

CYBERSECURITY, BS

Department Chair: Professor Brian Kellogg

Faculty: Christopher Bopp, Ph.D, Anne Foerst, Ph.D

Students in the cybersecurity program will learn the appropriate tools, techniques, policies, and technologies required to identify, analyze, mitigate, and communicate the risks of computer systems. The major helps prepare students for careers in Cybersecurity, Networks, and Information Systems security. The courses provide a rich Cybersecurity experience which aligns with the knowledge units required by the National Security Agency and the Department of Homeland Security.

In addition, Cybersecurity overlaps well and has its foundation in Computer Science – allowing many students to minor or double major in these two related fields.

Cybersecurity Student Learning Outcomes

- Analyze a complex computing problem and apply the principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply security principles and practices to maintain operations in the presence of risks and threats.
- Learn how to hunt, contain, and evict threats within an enterprise.

Code	Title	Credits
Cybersecurity		16
CS-131 & CSL-131	OBJECT ORIENTED PROGRAMMING and OBJECT ORIENTED PROGRAMMING LAB	
CS-254 & CSL-254	COMPUTER NETWORKS and COMPUTER NETWORKS LAB	
CS-255 & CSL-255	SERVER MANAGEMENT and SERVER MANAGEMENT LAB	
CS-346 & CSL-346	OPERATING SYSTEMS and OPERATING SYSTEMS LAB	
CYB-101	INTRODUCTION TO INFORMATION SECURITY	3
CYB-202	CYBERSECURITY ETHICS	3
CYB-333	INFORMATION SECURITY	3
CYB-354 & CYBL-354	INTRO TO NETWORK SECURITY and INTRO TO NETWORK SECURITY LAB	4
CYB-355	COMPUTER CRIME	3
CYB-411 & CYBL-411	INTRO TO PENETRATION TESTING and INTRO TO PENETRATION TEST LAB	4
CYB-491	INTERNSHIP IN CYBERSECURITY	1-3
Cybersecurity Electives²		6-8
Mathematics		7
MATH-107	INTRODUCTION TO STATISTICS	
MATH-207	DISCRETE MATHEMATICS I	

General Education Requirements (https://catalog.sbu.edu/undergraduate/degree-requirements/)	37
Foreign Language³	3
General Electives (enough to reach 120 credits)	30
Total Credits	120-124

¹ Electives must be taken from the following: CS-101/CSL-101 before taking CS-131/CSL-131, CS-132/CSL-132 (may only use either CS-101/CSL-101 or CS-132/CSL-132 as elective), CS-243/CSL-243, CYB-360, CYB-380, CYB-410, CYB-492, CS-380 or any 2 graduate courses from CYB-511 through CYB-527

² The foreign language must be at the level of 202 or higher. Students not prepared to begin at this level will need to take additional courses in language.

First Year			
Fall	Credits	Spring	Credits
CS-131 & CSL-131	4	CS-132 & CSL-132	4
CYB-101	3	MATH-107	3
CS-101	3	Foreign Language/General Elective	3
BONA-101	3	CYB-202	3
Foreign Language/General Elective	3	General Education Requirement	3
		16	16

Second Year			
Fall	Credits	Spring	Credits
CS-254 & CSL-254	4	CS-255 & CSL-255	4
MATH-207	3	General Education Requirements	7
ENG-101	3	ENG-102	3
General Education Requirement	3		
General Elective	3		
		16	14

Third Year			
Fall	Credits	Spring	Credits
CYB-333	3	CS-354 & CSL-254	4
CS-346 & CSL-346	4	CYB-355	3
General Education Requirement	3	General Education Requirement	3
General Elective	6	General Electives	6
		16	16

Fourth Year			
Fall	Credits	Spring	Credits
CYB-411 & CYBL-411	4	General Education Requirements	5
CYB-491	3	Cybersecurity Elective	4
General Education Requirement	3	General Electives	7
General Electives	6		
		16	16

Total Credits 126