

BACHELOR OF SCIENCE IN CYBER SECURITY MAJOR

Dr. Matthew D. Gonzalez, Program Director

Mission

The mission of the BSCS is to prepare graduates with the ability to apply learned skills and experiential knowledge of security technology to make a significant contribution to the information security of individuals, corporations, governmental services and the national community.

Program Description

The Bachelor of Science in Cyber Security is a 2-year, online degree completion program that can be taken full time or part time and is designed for working adults who already have some college credit. Graduates will be prepared to contribute to and lead others in the quickly evolving dimensions of Information Technology (IT) related to cyber security. The Program provides opportunities for students to acquire the knowledge, skills, and experience necessary for demonstration of competency in the field of cyber security at the baccalaureate level.

Unique Strengths of the Program

- Graduates will be prepared to contribute to and lead others in the quickly evolving dimensions of Information Technology (IT) related to cybersecurity.
- Graduates will be prepared to conduct the seven main categories of cyber operations as defined by the National Cybersecurity Workforce framework. They will be able to: (1) securely provision, (2) operate and maintain, (3) protect and defend, (4) investigate, (5) collect and operate, (6) analyze, and (7) provide oversight and development. Simplified, graduates will be prepared for a variety of careers in the rapidly growing industry of cybersecurity.
- The [National Cybersecurity Workforce Framework](#) and [U.S. Department of Labor](#) have identified potential job opportunities for graduates of cybersecurity programs that include, but are not limited to:
 - Information Security Analyst
 - Information Systems Security Engineer
 - Intrusion Detection System (IDS) administrator, engineer, or technician
 - Network Administrator
 - Computer Crime Investigator
 - Cyber Trainer
 - Chief Information Security Officer (CISO)

Program Outcomes

The graduate will:

1. Establish and supervise legal and ethical practices in the cybersecurity arena;
2. Develop and implement a comprehensive cybersecurity strategic plan for individuals, corporations, governmental agencies, or the national community;

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3. Detect, assess, and remediate ongoing cybersecurity threats and vulnerabilities;
4. Effectively communicate cybersecurity threats and remediation strategies across organizational levels in both verbal and written formats; and
5. Integrate knowledge, software and hardware capabilities, and threat and vulnerability awareness across varying technology formats, such as operating systems, networking, social media, mobile and handheld devices.

Admission Requirements

Applicants must gain general admission to the university, have a 60-credit associate degree in Cybersecurity or another technology-related field from a regionally accredited college or university **or** have a minimum of 60 semester credit hours with the primary focus on technology. **The 60 credits must include 9 credits of prerequisite courses or certifications as noted below.** Applicants must have a minimum GPA of 2.0.

Degree Requirements

- Completion of all University of Charleston Institutional Learning Outcomes;
- Completion of 125 credits, including transfer credit;
- Completion of 24 credits within UC's core cybersecurity curriculum;
- Completion of one of the following:
 - 21 credits (seven courses) to complete a minor in Business Administration and satisfy prerequisites for UC's Master of Business Administration (MBA) program; or
 - 18 credits (six courses) to complete a Minor in Organizational Leadership.

Curriculum

Students in the Cybersecurity program complete prerequisite courses (9 credits), foundational courses (31 credits), Cyber required courses (9 credits), Cyber elective courses (15-18 credits), minor selection (18-21 credits), and general electives (38 credits), for a total of 120-126 credits.

Prerequisite Cybersecurity Courses (9 transfer credits)	
Course	Credits
ORGL 150: Intro to Professional Development	3
CYBR 100: Intro to Computers (or A+ Certification)	3
CYBR 110: Intro to Networking (or Net + Certification)	3
CYBR 120: Intro to Security (or Security + Certification)	3
Total	12
Foundational Courses (31 credits)*	
Course	Credits
COMM 101: Freshman Writing I	3
COMM 102: Freshman Writing II	3

SPCH 103: Oral Communication Fundamentals	3
SSCI 105: Issues in Social Science	3
HIST 212: World Cultures II	3
HUMN 101: Intro to Humanities	3
ENGL XXX: Literature Course	3
NSCI 112 or 117: Science Course	4
MATH 120 or 121: College Algebra	3
Total	28

* Some foundational course requirements may be met with transfer credits; this will vary by student.

Required Cyber Courses (9 credits)	
Course	Credits
CYBR 310 Cybersecurity Strategy	3
CYBR 440 Advanced Security Trends	3
CYBR 450 Cybersecurity Capstone	3
Total	9
Elective Cyber Courses (15-18 credits)	
Course	Credits
CYBR 320 Ethical Hacking & Countermeasures (Certified Ethical Hacker)	3
CYBR 330 Incident Handler	3
CYBR 340 Security Analysis	3
CYBR 410 Certified Information Systems Security Professional - Phase I	3
CYBR 415 Certified Information Systems Security Professional - Phase II	3
Elective Agreement (e.g. COSMO, COG, ETA Information Technology Security Exam, etc.)	3
Total	15-18
Minor Electives (18-21 credits)	
Organizational Leadership Minor	
BUSI 151 Introduction to Business	3
ORGL 309: Collaborative Leadership	3
ORGL 316: Ethics	3

ORGL 430: Leading Teams: Practicum	3
ORGL 401: The Learning Organization	3
ORGL 406: Organizational Development & Change	3
Total	18
Business Administration Minor	
BUSI 151: Introduction to Business	3
ACCT 201: Principles of Accounting I	3
ACCT 202: Principles of Accounting II	3
BUSI 201: Principles of Microeconomics	3
FINA 312: Business Finance	3
MGMT 311: Principles of Management	3
MRKT 321: Principles of Marketing	3
Total	21
Total credits for program	125

*Students on a track to meet the prerequisites for entering the Master of Business Administration (MBA) program may substitute BUSI-316 for BUSI-151.