

CYBERSECURITY AAS: 356A

Total Credits: 60

Catalog Edition: 2018-2019

Program Description

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.

Program Outcomes *(continued)*

- 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) certificate, CompTIA Network+ certificate, CompTIA Security+ certificate, and/or ISC2 Professional Security certification(s).

Program Advising

Germantown

- **Prof. Silvia Vargas, 240-567-1983**
Silvia.Vargas@montgomerycollege.edu
- **Prof. David Vargas, 240-567-1933**
David.Vargas@montgomerycollege.edu
- **Prof. Joe Roundy, 240-567-2144**
Joseph.Roundy@montgomerycollege.edu

2018-2019 Program Advising Guide

An Academic Reference Tool for Students

CYBERSECURITY AAS: 356A

Suggested Course Sequence

A suggested course sequence for full-time students follows. All students should review this advising guide and consult a Cybersecurity faculty advisor. Visit <http://montgomerycollege.edu/cyberprogram> for more information.

First Semester

- CMSC 135 – Introduction to Scripting
3 semester hours
- ENGL 101 – Introduction to College Writing
3 semester hours *
- NWIT 127 - Microcomputer Essentials
3 semester hours
- NWIT 151 - Introduction to Networking
3 semester hours
- Mathematics foundation
3 semester hours (MATF)

Second Semester

- CMSC 253 - UNIX/LINUX System Administration
4 semester hours
- NWIT 173 - Network Security
3 semester hours
- NWIT 203 – Microsoft Windows Server
3 semester hours
- NWIT 252 – Cisco Networking 2
3 semester hours
- English foundation
3 semester hours (ENGF)

Third Semester

- NWIT 245 – Defending the Network
3 semester hours
- NWIT 246 – Attacker Tools and Techniques
3 semester hours
- NWIT 263 – Introduction to Digital Forensics
3 semester hours
- NWIT 275 – Wireless Security
3 semester hours
- Arts foundation
3 semester hours (ARTD)

Fourth Semester

- NWIT 247 – Introduction to Incident Response
3 semester hours
- NWIT 291 - Cybersecurity Capstone
1 semester hours
- PHIL 140 - Introduction to the Study of Ethics
3 semester hours
- Behavioral and social sciences distribution
3 semester hours (BSSD)
- Natural science distribution with lab
4 semester hours (NSLD)

Total Credit Hours: 60

Advising Notes

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

CYBERSECURITY AAS (G): 356A

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Catalog Editions 17-18 through 18-19

Name:

Date:

ID #:

GENERAL EDUCATION: FOUNDATION COURSES	Course	Hours	Grade
English Foundation (EN 102/ENGL 102 or EN 109/ENGL 103)		3	
Math Foundation (MATH 110, 115, 117, 120, 130, 150, 165, 170, or 181) CONSULT COUNSELING FACULTY/FACULTY ADVISOR ABOUT CHOICE			

GENERAL EDUCATION: DISTRIBUTION COURSES	Course	Hours	Grade
Arts or Humanities Distribution (ARTD or HUMD)			
Behavioral & Social Sciences Distribution (BSSD)		3	
Natural Sciences Distribution with Lab (NSLD)		4	
General Education Elective (GEEL)	PL 202/PHIL 140	3	

PROGRAM REQUIREMENTS	Course	Hours	Grade
ENGL 101 or ENGL 101A (if needed for ENGL 102/103 or NW/NWIT or CS/CMSC ELECTIVE)			
	CMSC 135	3	
	CS 253/ CMSC 253	4	
	NW 127/ NWIT 127	3	
	NW 151/ NWIT 151	3	
	NW 173/ NWIT 173	3	
	NW 203/ NWIT 203	3	
	NW 245/ NWIT 245	3	
	NW 246/ NWIT 246	3	
	NWIT 247	3	
	NW 252/ NWIT 252	3	
	NW 263/ NWIT 263	3	
	NW 275/ NWIT 275	3	
	NW 270/ NWIT 291	1	

Overall GPA of 2.0 is required to graduate

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

Total Credits:

[Cybersecurity Web Page](#)

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Last Modified: July 2018

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Advising Worksheet Contact:
[Anthony Solano](#)

See an [advisor](#) to submit an [Application for Graduation](#) the semester BEFORE you intend to graduate.

This UNOFFICIAL document is for planning purposes ONLY and completion does not guarantee graduation.

This degree is a career program and may not readily transfer to four year colleges/universities (except in special cases.) Visit [transfer planning](#) for more information.

Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more please visit:
<http://cms.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

<http://cms.montgomerycollege.edu/edu/plain.aspx?id=2439>

CyberWatch Club

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

MC's Cyber Lab

The newly created state of the art Cybersecurity lab sits on a stand-alone network from the college so that students can engage in real world security exercises without affecting the operations of the college. The technology behind the scenes allows for up to 200 virtual desktops to be built and 100 servers, both virtual and remote, to facilitate the learning and skills building exercises to prepare our students for industry recognized certifications.

Related Careers

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

<http://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. Visit the website listed below:

<https://montgomerycollege.emsicareercoach.com>

Notes: