

Bachelor of Science

Cybersecurity with a Major in Cyber Operations (BS)

Degree Program Guide

The Degree Program Guide is a suggested curriculum to complete this degree program in four years. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.

Course	Title	Credit Hours
Freshman		
Fall		
ENGL 110C	English Composition (Grade of C or better required)	3
MATH 211	Calculus I	4
Oral Communication		3
Information Literacy and Research		3
Human Behavior (CRJS 215S or DASC 205S/SOC 205S required)		3
Credit Hours		16
Spring		
ENGL 211C or ENGL 231C	Writing, Rhetoric, and Research (Grade of C or better required) or Writing, Rhetoric, and Research: Special Topics	3
CS 150 or CS 151 or CS 153	Introduction to Programming with C++ or Introduction to Programming with Java or Introduction to Programming with Python	4
CYSE 200T	Cybersecurity, Technology, and Society (meets Impact of Technology)	3
MATH 212	Calculus II	4
Credit Hours		14
Sophomore		
Fall		
Nature of Science I		4
CS 170	Introduction to Computer Architecture I	3
CS 250 or CS 251	Programming with C++ * or Programming with Java	4
CS 252	Introduction to Unix for Programmers	1
ECE 241	Fundamentals of Computer Engineering	4
Credit Hours		16
Spring		
Nature of Science II		4
CS 260 or CS 261	C++ for Programmers * or Java for Programmers	1

CS 270	Introduction to Computer Architecture II	3
CS 361	Data Structures and Algorithms	3
CYSE 406/CRJS 406		3
ECE 304	Probability, Statistics, and Reliability	3
Credit Hours		17
Junior		
Fall		
PHIL 355E	Cybersecurity Ethics (meets Philosophy and Ethics)	3
CS 466	Principles and Practice of Cyber Defense	3
CS 381	Introduction to Discrete Structures	3
ECE 355	Introduction to Networks and Data Communications	3
Interpreting the Past		3
Credit Hours		15
Spring		
CYSE 425W	Cybersecurity Strategy and Policy (C or better required)	3
CYSE 301	Cybersecurity Techniques and Operations	3
CS 390	Introduction to Theoretical Computer Science	3
CS 467	Introduction to Reverse Software Engineering	3
ECE 346	Microcontrollers	3
Credit Hours		15
Senior		
Fall		
Literature		3
CS 471	Operating Systems	3
ECE 416	Cyber Defense Fundamentals	3
MSIM 470	Foundations of Cyber Security	3
Approved Program Elective		3
Credit Hours		15
Spring		
Human Creativity		3
CYSE 368 or IDS 493	Cybersecurity Internship or IDS Electronic Portfolio Project	3
ECE 419	Cyber Physical System Security	3
ECE 455	Network Engineering and Design	3
Credit Hours		12
Total Credit Hours		120

* Students who take CS 250 Programming with C++ need to select CS 261 Java for Programmers as the required lab course. Students who take CS 251 Programming with Java need to select CS 260 C++ for Programmers as the required lab course.

Language and Culture I & II may be met in high school and are not included in this four-year plan. Please see requirement details.