

CYBERSECURITY AAS: 356A

Total Credits: 60

Catalog Editions: 2012-13 through 2015-16

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.
- Assess a computer system's security vulnerabilities using appropriate resources.
- Use standard software tools to detect attempted security breaches of computer systems. Implement computer network security defenses.

Program Outcomes *(continued)*

- Assess their professional responsibility in the areas of individual privacy, intellectual property rights, and ethics and codes of conduct.
- Implement computer network security defenses.
- Explain how to use current forensic tools.
- Sit for the following certification exams:
 - Computing Technology Industry Association's (CompTIA)
 - A+
 - Network +
 - Security +
 - Microsoft's Certified IT Professional (MCIPT) certification
 - International Information Systems Security Certification Consortium, Inc., (ISC)²
 - Systems Security Certified Practitioner (SSCP)
 - Certified Information Systems Security Professional (CISSP)

Program Advising

Germantown

- **Prof. Silvia Vargas, 240-567-1983**
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For more information please visit:

<http://montgomerycollege.edu/cyberprogram>

2015-2016

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 an advisor. Visit <http://montgomerycollege.edu/cyberprogram> for more information.

First Semester

ENGL 101 - Introduction to College Writing

*3 semester hours **

CMSC 110 - Computer Concepts

3 semester hours

NWIT 127 - Microcomputer Essentials

3 semester hours

NWIT 151 - Introduction to Networking

3 semester hours

NWIT 252 - Cisco Networking 2

3 semester hours

Health foundation

1 semester hour (HLTF)

Second Semester

CMSC 253 - UNIX/LINUX System Administration

4 semester hours

NWIT 173 - Network Security

3 semester hours

NWIT 263 - Introduction to Digital Forensics

3 semester hours

English foundation

3 semester hours (ENGF)

Mathematics foundation

3 semester hours (MATF)

Third Semester

NWIT 203 - Microsoft Windows Server

3 semester hours

NWIT 245 - Hardening the Infrastructure

3 semester hours

PHIL 140 - Introduction to the Study of Ethics

3 semester hours

Natural sciences distribution with lab

4 semester hours (NSLD)

Fourth Semester

NWIT 246 - Network Defense and Countermeasures

3 semester hours

NWIT 290 - Information Security Capstone

3 semester hours

Arts or humanities distribution

3 semester hours (ARTD or HUMD)

Behavioral and social sciences distribution

3 semester hours (BSSD)

Speech distribution

3 semester hours (SPCF)

Total Credit Hours: 60

Advising Notes

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

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Catalog Edition 15-16

Name: Date: ID #:

GENERAL EDUCATION: FOUNDATION COURSES	Course	Hours	Grade
English Foundation (EN 102/ENGL 102 or EN 109/ENGL 103)		3	
Math Foundation (MA 110/MATH 110 or higher)			
Speech Foundation (SP 108/COMM 108 or SP 112/COMM 112)		3	
Health Foundation HLHF (Choose HLTH 100 - HLTH 230)			

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	

PROGRAM REQUIREMENTS	Course	Hours	Grade
	CS 110/ CMSC 110	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	
	NW 252/ NWIT 252	3	
	NW 263/ NWIT 263	3	
	NW 270/ NWIT 290	3	
	PL 202/ PHIL 140	3	
ENGL 101 if needed for ENGL 102 or NW/NWIT or CS/ CMSC ELECTIVE			

Overall GPA of 2.0 is required to graduate

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[Cybersecurity Web Page](#)

Last Modified: August 2015

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 (MC) associate's degree programs have transfer agreements with the following institutions designed for MC students to seamlessly continue their education and reach their academic goals towards their bachelor's degree:

- [Bowie State University](#)
- [Excelsior College](#)
- [Strayer University](#)
- [University of Maryland University College](#)
- [University of Maryland University College at the Universities at Shady Grove](#)

In addition, we also have also networking articulation agreements with:

- [MCPS – Network Operations](#)

To learn more please visit:

www.montgomerycollege.edu/computeragreements or artsys.usmd.edu

Get Involved at MC!

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

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

<https://montgomerycollege.emsicareercoach.com>