



it security specialist

Associate in Applied Science (AAS) Program Code: 10-151-3 Total Credits: 63-64

Graduates of this program understand the security measures needed to safeguard an organization's electronic files and computer networking infrastructure. Students will be involved in planning, implementing, and monitoring information technology security systems. Through hands-on projects, you will learn ethical hacking techniques in order to fully understand network vulnerabilities. You will also learn effective ways to implement intrusion detection systems to mitigate security risks. Includes demonstration of the use of computer forensics to help track down and stop potential information security breaches.

Estimated tuition and fees: mstc.edu/programcosts

ACADEMIC ADVISOR

To schedule an appointment with an academic advisor, call 715.422.5300. Academic advisors will travel to other campuses as necessary to accommodate student needs. For more information about advising, visit mstc.edu/advising.

CHECKLIST:

This section will be completed when meeting with your academic advisor.

- FAFSA (www.fafsa.gov)
- Financial Aid Form(s)
Form(s): _____
- Follow-Up Appointment:
Where: _____
When: _____
With: _____
- Official Transcripts
Mid-State Technical College
Attention CPL Coordinator
500 32nd Street North
Wisconsin Rapids, WI 54494
- Other: _____

mstc.edu
888.575.6782



MID-STATE
TECHNICAL COLLEGE

ADAMS CAMPUS
401 North Main
Adams, WI 53910

MARSHFIELD CAMPUS
2600 West 5th Street
Marshfield, WI 54449

STEVENS POINT CAMPUS
1001 Centerpoint Drive
Stevens Point, WI 54481

WISCONSIN RAPIDS CAMPUS
500 32nd Street North
Wisconsin Rapids, WI 54494

BACHELOR'S DEGREE OPTIONS

For more information and additional opportunities, visit mstc.edu/transfer.

EARN A BACHELOR'S DEGREE

START YOUR CAREER

IT SECURITY SPECIALIST
ASSOCIATE OF APPLIED SCIENCE
63-64 CREDITS

CAREER OPTIONS

Computer Security Specialist
Information Security Analyst
Information Security Specialist

HIGH SCHOOL STUDENT

COLLEGE TRANSFER

RETURNING ADULT

College Credit • Dual Credit • Military Experience • Work Experience
Learn about Credit for Prior Learning at mstc.edu/cpl.

**BEGIN AT ANY POINT
IN THE PATHWAY**

OTHER OPTIONS

RELATED PROGRAMS

- Business Analyst
- IT Computer Support Specialist
- IT Network Specialist
- IT Software Developer
- Microsoft System Administrator

SAMPLE FULL-TIME CURRICULUM OPTION

Term		15 credits
10150110	Networking I	3
10151105	Linux	3
10152101	Intro to Programming	3
10154102	Hardware Essentials	3
10801136	English Composition 1	3
Term		18 credits
10102213	Requirements Analysis	3
10150111	Networking II	3
10150120	Server Administration-Beginning	3
10150165	Network Server Scripting	3
10151110	Information Security 1	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
Term		15-16 credits
10150112	Networking III	3
10151111	Information Security 2	3
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
10809103	Think Critically & Creatively	3
10809166	Intro to Ethics: Theory & Application	3
Term		15 credits
10102130	Career Development -or-	
10151141	IT-Security Internship -or-	
10801199	Employment Strategies	3
10151112	Information Security 3	3
10151160	Ethical Hacking	3
10151161	IT Security Capstone	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3
Total credits 63-64		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to mstc.edu/classfinder.

SAMPLE PART-TIME CURRICULUM OPTION

Term		9 credits
10150110	Networking I	3
10151105	Linux	3
10154102	Hardware Essentials	3
Term		9 credits
10150111	Networking II	3
10150120	Server Administration-Beginning	3
10151110	Information Security 1	3
Term		6 credits
10801136	English Composition 1	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
Term		9 credits
10152101	Intro to Programming	3
10150112	Networking III	3
10151111	Information Security 2	3
Term		6 credits
10102213	Requirements Analysis	3
10150165	Network Server Scripting	3
Term		6-7 credits
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
10809166	Intro to Ethics: Theory & Application	3
Term		9 credits
10102130	Career Development -or-	
10151141	IT-Security Internship -or-	
10801199	Employment Strategies	3
10809103	Think Critically & Creatively	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3
Term		9 credits
10151112	Information Security 3	3
10151160	Ethical Hacking	3
10151161	IT Security Capstone	3
Total credits 63-64		

course descriptions

Career Development

101021303 credits

Prepares learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, and thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment. NOTE: To enroll, you must have completed 50 percent of technical program credits or receive department approval. See program advisor, program faculty, program counselor, or department dean/associate dean to register.

College Mathematics

108041073 credits

Designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

Prerequisite: High School GPA of 3.0 or Accuplacer Arithmetic of 250 and QAS 234 or ACT of 17 or Pre-Algebra 834109 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Developmental Psychology

10809188.....3 credits

Studies human development throughout the lifespan and explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Employment Strategies

108011993 credits

A course designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation. NOTE: To enroll you must have completed 50 percent of technical program credits or receive department approval. See program advisor, program faculty, program counselor, or department dean/associate dean to register.

English Composition 1

108011363 credits

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical reading skills through analysis of various written documents.

Prerequisite: High School GPA of 3.0 or Accuplacer Writing of 262 or ACT of 20 or Intro to College Writing 10-831-103 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements. Proficiency in word processing skills recommended.

Ethical Hacking

101511603 credits

Introduces the techniques hackers use to discover vulnerabilities. Students will learn ways to tighten the network security to protect the exposed data from the discovered vulnerabilities. Focus is on penetration-testing tools and techniques that security testers and ethical hackers use to protect computer networks.

Prerequisite: Information Security 2 10151111; Corequisite: Information Security 3 10151112

Hardware Essentials

101541023 credits

The first in a two-course series that aligns with the CompTIA A+ certification. This class is designed to teach students how to build, configure, secure, network, and troubleshoot PCs. The course covers the objectives of the CompTIA A+ exams but is not designed or intended to be a "test prep" course.

Corequisite: English Composition 1 10801136

Information Security 1

101511103 credits

Introduces students to the fundamentals of information security. Topics include security terms and concepts, risk assessment, cryptography, monitoring and auditing, attacks and techniques, and the legal and ethical issues associated with information security.

Prerequisite: Linux 10151105

Information Security 2

10151113 credits

Introduces students to intrusion detection tools, network security design, various types of network firewalls, and the basics of VPN configuration. A solid understanding of LAN/WAN fundamentals is required for this course.

Prerequisite: Information Security 1 1015110

Information Security 3

10151123 credits

This course explores security incidents and intrusions, including identifying and categorizing incidents. Students will be responding to incidents, and analyzing logs and network traffic. Additionally, students will be utilizing various tools and creating an incident response team.

Prerequisite: Information Security 2 1015111

Intermediate Algebra with Applications

1080418 4 credits

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions; operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

Prerequisite: High School GPA of 3.0 or Accuplacer Arithmetic of 263 and QAS 234 or ACT of 19 or QAS of 245, or Pre-Algebra 10834109 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Intro to Ethics: Theory & Application

108091663 credits

Provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systemic decision-making process to these situations.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Intro to Programming

101521013 credits

Applies the basic concepts of computer programming using JavaScript, with an emphasis on structured programming, debugging, and testing. Learners will create JavaScript applications. Additional topics include: online software development resources, programming and documentation standards, variable lifetime/scope, data types, control structures and mathematical calculations.

Corequisite: English Composition 1 10801136

Intro to Psychology

108091983 credits

This introductory course surveys the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

IT Security Capstone

101511613 credits

In this capstone course students complete a project that incorporates skills gained from previous terms. Students demonstrate those skills by creating a project proposal, presenting a technical design, and/or implementing a project based on specifications provided by the instructor.

Prerequisite: Information Security 2 1015111; Corequisite: Information Security 3 1015112

IT-Security Internship

101511413 credits

Integrates skills developed in classroom study with specific occupational experiences at local employment sites and develops work behavior appropriate to the business environment.

Prerequisite: Networking III 10150112

Linux

101511053 credits

Covers introductory Linux topics, including operating system basics, system installation, file system management, file system administration, and basic commands.

Corequisite: Hardware Essentials 10154102

Network Server Scripting

101501653 credits

Provides best practices and techniques in Linux and Windows shell and command line scripting using PowerShell and BASH.

Prerequisite: Hardware Essentials 10154102; Corequisite: Server Administration-Beginning 10150120

Networking I

101501103 credits

Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, participants will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. This course is the first of four courses that align with CCNA certification. Covers the objectives of the first CCNA exam but is not designed or intended to be a "test prep" course.

Corequisite: English Composition 1 10801136

Networking II

10150111.....3 credits

Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. This course is the second of four courses that align with CCNA certification. Covers the objectives of the first CCNA exam but is not designed or intended to be a “test prep” course.

Prerequisites: Networking I 10150110 and Hardware Essentials 10154102

Networking III

10150112.....3 credits

Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students are able to configure and troubleshoot routers and switches and resolve common issues with dynamic routing protocols and trunking technologies. This course is the third of four courses that aligns with the CCNA certification. The course covers the objectives of the second CCNA exam but is not designed or intended to be a “test prep” course.

Prerequisite: Networking II 10150111

Oral/Interpersonal Communication

10801196.....3 credits

Focuses upon developing speaking, verbal, and non-verbal communication, and listening skills through individual presentations, group activities, and other projects.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237, or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Requirements Analysis

10102213.....3 credits

A practical course that provides an overview of the systems development life cycle and then focuses 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. Emphasizes both written and oral communications. Most of the work is done in groups.

Server Administration-Beginning

10150120.....3 credits

Develops skill in the design, installation, 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; printer management; and application software installation, backup, and recovery.

Prerequisite: Hardware Essentials 10154102

Speech

10801198.....3 credits

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. Bring transcripts for further evaluation if they do not meet these requirements.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading of 253, Writing of 262, or ACT of 21 Reading/19 Writing, or completion of Intro to College Writing and/or Intro to College Reading with a “C” or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Think Critically & Creatively

10809103.....3 credits

Provides instruction in the vital, realistic, and practical methods of thinking that are in high demand in all occupations of substance today. Provides in-depth consideration of decision making, problem solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more. Students apply specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic, and cultural situations. Classroom instruction is based on demonstration, discussion, projects, and teamwork. Assignments range from the short and simple to the detailed and complex. Focuses on reality and practicality throughout.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.