

# Cybersecurity

## **Degree Type**

Associate in Science

## **Type**

Transfer

Division of STEAM

Associate Dean: Bradley Cole

In an increasingly networked world, the threat to critical infrastructures and personal data is real and pervasive. There is a clear need for skilled professionals to help prevent damaging and costly security breaches. This program places emphasis on the fundamental skills and knowledge required to safeguard an organization's information and defend systems while preparing students for successful transfer to a 4- year institution to continue their studies in computer and/or network security related field. Any student enrolling or currently enrolled in the program is required to inform the department chair of any prior felony convictions or felony convictions that occur while the student is enrolled in the program; enrollment in the program is then contingent on approval by the department chair.

Students in this program must meet 7 of the 10 SUNY Knowledge and Skills areas, 2 core competencies (Critical Thinking and Information Literacy), and have 30 SUNY General Education credits. Please note that of the 7 Knowledge and Skills areas, the following 4 are required: Communication-Written and Oral; Mathematics and Quantitative Reasoning; Natural Sciences and Scientific Reasoning; and Diversity, Equity, Inclusion, and Social Justice. For more information on the SUNY General Education requirements please see General Education Requirements.

Graduates are prepared to:

- Demonstrate knowledge and understanding of essential facts, concepts, design principles, policies, laws and threats relating to computer and network security
- Identify and explain the impact of technology on individuals and organizations, including security and ethical issues
- Demonstrate the ability to program effectively and securely
- Configure and administer systems and networks with an understanding of vulnerabilities and defensive techniques utilized to keep data secure
- Communicate effectively with individuals in and outside of the field.

# Program Requirements

Item #	Title	Credits
ENGL 1110	College Communication	3
ENGL 1020	College Composition II	3
	MATH 1310 and 1413 or higher	8
PHYS 1730	Principles of Physics I	4
PHYS 1740	Principles of Physics II	4
	Social Sciences Elective	3
	Humanities Elective	3
	Liberal Arts & Sciences Electives	3
PHIL 1300	Ethics and Current Moral Issues	3
CSNT 1200	Introduction to Networks	4
	CSNT 1500 or CRST 1010	4
	CSCS 1320 or CSCS 2420	3-4
CSNS 1610	Fundamentals of Information Security	4
CSNS 2620	Fundamentals of Information Assurance	3
CSCS 1240	Structured and Object-Oriented Problem Solving	3
CSCS 1730	UNIX/Linux Fundamentals	4
CSIT 2400	Database System	3
	Wellness (Activity or Awareness)	1
	<b>Total Credits</b>	<b>63-64</b>

## Course Sequencing

## First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in four semesters.

Item #	Title	Credits
ENGL 1110	College Communication	3
MATH 1413	Pre-Calculus	4
CSCS 1240	Structured and Object-Oriented Problem Solving	3
CSNT 1200	Introduction to Networks	4
CSCS 1730	UNIX/Linux Fundamentals	4

## Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3
MATH 1310	Elementary Statistics	4
CSNS 1610	Fundamentals of Information Security	4
	Wellness (Activity or Awareness)	1
	CSNT 1500 or CRST 1010	4

## Third Semester

Item #	Title	Credits
PHYS 1730	Principles of Physics I	4
CSIT 2400	Database System	3
	CSCS 1320 or CSCS 2420	3-4
PHIL 1300	Ethics and Current Moral Issues	3

## Fourth Semester

Item #	Title	Credits
PHYS 1740	Principles of Physics II	4
CSNS 2620	Fundamentals of Information Assurance	3
	Humanities Elective	3
	Liberal Arts and Sciences Elective	3
	Social Sciences Elective	3

## Footnotes

Mathematics: Math courses higher than MATH 1413 may be preferred by some transfer schools.

Electives: Students must choose from courses that are in the following different SUNY Gen Ed Knowledge and Skills areas: Social Science, American History, Western Civilization, Other World Civilizations, The Arts, and Foreign Languages. Advisor assistance is strongly encouraged.

PHIL 1300: Meets SUNY DEISJ requirement.

ENGL 1110: Students may take ENGL 1010 and SPCH 1080 in place of ENGL 1110.

Liberal Arts & Sciences Elective: Should be chosen from The Arts, US History & Civic Engagement, World History & Global Awareness, or World Languages. For a list of courses, see General Education Requirements.

\*Based on placement, students might be required to take developmental and/or prerequisite classes before taking the required English and math courses.

\*Since programs at transfer colleges vary greatly, it is essential that students meet early with their advisor in order to select appropriate electives.

\*High school or equivalent preparation required: biology, chemistry or physics and four years of mathematics, including algebra, geometry or intermediate algebra, trigonometry, and pre-calculus. Students who don't have this preparation will be able to get it here, but it may take longer to complete the program.

\*Any student enrolling or currently enrolled in the program is required to inform the program coordinator of any felony convictions that occur while the student is enrolled or have occurred prior to enrollment.