating system. Develop knowledge and skills required to configure a Linux-based workstation including basic printing functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. Prerequisites: CIS126AL or department approval.	
	<b>CIS126CL      Linux Operating System III</b>	<b>1 Credit</b>
	Introduction to the Linux Operating system. Develop knowledge and skills required to install and configure applications and to troubleshoot a Linux-based workstation, including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. PR: CIS126BL or department approval.	
Step 2	<b>CIS126DA      UNIX Operating Systems Sun Sponsored</b>	<b>3 Credits</b>
	Introduction to the UNIX operating system for end users and is complementary to Cisco networking courses, such as routing and switching. Broadens the skills of Cisco academy students to include a major network operating system. Provides a strong foundation for those who wish to move on to more advanced courses in Unix system administration. Familiarizes students with the powerful UNIX command line utilities and the graphical Common Desktop Environment (CDE). PR: CIS105.	
	<b>CIS126DL      Linux Operating System</b>	<b>3 Credits</b>
	Introduction to the Linux Operating system. Develop knowledge and skills required to install, configure and troubleshoot a Linux-based workstation, including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. Fundamentals covered to achieve the entry-level industry certification. PR: CIS105 recommended.	
	<b>CIS175DB      Implementing Microsoft Windows 2000 Professional</b> <i>(substitute for MST150)</i>	<b>3 Credits</b>
	Installation, configuration and administration of Microsoft Windows 2000 Professional in a workgroup and domain environment, with emphasis on peer-to-peer networking. Covers user and group accounts, disk management, resource sharing and management, resource monitoring, printers, mobile computing, security and disaster protection are also covered. Covers content of Microsoft exam 70-210. PR: BPC170, CIS190 or CNT140 and/or department approval. CIS109AM recommended.	
	<b>MST150      Microsoft Windows Professional</b>	<b>3 Credits</b>
	Knowledge and skills necessary to perform day-to-day administration tasks in a Microsoft Windows-based network. Preparation for Microsoft certification examination. Prerequisites: None. CIS190, or CNT140, or MST140 suggested but not required.	rev. 08.04.04

Step 3	<b>CIS270      Essentials of Network Information and Security</b>	<b>3 Credits</b>
	Addresses threats to security of information systems; responsibilities and basic tools for information security, including communication security, infrastructure security, organizational security and basic cryptography. Introduction to the language of network security and hardware, software and firmware components of an information security system for local, metropolitan, enterprise, and wide area networks. Helps prepare students for the CompTIA Security+ exam and the GIAC Security Essentials Certificate (GSEC). PR: CNT150, or CIS175DB or MST150 any module, or department approval.	
	<b>MST152      Microsoft Windows 2000 Server (Formerly CIS192)</b>	<b>4 Credits</b>
	Installation, configuration and administration of Microsoft Windows 2000 Server in an Active Directory domain environment. The course also emphasizes installation, configuration and administration of network services, including: TCP/IP and other network protocols, Dynamic TCP/IP Configuration Services (DHCP), Name Resolution (DNS and WINS), Routing and Remote Access Services (RRAS), Printer Administration, Terminal Services, Web, Telnet and FTP Services. Covers material for Microsoft exam 70-215. PR: CIS175DB and all other prerequisites associated with this class and/or department approval.	
	<b>MST153WC      Windows 2003 Server Administration: Level II</b>	<b>3 Credits</b>
	Knowledge and skills necessary to administer, monitor, and maintain a Windows 2003 Server and network. Preparation for Microsoft certification examination. Prerequisites or Co requisites: Any MST152 course or department approval.	
Step 4	<b>CIS175CE      Supporting a Microsoft Windows 2000 Network Infrastructure</b>	<b>3 Credits</b>
	Implementation of a peer-to-peer and client-server network using Microsoft Windows 2000 Server and Professional and related networking services in a routed and non-routed environment. Uses extensive hands-on exercises and discussion. Components of the network include: TCP/IP, IPSec, DHCP, DNS, WINS, static and dynamic routing, remote access, virtual private networking, interoperability with Novell and Unix/Linux, private IP addressing with NAT, certificate services and security. Covers content of Microsoft 70-216 exam. PR: MST152 and all other prerequisites associated with this class and/or department approval.	
	<b>MST155      Implementing Windows Network Infrastructure</b>	<b>3 Credits</b>
	Knowledge and skills to install, configure, maintain, and support a Microsoft Windows network infrastructure. Preparation for Microsoft certification examination. Corequisites: Any MST152 course or department approval.	
	<b>CIS266      Network Service and Support</b>	<b>4 Credits</b>
	Prevention, diagnosis, and resolution of hardware-related problems network professionals encounter. Serves as a capstone course to link service and support skills in multi-platform environments. The course focuses on hardware issues in relationship to NetWare, Microsoft, and Linux. PR: Students must have completed these courses to succeed: BPC170 and CIS191 (any module) or CIS175DB, and CIS245 or MST152, or any UNIX/Linux course.	
Step 5	<b>CIS175CF      Implementing and Administering Microsoft Win 2000 Directory Services</b>	<b>3 Credits</b>
	Planning, implementing and managing Windows 2000 Active Directory (AD) in a client-server environment. Topics include: Dynamic DNS and integration with Active Directory and DHCP; Active Directory Administration and Replication; administering users, groups and shared resources; using group policies to manage users, computers, and client-side applications; auditing and security; and Remote Installation Server. Covers content of Microsoft 70-217 exam. PR: CIS175CE and all prerequisites associated with this course and/or department approval.	
	<b>CIS175CB      Designing a Microsoft Windows 2000 Directory Services Infrastructure 2 Credits</b>	
	Information and skills necessary to design a Microsoft Windows 2000 directory services infrastructure in an enterprise environment. Includes key decision points for naming, delegation of authority, domain design and site topology design. Prerequisites: Department approval. Cross-References: CCT220	
	<b>MST157      Implementing Windows Directory Services</b>	<b>3 Credits</b>
	Knowledge and skills to install, configure, and administer Microsoft Windows Active Directory directory services. Preparation for Microsoft certification examination. Prerequisites: Any MST152 course or department approval.	
	<b>MST253      Designing a Microsoft Windows 2000 Directory Services Infrastructure</b>	<b>3 Credits</b>
	Develop a strategy for migrating from Windows NT to Windows 2000 and design the active directory structure (domains, forests, trees, and organizational units) for the Windows 2000 network. Through classroom discussion and "mini-design" projects, students assess different migration strategies and evaluate design alternatives. Covers material for Microsoft 70-219 and 70-222 exams. PR: CIS175CF and all other prerequisites associated with this class and/or department approval.	