

CYBER SECURITY, BS

The Cyber Security program is designed to provide a rigorous, technical degree that imparts the necessary knowledge, skills, and motivations to protect and defend digital information from attacks. The degree in Cyber Security will provide students with the technical skills and theoretical concepts needed to protect the Internet-connected hardware, software and data of computer systems. The Cyber Security program is a rigorous curriculum that will prepare a student for continued education at the graduate level. This degree will also help to develop, conduct and disseminate innovative research in cyber security, fostering dedication to excellence in education, research and service.

Freshman

Fall	Hours	Spring	Hours
CS 121	1	CS 140	3
CS 100	4	CS 101	4
MATH 125	4	MATH 126	4
ENGR 103	3	PH 101 or 105	4
EN 101	3		
15		15	

Sophomore

Fall	Hours	Spring	Hours
CS 200	4	ECE 380	4
MATH 301	3	CS 201	4
EN 102	3	MATH 237	3
PH 102 or 106	4	GES 255	3
		COM 123	3
14		17	

Junior

Fall	Hours	Spring	Hours
ECE 383	4	CS 347	3
CS 300	3	CS 442	3
CS 301	3	CS 470 or 475	3
HI/SB Elective	3	HI/SB Elective	3
EN 319	3	Free Elective	3
16		15	

Senior

Fall	Hours	Spring	Hours
ECE 484	3	CS 495	3
CS 428	3	CS 448	3
CS 438	3	CS Cyber Elective	3
CS Cyber Elective	3	HU/L/FA Elective	3
Free Elective	3	HI/SB Elective	3
15		15	

Total Hours: 122

Major Area - Cyber Security

	Hours
CS 100 CS I for Majors	4
CS 101 CS II for Majors	4
CS 121 The Discipline of Computing	1
CS 140 Introduction to Cyber Security	3
CS 200 Software Design & Engineering	4
CS 201 Data Structures and Algorithms	4

CS 300	Operating Systems	3
CS 301	Database Management Systems	3
CS 470 or CS 475	Computer Algorithms Formal Languages & Machines	3
CS 442	Cryptography	3
CS 428	Computer Security	3
CS 438	Computer Comm & Networks	3
CS 448	Network Security	3
CS 495	Capstone Computing	3

Total Hours 44

Supportive Courses

	Hours
ECE 380 Digital Logic	4
ECE 383 Microcomputers	4
ECE 484 Computer Architecture	3
GES 255 Engineering Statistics I	3
EN 319 Technical Writing	3
ENGR 103 Engineering Foundations	3

Total Hours 20

General Studies

	Hours
Freshman Composition	6
History, Social/Behavioral Sciences	9
Humanities and Fine Arts	3
CS 347 Cyber Law and Ethics	3
MATH 125 Calculus I	4
MATH 126 Calculus II	4
MATH 237 Introduction to Linear Algebra	3
MATH 301 Discrete Mathematics	3
PH 105 or PH 101 General Physics W/Calc I General Physics I	4
PH 106 or PH 102 General Physics W/Calc II General Physics II	4
COM 123 Public Speaking	3

Credit Hours Subtotal: 46

Total Hours 46

Electives

	Hours
CS Cyber Security Elective (CS 443, CS 444, CS 445, and departmental approved electives)	3
CS Cyber Security Elective (CS 443, CS 444, CS 445, and departmental approved electives)	3
Free Elective	3
Free Elective	3

Total Hours 12

The Cyber Security program is specifically designed to train and equip the student with the knowledge and skills necessary to defend computer and network systems, as well as data, from cyber attacks.

Graduates of the program would be fully prepared to pursue a wide range of possible professions including, but not limited to the following:

- Chief Information Security Officer
- Information Security Analyst
- Security Architect
- Security Engineer
- Security Consultant
- Vulnerability Assessor

Possible places of employment would include but are not limited to:

- Federal, local, state, and tribal government organizations
- Financial sector
- Educational institutions
- Healthcare organizations
- Manufacturing industry

In addition to numerous possible employment opportunities, graduates of this program will also be prepared to pursue diverse opportunities of continued education.

Learn more about opportunities in this field at the Career Center