

IT-Network Specialist

Associate in Applied Science Degree (AAS)

Overview

Computers have become essential tools in almost every type of activity in virtually every form of business. To increase efficiency of their use, LANs (Local Area Networks) and WANs (Wide Area Networks) are used to interconnect computers and their supporting devices to enable data and resources to be shared. As a result, Network Specialists who install and ensure efficient operation of LANs and WANs are in high demand.

The Network Specialist administers and supports personal computer and network environments that include installation, troubleshooting, analysis and repair.

The IT-Network Specialist program is offered at the Stevens Point and Wisconsin Rapids campuses.



Career Options

Help Desk Specialist
Microcomputer Operator
Network Administrator
PC Support Specialist

Potential for Advancement

Information Systems Director
Microcomputer Operations Manager
Project Manager
Senior Network Administrator
Potential advancement generally requires further education.

Admissions Procedures

To apply to the IT-Network Specialist program, please submit the following to MSTC Student Affairs Admissions Office:

1. WTCS application form and \$30 non-refundable application fee
2. Completed Accuplacer test. (Other test scores may be acceptable alternatives.) Entrance exam requirements for the Information Technology-Network Specialist program are:
 - Reading–Accuplacer score of 55 or equivalent
 - Language–Accuplacer score of 60 or equivalent
 - Math–Accuplacer score of 34 or equivalentIf a student does not meet the required scores in these academic areas, they may remediate and retest or complete an identified structured remediation course(s) in the Academic Support Center.
3. High school transcript or GED/HSED scores

Mid-State Technical College
Admissions
500 32nd Street North
Wisconsin Rapids, WI 54494
mstc.edu
888.575.MSTC

Program Course Descriptions

10102101 Intro to Business 3 credits

An introduction to what a business is, how it operates, and how it is managed. Students will identify forms of ownership and the processes used in production and marketing, finance, personnel and management in business operations.

10102103 Business Law & Ethics 3 credits

This course is designed to prepare students to make informed ethical decisions, form legal opinions and values, and work within the legal business framework. Topics will include the attributes of ethical decisions, the basics of our legal system, including its history and court system; crimes and torts; contracts, including types, formation, execution and termination; sales contracts; agency; national employment law; and bailments. Emphasis is given to ethics in all legal topics.

10103106 Microsoft Office-Beginning 3 credits

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint), Windows Explorer, Internet and computer concepts through demonstrations and lab exercises.

10105160 Business Law 3 credits

Examines the classifications of law, elements of legal contracts and business applications. Negotiable instruments, sales and bailment contracts, principal-agent relations and real estate law are also explained. Ethical practices are emphasized rather than narrow, legal definitions.

10150101 Network Fundamentals 3 credits

An introduction to networking that includes terminology, basic concepts of planning, designing, implementing, troubleshooting and administration. Topics included are peer-to-peer versus server-based networks, network topologies, media, interface cards, protocols and architectures. An in-depth coverage of the OSI model is included. Corequisite: Windows Operating Systems 10103102 or Microsoft Office-Beginning 10103106

Program Outcomes

Employers will expect you, as an IT-Network Specialist graduate, to be able to:

- Design and implement the hardware and software aspects of a basic network
- Install, configure, administer, maintain and enhance a network operating system and client environment
- Analyze and solve network problems using a structured problem solving process
- Demonstrate effective customer service
- Develop and interpret a variety of technical documentation manuals
- Perform professionally and effectively in team, individual and cross-cultural work settings
- Demonstrate knowledge of appropriate IT concepts and terminology when communicating with clients, co-workers, team members and management

10150110
PC Troubleshooting-Beginning 3 credits
 Develops skill in PC hardware and software troubleshooting including installation of hardware components and problem determination and correction of malfunctioning hardware and software. Prerequisites: Network Fundamentals 10150101; Windows Operating Systems 10103102 or Microsoft Office-Beginning 10103106

10150111
PC Troubleshooting-Intermediate 3 credits
 Students will continue to explore and learn about the world of PC hardware and software upgrading, repair, troubleshooting, support and maintenance. This course will build on the concepts encountered in the first troubleshooting course and explore those topics in more depth as well as more advanced topics. Prerequisite: PC Troubleshooting-Beginning 10150110

10150120
Network Administration-Beginning 3 credits
 Develops skill in the design, installation, basic administration and management of computer networks. Topics include: network design, installation and configuration of a commonly used Network Operating System, service packs and updated drivers, user accounts, groups, profiles and policies, file system security, virus detection software, printer management, application software installation, backup and recovery. Prerequisites: Network Fundamentals 10150101; PC Troubleshooting-Beginning 10150110

10150121
Network Administration-Intermediate 3 credits
 Expands basic administration skills of a commonly used network operating system. Topics include: installation and configuration of a Network Operating System, monitoring and performance tuning, monitoring and analyzing network traffic, licensing, network devices, DNS, FTP, web services and directory services. Prerequisite: Network Administration-Beginning 10150120

10150130
Network Operating Systems 3 credits
 Develops skill in the installation, setup, management, usage and comparison of various network operating systems. Prerequisite: Network Administration-Beginning 10150120

10150141
Supervised Field Experience 2 credits
 Integrates networking skill developed in classroom study with specific occupational experiences at local employment sites and develops work behavior appropriate to the computer information systems environment. Prerequisite: Completion of at least 20 credits in IT-Network Specialist (150) courses or approval by program instructor.

10150160
Information Security I 3 credits
 This course will introduce computer network vulnerabilities and threats and basic techniques for safeguarding networks against those vulnerabilities and threats. The course will expose students to network security terms, concepts technology organization and the legal and ethical issues associated with network security. This class will also help students prepare for the Security+ certification exam. Prerequisite: Network Fundamentals 10150101; Corequisite: PC Troubleshooting-Beginning 10150110 or equivalent work experience with consent of instructor

10150161
Information Security II 3 credits
 This course will go into greater depth with the concepts, techniques and tools introduced in introduction to Information Security. New tools and techniques for detecting, analyzing, assessing and defending against network attacks will be presented in the context of properly securing a network. The course will emphasize network attack and defense methodologies with lab work focused on learning and using network attack and defense techniques and tools. The System Security Certified Practitioner (SSCP) certification will be strongly emphasized in this course as well as several of the CISSP Certification CBK Domains. Prerequisite: Information Security I 10150160

10152101
Programming Logic-Beginning 4 credits
 This course will introduce students to fundamental computer programming logic and terminology. Students utilize the concepts of structures, pseudocode and modularization in solving problems. The students will then use these tools to program in a current programming language. Corequisite: Windows Operating Systems 10103102 or Microsoft Office-Beginning 10103106

10152170
Systems Analysis 3 credits
 A practical course which provides an overview of the Systems Development Life Cycle and then focuses in on the analysis phase of real world computer and manual systems. Students learn concepts, techniques and tools to aid in the analysis of existing systems, the identification of user requirements, and the design of database files. Both written and oral communications will be emphasized. Most of the work will be done in groups. Prerequisite: Programming Logic-Beginning 10152101

10154101
IT Customer Support 2 credits
 Develops skill in serving the needs of computer information system customers and documenting systems and procedures. Prerequisites: Windows Operating Systems 10103102 or Microsoft Office-Beginning 10103106; Written Communication 10801195

Curriculum

First Semester	(16 Credits)
10102101 Intro to Business	3
10103106 Microsoft Office-Beginning	3
10150101 Network Fundamentals	3
10152101 Programming Logic-Beginning	4
10801195 Written Communication	3

Second Semester	(18 Credits)
10102103 Business Law & Ethics	3
or	
10105160 Business Law	3
10150110 PC Troubleshooting-Beginning	3
10150160 Information Security I	3
10152170 Systems Analysis	3
10801196 Oral/Interpersonal Communication	3
or	
10801198 Speech	3
10804106 Intro to College Math	3

Third Semester	(17 Credits)
10150111 PC Troubleshooting-Intermediate	3
10150120 Network Administration-Beginning	3
10150161 Information Security II	3
10154101 IT Customer Support	2
10809122 Intro to American Government	3
or	
10809172 Race, Ethnic & Diversity Studies	3
or	
10809196 Intro to Sociology	3
10809144 Macroeconomics	3

Fourth Semester	(17 Credits)
10150121 Network Administration-Intermediate	3
10150130 Network Operating Systems	3
10150141 Supervised Field Experience	2
10809143 Macroeconomics	3
10809188 Developmental Psychology	3
or	
10809198 Intro to Psychology	3
Elective	3

Total Credits 68

Please Note:

- The IT-Network Specialist program has August and January starting dates. However, we advise you to meet with a counselor to successfully plan your academic schedule.
- Degree completion time may vary based on student scheduling needs and course availability.
- For General Education course descriptions (800 level courses), see section marked under Course Descriptions.