

# IT CYBERSECURITY SPECIALIST

## Associate in Applied Science (AAS)

**Program Code: 10-151-2**

**Total Credits: 61**

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.

To learn more about this program, visit [mstc.edu/programs](https://mstc.edu/programs).

### 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](https://mstc.edu/advising).

### NEW STUDENT CHECKLIST

Complete the following steps to prepare for your New Student Advising appointment with your academic advisor:

- Submit a Mid-State application at [mstc.edu/apply](https://mstc.edu/apply).
- Send official transcripts to:  
Mid-State Technical College  
Student Services  
500 32nd Street North  
Wisconsin Rapids, WI 54494
- Complete the Free Application for Federal Student Aid (FAFSA) at [fafsa.gov](https://fafsa.gov). Mid-State's Financial Aid team is available to assist with your FAFSA application and to answer your financial aid questions. Contact Financial Aid or schedule an appointment at [mstc.edu/financial-aid](https://mstc.edu/financial-aid).
- Set up student MyCampus account at [mstc.edu/mycampus-assistance](https://mstc.edu/mycampus-assistance).
- Schedule a New Student Advising appointment at [mstc.edu/advising](https://mstc.edu/advising).

[mstc.edu](https://mstc.edu) • 888-575-6782 • TTY: 711



Adams Campus • Marshfield Campus • Stevens Point Downtown Campus • Wisconsin Rapids Campus • Virtual Campus • AMETA® Center

Mid-State does not discriminate on the basis of race, color, national origin, sex, disability, or age in its program, activity, or employment. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Vice President - Human Resources; 500 32nd Street North, Wisconsin Rapids, WI 54494; 715-422-5325 • AAEO@mstc.edu. 3/2026-AC

## CAREER PATHWAY



Career pathways help you build your education step by step. Each stage offers one or more credentials that are recognized by employers and lead to real jobs—and you can keep building toward your career goals as you go.

**Begin at any point.**

### **Prior Learning**

#### **Credit for Prior Learning**

- Certifications and Licenses
- Military Experience
- National/Standardized Exams
- Transfer Credit
- Work and Life Experience

Learn about Credit for Prior Learning at [mstc.edu/cpl](https://mstc.edu/cpl).

### **High School Credit**

- High School Dual Credit
- Mid-State Fast Track

Learn about High School Credit at [mstc.edu/dc](https://mstc.edu/dc).

### **Certificate**

- Communication Essentials (9 Credits)

### **Technical Diploma**

- IT User Support Technician (25 Credits)  
Start Your Career: IT Customer Support Technician, IT Field Technician, IT Operations Support Technician, System Support Technician, Technical Support Analyst

### **Associate Degree**

- IT Cybersecurity Specialist (61 Credits)  
Start Your Career: Information Security Specialist, Junior Penetration Tester, Security Engineer, Security Operations Center (SOC) Analyst, Systems Administrator

### **Bachelor's Degree**

For those interested in continuing their education, Mid-State offers transfer guides with various four-year colleges and universities. For more information, visit [mstc.edu/transfer](https://mstc.edu/transfer).

### **Other Options**

Related Programs: IT Network Specialist, IT Software Developer

## OUTCOMES

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

- Identify security strategies.
- Implement secure infrastructures.
- Conduct security testing.
- Analyze security data.
- Mitigate risk.
- Develop security documentation.

## TECHNICAL SKILLS ATTAINMENT

The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Faculty will let students know when and how the TSA is being assessed in the program.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## GRADUATION REQUIREMENT

The GPS for Student Success course is required for all Mid-State program students and is recommended to be completed before obtaining 12 credits. Some students are exempt from this requirement. Please see your academic advisor for more information.

## ADDITIONAL COURSES AS NEEDED

The following courses may be recommended or required if the student does not achieve minimum placement scores.

### College Reading and Writing 1

**10831104**

**3 credits**

Provides learners with opportunities to develop and expand reading and writing skills to prepare for college-level academic work. Students will employ critical reading strategies to improve comprehension, analysis, and retention of texts. Students will apply the writing process to produce well-developed, coherent, and unified written work.

### Pre-Algebra

**10834109**

**3 credits**

Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.

## MULTIPLE MEASURES

Students can place into courses using high school GPA and completed classes. Placement can be determined in the following ways:

- **Multiple Measures Writing (MMW)**  
High school GPA of 2.6 & successful completion of 2.0 credits of high school writing courses with a "C" or better
- **Multiple Measures Reading (MMR)**  
High school GPA of 2.6 & successful completion of 2.0 credits of high school literature courses with a "C" or better
- **Multiple Measures Math 1 (MMM\_1)**  
High school GPA of 2.6 & successful completion of 1.0 credit of high school math (Algebra 1 or equivalent) with a "C" or better
- **Multiple Measures Math 2 (MMM\_2)**  
High school GPA of 2.6 & successful completion of 2.0 credits of high school math including Algebra 1 and Algebra 2 with a "C" or better
- **Multiple Measures Science 1 (MMS\_1)**  
High school GPA of 2.6 & successful completion of 1.0 credit of high school lab science course with a "C" or better
- **Multiple Measures Science 2 (MMS\_2)**  
High school GPA of 2.6 & successful completion of 1.0 credit of high school chemistry with a "C" or better

*Past high school and college transcripts are used in making course placement decisions.*

## SAMPLE FULL-TIME CURRICULUM OPTION

### IT Cybersecurity Specialist • 61 Total Credits

Term	Course Number	Course Name	CPL	Credits
16 Credits	10150110	Networking I	Yes	3
	10151105	Linux	No	3
	10154102	IT Essentials	Yes	3
	10801198 or 10801196	Speech or Oral/Interpersonal Communication	Yes	3
	10801196	Quantitative Reasoning	Yes	3
	10890102	GPS for Student Success	Yes	1
15 Credits	10150111	Networking II	Yes	3
	10150120	Server Administration-Beginning	No	3
	10150165	Network Server Scripting	No	3
	10151110	Information Security 1	Yes	3
	10152101	Intro to Programming	Yes	3
15 Credits	10150112	Networking III	Yes	3
	10151111	Information Security 2	No	3
	10151160	Ethical Hacking	No	3
	10809103	Think Critically & Creatively	Yes	3
	10809198	Introduction to Psychology	Yes	3
15 Credits	10151112	Information Security 3	No	3
	10151161	IT Security Capstone	No	3
	10151162	Secure Software Applications	No	3
	10801195 or 10801136	Written Communication or English Composition 1	Yes	3
	10809166	Introduction to Ethics: Theory & Application	Yes	3

#### Please Note

- Credit for Prior Learning (CPL) options are available for some courses. You can visit [mstc.edu/cpl](https://mstc.edu/cpl) or contact your academic advisor for details.
- 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/schedule](https://mstc.edu/schedule).
- Get the latest updates online at [mstc.edu](https://mstc.edu).

**SAMPLE PART-TIME CURRICULUM OPTION**  
**IT Cybersecurity Specialist • 61 Total Credits**

<b>Term 10 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10150110	Networking I	Yes	3
	10154102	IT Essentials	Yes	3
	10804135	Quantitative Reasoning	Yes	3
	10890102	GPS for Student Success	Yes	1
<b>Term 9 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10150111	Networking II	Yes	3
	10151110	Information Security 1	Yes	3
	10152101	Intro to Programming	Yes	3
<b>Term 6 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10151105	Linux	No	3
	10801198 or 10801196	Speech or Oral/Interpersonal Communication	Yes	3
<b>Term 6 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10150120	Server Administration-Beginning	No	3
	10150165	Network Server Scripting	No	3
<b>Term 9 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10150112	Networking III	Yes	3
	10151111	Information Security 2	No	3
	10809103	Think Critically & Creatively	Yes	3
<b>Term 6 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10151162	Secure Software Applications	No	3
	10809166	Introduction to Ethics: Theory & Application	Yes	3
	10809198	Introduction to Psychology	Yes	3
<b>Term 6 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10151160	Ethical Hacking	No	3
	10801195 or 10801136	Written Communication or English Composition 1	Yes	3
<b>Term 6 Credits</b>	<b>Course Number</b>	<b>Course Name</b>	<b>CPL</b>	<b>Credits</b>
	10151112	Information Security 3	No	3
	10151161	IT Security Capstone	No	3

**English Composition 1**

**10801136**

**3 credits**

Learners develop and apply skills in all aspects of the writing process. Through a variety of learning activities and written documents, learners employ rhetorical strategies, plan, organize and revise content, apply critical reading strategies, locate and evaluate information, integrate and document sources, and apply standardized English language conventions.

*Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or Accuplacer Reading 253 or ACT English score of 20 or ACT Reading 21 or completion of College Reading and Writing 1 10831104 with a "C" or better*

**Ethical Hacking**

**10151160**

**3 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 1 10151110*

**GPS for Student Success**

**10890102**

**1 credit**

Integrate necessary skills for student success by developing an academic plan, identifying interpersonal attributes for success, adopting efficient and effective learning strategies, and utilizing Mid-State resources, policies, and processes.

This course is recommended to be completed prior to obtaining 12 credits and is a graduation requirement unless you receive an exemption from your program advisor.

**Information Security 1**

**10151110**

**3 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. This course aligns with the CompTIA Security+ certificate. Students can take this certification exam after completing this course.

*Corequisite: Networking I 10150110, Linux 10151105*

**Information Security 2**

**10151111**

**3 credits**

Introduces students to 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 10151110; Corequisite: Networking III 10150112*

**Information Security 3**

**10151112**

**3 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 10151111*

**Introduction to Ethics: Theory & Application**

**10809166**

**3 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 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English*

**Intro to Programming**

**10152101**

**3 credits**

Applies the basic concepts of computer programming having learners build Python applications, with an emphasis on problem solving, structured programming, debugging, and testing. Additional topics include: online software development resources, programming and documentation standards, variable lifetime/scope, data types, control structures (conditions and iterations) working within Microsoft Windows, and mathematical calculations.

**Introduction to Psychology**

**10809198**

**3 credits**

This science of psychology course is a survey of multiple aspects of behavior and mental processes. It provides an overview of topics such as research methods, theoretical perspectives, learning, cognition, memory, motivation, emotions, personality, abnormal psychology, physiological factors, social influences, and development.

*Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English*

**IT Essentials**

**10154102**

**3 credits**

An introductory course covering essential IT support and computer hardware skills. Students will learn to build, configure, secure, network, and troubleshoot PCs, along with an introduction to operating systems, basic networking concepts and configuration used in end devices, basic server functions, mobile devices, and printers—preparing them for entry-level IT roles.

## IT Security Capstone

**10151161**

**3 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 10151111, Ethical Hacking 10151160; Corequisite: Information Security 3 10151112*

## Linux

**10151105**

**3 credits**

Covers introductory Linux topics, including operating system basics, system installation, file system management, file system administration, and basic commands. This course aligns with the CompTIA Linux+ certificate. Students can take this certification exam after completing this course.

## Network Server Scripting

**10150165**

**3 credits**

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

*Prerequisite: IT Essentials 10154102; Corequisite: Server Administration-Beginning 10150120 and Intro to Programming 10152101*

## Networking I

**10150110**

**3 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 three courses that align with CCNA certification. Covers the objectives of the first CCNA exam.

## Networking II

**10150111**

**3 credits**

Describes the architecture, components, and operations of routers and switches in a small network. It focuses on small-to-medium business networks and includes wireless local area networks (WLANs) and security concepts. Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. This course is the second of three 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*

## Networking III

**10150112**

**3 credits**

This course covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access. Students are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation. This course is the final course 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 on developing effective listening techniques and verbal and nonverbal communication skills through oral presentation, group activity, and other projects. The study of self, conflict, and cultural contexts will be explored, as well as their impact on communication.

*Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English or College Reading and Writing with a C or better*

## Quantitative Reasoning

**10804135**

**3 credits**

This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include construction and interpretation of graphs; descriptive statistics; geometry and spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation, and available technology will be emphasized throughout the course.

*Prerequisite: High School GPA of 2.6 and MMM\_1 or Accuplacer QAS 241 or ACT Math score of 19 or Pre-Algebra 10834109 or College Math 10804107 with a "C" or better*

## Secure Software Applications

**10151162**

**3 credits**

The Secure Software Applications course teaches students about the most common attacks against applications and how to defend against those attacks through secure coding practices and good security hygiene. The class focuses on the OWASP top 10, certificates, code scanning, SDL Security automation and more.

*Prerequisite: Intro to Programming 10152101*

## 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: IT Essentials 10154102; Corequisite: Linux 10151105*

**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. Includes informative, persuasive, and occasion speech presentations.

*Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 253 and Writing of 262 or ACT of 21 Reading/19 English or completion of College Reading and Writing 1 10831104 with a "C" or better*

**Think Critically & Creatively  
10809103  
3 credits**

Provides instruction about critical and creative thinking that is in high demand in all occupations. Models, theories, and processes provide the foundation for learning logical thinking strategies. Students will apply a systematic approach to problem solving by analyzing the problem, assessing possible solutions, and making effective decisions. In addition, students will generate ideas and analyze complex issues. This course assists students with developing a critical thinking mindset which is essential at every level of personal and professional life.

*Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English*

**Written Communication  
10801195  
3 credits**

Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.

*Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or ACT English score of 20 or completion of College Reading and Writing 1 10831104 with a "C" or better*