Cybersecurity

HAGERSTOWN COMMUNITY COLLEGE

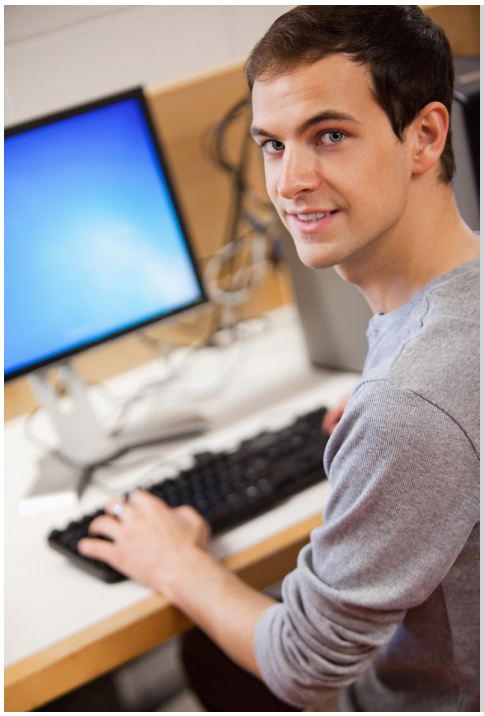
What is cybersecurity?
Cybersecurity is the body of technologies, processes, and practices designed to protect networks, computers, programs, and data from attack, damage, or unauthorized access. In a computing context, the term "security" implies cybersecurity.

On a global scale, cyber crimes such as stolen data, identity theft, and fraud cost the worldwide economy as much as $2 trillion per year.

What does a computer security specialist do?
Computer security specialists plan, coordinate, and maintain an organization's information security. These workers also educate users about computer security, install security software, monitor networks for security breaches, respond to cyber attacks, and, in some cases, gather data and evidence to be used in prosecuting cyber crime. Computer security specialists are expected to protect computers and servers from damage caused by viruses, unauthorized access, deletion, or theft of important and private information. Information security analysts plan and implement security measures to protect an organization's computer networks and systems. Their responsibilities are continually expanding as the number of cyber attacks increase. (source: *www.bls.gov/ooh*).

Individuals who excel in this field typically exhibit good critical thinking skills (including complex problem solving) as well as the ability to communicate effectively, exercise good judgment and decision making, and appropriately manage their time.

Why should students choose HCC?
- HCC is the regional leader in cybersecurity programming. The college currently offers two associate degrees in cybersecurity and a number of specialized certificates.
- In 2015, HCC was one of the first community colleges in the nation to be named as a Center of Academic Excellence for Two-Year Education in information assurance (CAE2Y) for the second time by the National Security Agency.



PROGRAM OPTIONS

- A.A.S. Degree, Cybersecurity
- A.S. Degree, Cybersecurity

CAREER OUTLOOK

MEDIAN SALARY

$86K

for computer & information technology occupations

EMPLOYMENT

546,200 new jobs in U.S.
12% growth in next ten years

Job prospects will be best for college graduates who possess the latest technological skills, particularly graduates who have supplemented their formal education with relevant work experience.

(source: www.bls.gov/ooh)

- HCC cybersecurity classes are taught in a five-story STEM (Science, Technology, Engineering, and Math) Building that features a state-of-the-art cybersecurity penetration testing lab.
- HCC has aligned many of its cybersecurity courses with Cyberwatch, a consortium of over 40 colleges, businesses, and government agencies. This alignment allows students to transfer seamlessly from HCC to a four-year college to complete their bachelor's degrees.
- Upon program completion, students will be prepared for several industry standard certification exams including:

  – CompTIA A+, Network +, Security +
- Maryland is ranked fourth in the nation for the highest cybersecurity job openings. Students who train at HCC will be well-placed to transition to the cybersecurity field.

What are the program options?
There are two degree options in cybersecurity at HCC. The A.S. degree has been developed for students wishing to transfer to a four-year institution. With an emphasis on general education, programming, cybersecurity, and forensics classes, this program of study will prepare the student to succeed in upper level courses required at the transfer school.

The A.A.S. degree is for students who wish to enter the workforce after a two-year program of study. The emphasis of this program is to introduce students to the technologies used in the field today, provide hands-on instruction, and prepare students for industry standard certification examinations.

Network Security
The certificate program in network security is designed for students interested in a career in network security. Students who complete this program will gain knowledge to prepare for industry certification examinations. Currently, three national certifications are part of this program: CompTIA Network+ and Security +; and Cisco Certified Entry Networking Technician.

Advanced Network Security
The certificate program in advanced network security is designed for students who have completed the requirements for a certificate in network security. Students who complete this program will gain knowledge to prepare for industry certification examinations.

Cisco CCNA Prep

The Cisco CCNA prep certificate is designed for the student who desires to complete the Cisco Network Academy and prepare for the industry recognized CCNA certificate examination.

A.A.S. Degree

Cybersecurity

The career program in cybersecurity is designed for students who plan to enter the field of information security. Major areas of study include network fundamentals, ethics, penetration testing, computer forensics, and operating systems.

General Education Requirements 18 credits

Arts/Humanities

Select a course from approved General Education course list 3

Behavioral/Social Sciences

Select a course from approved General Education course list 3

Biological/Physical Science

Select a course from approved General Education course list 3

Diversity

Select a course from approved General Education course list 3

English

ENG 112 Technical Writing I 3

**minimum grade of "C" or better is required*

Mathematics

MAT 115 Quantitative Reasoning 3

Program Requirements 41 credits

CSC 109 UNIX/LINUX Operation System 3
CYB 101 Introduction to Cybersecurity 3
CYB 210 Ethics in the Information Age 3
CYB 225 Tactical Perimeter Defense 3
CYB 240 Ethical Hacking Fundamentals 3
CYB 246 Introduction to Cloud Computing 3
IST 108 Microsoft Operating System 3
IST 154 Networking Basics 3
IST 155 Networking I 4
IST 156 Networking II 4
IST 160 Introduction to Security Fundamentals 3
IST 166 Computer Forensics I - Principles & Practices 3
IST 261 Server Management I 3

Free Electives 1 credit

Electives should be selected in consultation with an advisor to satisfy career goals or a transfer college curriculum

Degree Requirement 60

A.S. Degree

Cybersecurity

The transfer program in cybersecurity is designed for students who plan to transfer to a four-year institution and major in cybersecurity, information assurance, or a related field. Students should identify an intended transfer institution as early as possible and complete appropriate courses. Students should always confer with advisors and transferring institutions for specific requirements as these are subject to change.

General Education Requirements 31-32 credits

Arts/Humanities

Select two courses from approved General Education course list 6

Behavioral/Social Sciences

Select two courses from approved General Education course list 6

Biological/Physical Science

Select two courses from approved General Education course list-
One must include a laboratory course 7-8

Diversity

Select a course from approved General Education course list 3

English

ENG 101 English Composition 3

**minimum grade of "C" or better is required*

Select another ENG course from approved General Education course list 3

Mathematics

Select a course from approved General Education course list 3

Program Requirements 21 credits

CSC 132 Introduction to C and C++ Programming 3
CYB 101 Introduction to Cybersecurity 3
CYB 210 Ethics in the Information Age 3
CYB 225 Tactical Perimeter Defense 3
IST 154 Networking Basics 3
IST 160 Introduction to Security Fundamentals 3
IST 166 Computer Forensics I– Principles and Practices 3

Restricted Electives 6 credits

Electives should be selected in consultation with an advisor to satisfy career goals or a transfer college curriculum. Select six credits from the following list:

ADJ 101 Introduction to Criminal Justice. 3
CSC 109 UNIX/Linux Operation System 3
CSC 232 Advanced C++ Programming 3
CYB 131 Scripting Fundamentals 3
CYB 240 Ethical Hacking Fundamentals 3
CYB 246 Introduction to Cloud Computing 3
IST 107 Database Management 3
IST 108 Microsoft Operating System 3
IST 150 PC Tech: Repair and Troubleshooting 3
IST 173 Database Fundamentals 3
IST 266 Computer Forensics II – Investigations Practices 3
IST 276 Network Forensics 3

Free Electives 1-2 credits

Electives should be selected in consultation with an advisor to satisfy career goals or a transfer college curriculum

Degree Requirement 60

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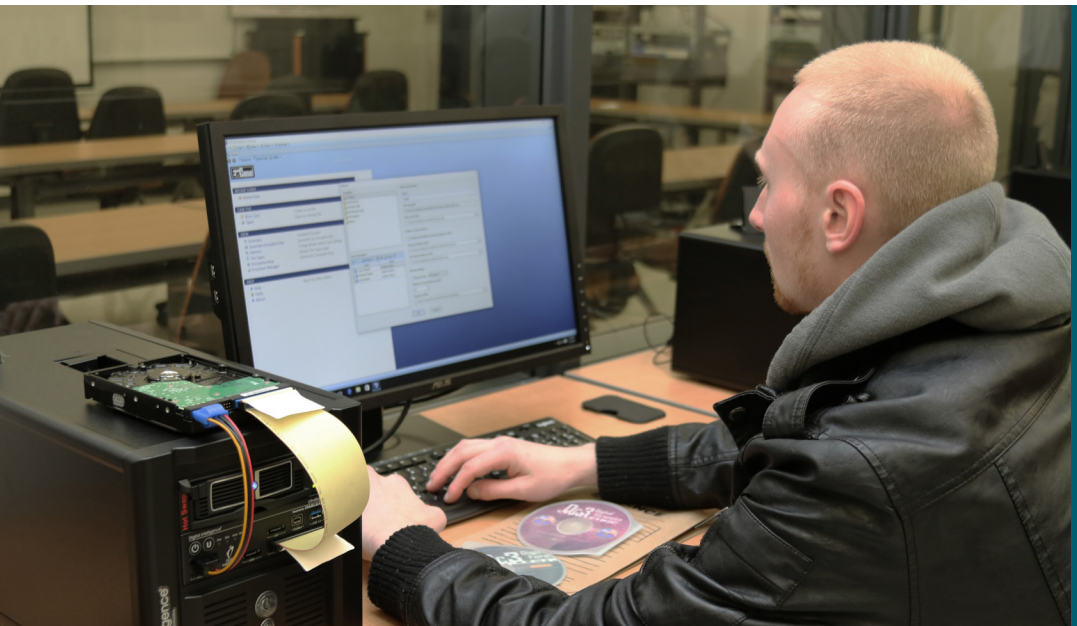

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