

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.

| 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 | General Physics W/Calc I | 4 |
| PH 106 | General Physics W/Calc II | 4 |
| COM 123 | Public Speaking | 3 |

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|--|------------------------|--------------|
| | Credit Hours Subtotal: | 46 |
| Total Hours | | 46 |
| Electives | | Hours |
| CS Cyber Security Elective (CS 443, CS 444, CS 445, and departmental approved electives) | | 3 |
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| Free Elective | | 3 |
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| 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