MONTGOMERY COLLEGE

CYBERSECURITY AAS: 356A

Total Credits: 60
Catalog Edition: 2020-2021

Program Description

(G): 356A

This AAS degree prepares students for entry-level positions in cybersecurity. The program emphasizes computer security and information assurance concepts augmented with current industry standard techniques. Topics cover threats and vulnerabilities, prevention at the technical (hardware and software) and human levels, detection, response, and management aspects of security.

The program prepares entry-level computer technicians with cybersecurity expertise and also offers students a transfer option to four-year institutions. The proposed program of study is designed to address the needs for increasing the number of trained workers qualified to work in cybersecurity in the homeland security industry. The program is expected to meet National Security Telecommunications and Systems Security Instruction (NSTISSI) 4011 and 4013 standards. It will also help prepare students to sit for a variety of industry certifications, including the Computing Technology Industry Association's (CompTIA) A+, Network+ and Security+ certifications; Cisco Certified Network Associate (CCNA) certification; and the Security Certified Network Professional certification.

Program Outcomes

Upon completion of this program a student will be able to:

- Apply software patches to operating systems and applications.
- Evaluate a system for security vulnerabilities using appropriate resources.
- Use standard software tools to detect attempted security breaches in networks.
- Implement network security defenses.
- Describe a professional's responsibility in the areas of individual privacy, intellectual property rights, and ethics and codes of conduct.
- Examine legal, social, and ethical concerns related to securing information systems and networks.
- Explain how to use current forensic tools.
- Demonstrate critical thinking and problem-solving skills on issues related to cybersecurity.
- Describe the differences between internal and external threats and how to defend against each.
- Propose cybersecurity solutions based on real-world problem scenarios.
- Demonstrate the skills necessary to be successful in passing at least 2 of the following certification exams: CCNA (Cisco Certified Network Administrator), CompTIA Network+, CompTIA Security+, and/or ISC2 Professional Security certification(s).

Program Advisors

- **Email**: MCCyberAdvising@montgomerycollege.edu
- **Phone**: 240-567-1956

For more information, please visit https://www.montgomerycollege.edu/cyberprogram

To view the Advising Worksheet, please visit https://www.montgomerycollege.edu/_documents/counseling-and-advising/advising-worksheets/current-catalog/356a.pdf

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Suggested Course Sequence

A suggested course sequence for full-time students follows. All students should review this advising guide and consult an advisor.

First Semester

ENGL 101 - Introduction to College Writing *3 semester hours* *

Mathematics Foundation *3 semester hours (MATF)*

NWIT 127 - Microcomputer Essentials *3 semester hours*

NWIT 151 - Introduction to Networking *3 semester hours*

Behavioral and Social Sciences Distribution *3 semester hours (BSSD)*

Second Semester

English Foundation *3 semester hours (ENGF)*

CMSC 135 - Introduction to Scripting *3 semester hours*

CMSC 253 - UNIX/LINUX System Administration *4 semester hours*

NWIT 173 - Network Security *3 semester hours*

NWIT 252 - Cisco Networking 2 *3 semester hours*

Third Semester

PHIL 140 - Introduction to the Study of Ethics *3 semester hours*

NWIT 245 - Defending the Network *3 semester hours*

NWIT 263 - Introduction to Digital Forensics *3 semester hours*

Arts or Humanities Distribution *3 semester hours (ARTD or HUMD)*

Natural Sciences Distribution with Lab *4 semester hours (NSLD)*

Fourth Semester

NWIT 230 - Intro to Cyber Ops *3 semester hours*

NWIT 246 - Attacker Tools and Techniques *3 semester hours*

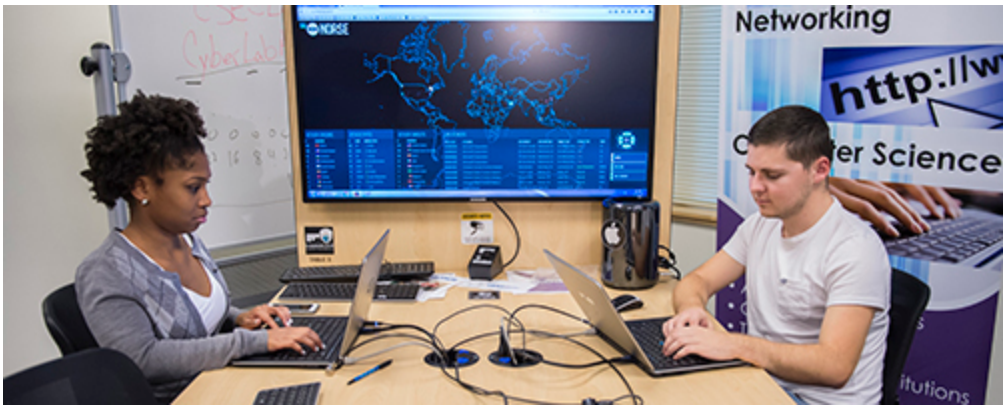
NWIT 247 - Introduction to Incident Response *3 semester hours*

NWIT 275 - Wireless Security *3 semester hours*

NWIT 291 - Cybersecurity Capstone *1 semester hour*

Total Credit Hours: 60

* ENGL 101/ENGL 101A, if needed for ENGL 102/ENGL 103, or NWIT or CMSC elective.



Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more, please visit https://www.montgomerycollege.edu/transfer or http://artsys.usmd.edu.

Get Involved at MC!

Employers and Transfer Institutions are looking for experience outside the classroom.

MC Student Clubs and Organizations: https://www.montgomerycollege.edu/life-at-mc/student-life/
The MC Cyberwatch is a cybersecurity club serving all students in the Cybersecurity program who wish to go beyond the traditional curriculum requirements. The club promotes cybersecurity awareness as well as extracurricular hands-on activities that lead to competitions such as:

- Collegiate Cyber Defense Competitions (CCDC)

- Digital Forensics Competition

- National Cyber League

- Cybersecurity Awareness Poster Competition

Related Careers

Some require a Bachelor's degree.
The A.A.S. in Cybersecurity is ideal for those working in or towards positions such as: Helpdesk/Field Service Technician, IT Support Specialist, Systems Analyst, Systems/Network Administrator, Network Security Engineer, Security Consultant/ Specialist, Information Assurance Technician.

Career Services
Montgomery College offers a range of services to students and alumni to support the career planning process. To learn more, please visit https://www.montgomerycollege.edu/career

Career Coach
A valuable online search tool that will give you the opportunity to explore hundreds of potential careers or job possibilities in Maryland and the Washington D.C. metropolitan area. Get started today on your road to a new future and give it a try. For more information, please visit https://montgomerycollege.emsicc.com

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