



ASSOCIATE IN APPLIED SCIENCE

INFORMATION TECHNOLOGY NETWORK ADMINISTRATION OPTION MICROSOFT MCSA TRACK

Program Description

Thank you for your interest in the Associate of Applied Science Information Technology Network Administration Option – Microsoft MCSA Track. The Information Technology Program offers an Associate in Applied Science degree and certificates in Information Technology Fundamentals, Computer Programming, Database Administration, Electronic Commerce, GIS Essentials, Information Security, Computer Support Specialist, Network Administration, and Web Development. This curriculum is supported by a solid foundation of core courses that focus on problem-solving and communication skills for Information Technology professionals involved in computer network environments. The program provides opportunities for practitioners in a variety of career fields to obtain knowledge and skills that enable them to adapt technology use to specific needs in their field of study. Students entering this program will need to have basic computer skills such as would be obtained through CIS 100 (Introduction to Computers) or equivalent.

List of Colleges

[Ashland Community and Technical College](#), [Big Sandy Community and Technical College](#), [Bluegrass Community and Technical College](#), [Bowling Green Technical College](#), [Elizabethtown Community and Technical College](#), [Gateway Community and Technical College](#), [Hazard Community and Technical College](#), [Henderson Community College](#), [Hopkinsville Community College](#), [Jefferson Community and Technical College](#), [Madisonville Community College](#), [Maysville Community and Technical College](#), [Owensboro Community and Technical College](#), [Somerset Community College](#), [Southeast Kentucky Community and Technical College](#), [West Kentucky Community and Technical College](#) offer this degree.

One of these colleges must be designated as your Home College. Even though the classes will be delivered by different KCTCS colleges, only the Home College will admit you and take care of all of your student service needs including advising, library services, billing, financial aid, etc.

Getting Started

Students may register for KCTCS online classes offered system wide directly at any KCTCS college. Individuals may also complete a “course inquiry” submit form through www.kyvc.org. KYVC course inquiries are submitted directly to the KCTCS Home College identified by the student. The student’s chosen Home College processes the course inquiry either through formal admission procedures or class enrollment. Additional information about KCTCS admission requirements and college contacts may be accessed at www.kctcs.edu/distancelearning.

Competencies: Information Technology General Education

Upon completion of an associate degree program the graduate can:

I. Communicate Effectively

1. Read and listen with comprehension.
2. Speak and write clearly using Standard English.
3. Interact cooperatively with others using both verbal and non-verbal means.
4. Demonstrate information processing through basic computer skills.

II. Think Critically

1. Make connections in learning across the disciplines and draw logical conclusions.
2. Demonstrate problem solving through interpreting, analyzing, summarizing, and/or integrating a variety of materials.
3. Use mathematics to organize, analyze, and synthesize data.

III. Learn Independently

1. Use appropriate search strategies and resources to find, evaluate, and use information.
2. Make choices based upon awareness of ethics and differing perspectives/ideas.
3. Apply learning in academic, personal, and public situations.
4. Think creatively to develop new ideas, processes, or products.

IV. Examine Relationships in Diverse and Complex Environments.

1. Recognize the relationship of the individual to human heritage and culture.
2. Analyze the relationship of the individual to the biological and physical environment.
3. Develop an awareness of self as an individual member of a multicultural global community.

Information Technology Technical Core:

Upon completion of the Technical Core/Certificate, the graduate can:

1. Install, configure, upgrade and maintain operating systems, device drivers and applications.
2. Assemble, upgrade, troubleshoot, and maintain the personal computer.
3. Demonstrate proficiency using fundamental software such as word-processing, spreadsheet, database and presentation packages.
4. Develop a program from a set of specifications, using modern programming logic techniques such as structured, modular and object-oriented programming.
5. Analyze, design, implement and document simple computer programs or scripts.
6. Develop a relational database: define requirements as entities, attributes and relationships and develop an entity-relationship(ER) diagram that accurately reflects business applications.
6. Map the ER diagram to an initial database design.
7. Design and create database structures to store, retrieve, update and display data using a relational database management system.
8. Demonstrate an understanding of communications protocols for networked devices.
9. Select appropriate network configurations, hardware, and software based on end-user requirements.
10. Use an HTML editor and basic HTML tags to create a functional website.

Network Administration option/certificate:

Upon completion of this option/certificate, the graduate can:

1. Set up and manage user accounts including e-mail and Internet capability.
2. Install and maintain vendor-specific network components including servers, workstations, printers and communication infrastructure.
3. Analyze business information needs and design vendor-specific network solutions to enhance productivity and competitiveness.
4. Explain how the OSI (Open Systems Interconnection) model relates to development and troubleshooting of network communications.
5. Implement TCP/IP (Transmission Control Protocol/Internet Protocol) addressing and sub-netting schemes.
6. Design communications solutions in an enterprise environment.
7. Implement a disaster recovery protection plan.

General Education Core:	
ENG 101 Writing I	3
ENG 102 Writing II	3
MT 150 College Algebra	3
Science Course with Lab	4
Oral Communications Course	3
Social Interaction Course	3
Heritage/Humanities Course	3
Subtotal	22

Technical Core:	
CIS 120 Program Design and Development	3
CIS 130 Microcomputer Applications OR	3
ET 107 Computer Applications for Technicians	(4)
IT 105 Computer Maintenance Essentials AND	3
IT 205 Advanced Computer Maintenance OR	3
ET 232 Computer Software Maintenance AND	(3)
ET 234 Computer Hardware Maintenance OR	(3)
CIS 110 Operating Systems Concepts AND	(3)
ET 234 Computer Hardware Maintenance	(3)
NIS 160 Networking Core Technologies * OR	3
IT 120 Cisco Internetworking I **	(4)
IT 170 Introduction to Database Design	3
IT 132 Web Page Development OR	3
IT 130 Web Site Design and Production	(4)
Beginning Level Programming Language	3
* recommended for Microsoft Networking Tracks	
** recommended for Cisco Networking Tracks	
Subtotal	24-27

Beginning Level Programming Language Courses:	
CIS 143 COBOL Programming 3	3
IT 147 SQL Programming 3	3
CIS 148 Visual BASIC I 3	3
CIS 149 Java Programming I	3
CIS 155 C/C++ Programming I	3
CS 115 Introduction to Computer Programming	3
NIS 150 Perl Programming I*	3
NIS 152 Introduction to JavaScript*	3
* Suggested for Electronic Commerce option	

Intermediate Level Programming Language Courses:	
CIS 232 Programming for Windows Environment	3
CIS 243 COBOL Applications	3
CIS 252 C/C++ Programming II	3
CIS 262 C/C++ Programming III	3
CIS 248 Visual Basic II: Desktop Applications	3
CIS 249 Java Programming II	3
CIS 250 Java Game Development I	4
CIS 255 C++ Game Development I	3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving	4
Advanced Level Programming Language Courses:	
CIS 258 Visual Basic III: Distributed Applications	3
CIS 259 Java Programming III	3
CIS 260 Java Game Development II	4
CIS 265 C++ Game Development II	3

Network Administration Option Microsoft MCSA Track	
NIS 211 Administering Microsoft Windows Professional: Topic	3
NIS 213 Administering Microsoft Windows Server: Topic	3
NIS 214 Supporting Windows Network Infrastructure Topic:	3
Take one of the following MCSA Track electives	3-6
Technical Electives (listed below)	6
	Subtotal
	18-21
	Total
	64-70
Electives for MCSA Track	
NIS 216 Implementing and Administering Microsoft Windows Directory Services Topic	3
NIS 246 Microsoft SQL Server System Administration Topic:	3
NIS 245 Designing a Secure Windows Network Topic:	3
NIS 262 Microsoft Internet Security and Acceleration Server (ISA)	3
NIS 264 Implementing and Managing Microsoft Exchange Server	3
IT 210 Operating System Support* AND	3
IT 215 Application Support *	3
* must be completed together to count as single elective	

Helpful links:

COURSES: <http://www.kctcs.edu/distancelearning/Courses.htm>

CONTACTS: <http://www.kctcs.edu/distancelearning/collegeContacts.htm>

FINANCIAL AID: <http://kctcs.edu/student/financialaidscholarships/index.htm>

GETTING STARTED: <http://www.kctcs.edu/distancelearning/gettingstarted.htm>

KCTCS CONTACTS: <http://kctcs.edu/distancelearning/DLPeerTeam.htm>

ONLINE BOOKSTORE: <http://www.campusstores.com/kctcs/index.asp>

STUDENT TUTORIAL: <http://www.kctcs.edu/distancelearning/tutorials.htm>

Dates of Actions:

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