Cyber Security

STEM

● CAREER DEGREE   M MIDDLETOWN CAMPUS

Program Description

The Associate in Applied Science degree program in Cyber Security prepares students for employment in a variety of entry level careers in Cyber Security. Today, everyone is concerned with security, and people with knowledge in this area are in high demand. Positions can include such titles as Network Administrator, network security specialist, information security technician, just to name a few. The main thrust is protection of information and limiting access to network resources. In addition to security, students will also be instructed in techniques used to track perpetrators once an attack has occurred.

In addition to basic computer and networking skills, the student will be instructed in Operating Systems, Computer Forensics, Network Forensics, Information Security, Network Perimeter Security, and Cyber Crime Investigation.

Classes are designed to provide students with hands-on training utilizing state-of-the-art computer facilities.   Lab work and assignments will present real world cyber security scenarios encountered in the work place. For forensics studies, industry standard software will be used.

While A.A.S. graduates are prepared to enter the workforce immediately, many students choose to transfer to upper-level programs leading to a bachelor's degree in technology. If students are considering this, they should consult with the department chair and advisors for program planning. Special planning is available for students entering the program with previous college credit or equivalent training/work experience.

Program Outcomes

Students will:

- develop basic networking and computer skills, specifically as they relate to industry environments and practices
- demonstrate knowledge of Operating Systems fundamentals and configure and utilize software packages
- demonstrate an understanding of network security and forensics and perform computer forensic analysis
- develop an understanding of the social, institutional, and legal issues associated with cybersecurity and document appropriate procedures for handling case evidence

Admission Criteria

Admission to this program requires that students be high school graduates or have high school equivalency diplomas (HSEs). If students are not high school graduates, they may be eligible for admission to the College's 24 Credit Hour Program. If students are home schooled, they may be eligible for admission.

Hudson Valley Educational Consortium students from Sullivan County Community College or Ulster Community College who plan to register for Cyber Security courses must apply to and be accepted into the program by the following dates: August 15 for a Fall semester; and December 15 for a Spring semester.

Transfer Options

SUNY Orange has special relationships with upper-level colleges and universities for transfer.These transfer institutions include:

- St. John's University

Your Career Coach

Entry level career opportunities exist in the following areas:

- network administrator
- network security specialist
- computer crime investigation

Explore careers at Career Coach

Cyber Security Gateway Courses:

- Gateway courses: CIT 100, CIT 105
- Key courses: CIT 105, CIT 116, CFR 221, CIT 203

Courses above have been recommended by the department to help introduce you to the program (Gateway courses) and guide you in selecting courses that will provide you with the best academic experience (Key courses and suggested Electives).

First Semester

Course #	Course Name	P, C, P/C	Cr
ENG 101	Freshman English 1	P	3

Course #	Course Name	P, C, P/C	Cr
MAT 121	College Algebra	P	3
CRJ 101	Intro to Criminal Justice		3
CIT 100	Computer Literacy	P	3
CIT 105	Data Communications and Introduction to Networking	P	3
	Total Semester Credits		15

Milestones

During this semester, students should:

- Meet with your newly assigned "department" advisor to plan your second semester
- Consider joining the student-led Computer Club

Second Semester

Course #	Course Name	P, C, P/C	Cr
ENG 102	Freshman English 2	P	3
CIT 116	Networking 1	P	4
CIT 112	Computer Hardware and Software	P	4
CIT 118	Operating Systems	P	4
MAT 122	College Trigonometry	P	3
	Total Semester Credits		18

Milestones

During this semester, students should:

- Meet with department advisor to plan third semester

Third Semester

Course #	Course Name	P, C, P/C	Cr
CIT 203	Networking 2	P	4
CIT 217	Introduction to Unix/Linux	P	3
CFR 221	Computer Forensics	P	3
CSS 223	Information Security	P	3
PSY ___	Psychology		3
	Total Semester Credits		16

Milestones

During this semester, students should:

- Prepare resume for job search
- Narrow focus for post-graduate job search or, if continuing studies, research and apply to transfer schools

Fourth Semester

Course #	Course Name	P, C, P/C	Cr
CFR 222	Network Forensics	P	3
CSS 224	Network Perimeter Security	P	3
CSS 226	Cyber Crime Investigations		3
CRJ 111	Criminology		3
_____	Restricted Elective *		3
	Total Semester Credits		15

Milestones

During this semester, students should:

- Apply for graduation
- Schedule mock interviews through the Career Services Office or the Computer Science department

TOTAL DEGREE CREDITS: 64

Notes:

*Restricted Electives: CIT 111 - Internet & HTML Programming, CIT 115 - Visual Basic