

CYBERSECURITY SCIENCE & OPERATIONS (B.S.) - RESIDENTIAL

Important: This degree plan is effective for those starting this degree program in fall 2025 through summer 2026. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations, or cognates.

General Education/Foundational Skills Requirements

| Code | Title | Hours |
|--|---|--------------|
| Communication & Information Literacy ¹ | | |
| ENGL 101 | Composition and Rhetoric | 3 |
| | Communications Elective | 3 |
| | Information Literacy Elective | 3 |
| | Information Literacy Elective | 3 |
| Technological Solutions & Quantitative Reasoning ¹ | | |
| UNIV 101 | Foundational Skills | 1 |
| | Math Elective MATH 114 or higher | 4 |
| | Technology Competency ² | 0-3 |
| Critical Thinking ¹ | | |
| RLGN 105 | Introduction to Biblical Worldview ³ | 2 |
| | Critical Thinking Elective | 3 |
| Civic & Global Engagement ¹ | | |
| EVAN 101 | Evangelism and the Christian Life ³ | 2 |
| | Cultural Studies Elective | 3 |
| Social & Scientific Inquiry ¹ | | |
| | Natural Science Elective | 4 |
| | Social Science Elective | 3 |
| Christianity & Contexts ¹ | | |
| BIBL 105 | Old Testament Survey | 2 |
| BIBL 110 | New Testament Survey | 2 |
| THEO 201 | Theology Survey I ³ | 2 |
| THEO 202 | Theology Survey II ³ | 2 |
| Total Hours | | 42-45 |

¹ Refer to the list of approved general education electives before enrolling in foundational skill requirements

² All students must pass the Computer Assessment OR complete applicable INFT course

³ Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 & EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 & THEO 202 waived

Major Requirements

| Code | Title | Hours |
|-----------------------------------|---|-------|
| Major Foundational Courses | | |
| BUSI 240 | Organizational Behavior and Management ¹ | 3 |
| CSCN 110 | Introduction to Computer Sciences ¹ | 3 |

| Code | Title | Hours |
|--------------------|--|-----------|
| CSCN 111 | Programming In C++ Beginner ¹ | 3 |
| ENGR 270 | Technical Communication ¹ | 3 |
| MATH 128 | Precalculus with Trigonometry ¹ | 4 |
| PHYS 201 | General Physics I ¹ | 4 |
| Total Hours | | 20 |

¹ Course may fulfill select general education requirements.

| Code | Title | Hours |
|-------------------------------------|---|-----------|
| Major Courses | | |
| CSCN 112 | Programming in C++ Advanced | 3 |
| CSCN 215 | Data Structures and Algorithms using C++ | 3 |
| CSCN 230 | Business Data Communications and Networks | 3 |
| CSCN 321 | Python and R for Data Science | 3 |
| CSCN 322 | Data Engineering | 3 |
| CSCN 326 | Database Design and Management | 3 |
| CSCN 340 | Information Security Concepts and Principles | 3 |
| CSCN 342 | Computer Architecture | 3 |
| CSCN 345 | Linux Operating System | 3 |
| CSCN 352 | Windows System Administration | 3 |
| CSCN 366 | Advanced Communications Architectures, Protocols, and Cybersecurity | 3 |
| CSCN 377 | Applied Cybersecurity | 3 |
| CSCN 435 | Malware Analysis Tools and Techniques | 3 |
| CSCN 436 | Malware Analysis Tools and Techniques - Lab | 1 |
| CSCN 437 | Embedded Systems | 3 |
| CSCN 443 | Operating Systems Design | 3 |
| CSCN 444 | Enterprise System Architectures | 3 |
| CSCN 445 | Applied Digital Forensics | 3 |
| CSCN 461 | Aspects of Computer Security-Defensive | 3 |
| CSCN 462 | Advanced Aspects of Computer Security-Ethical Hacking | 3 |
| CSCN 464 | Applied Modern Cryptography | 3 |
| CSCN 471 | Software Engineering Management | 3 |
| CSCN 485 | Cybersecurity Practicum I | 3 |
| CSCN 486 | Cybersecurity Practicum II | 3 |
| Quantitative Studies Courses | | |
| MATH 201 | Introduction to Probability and Statistics | 3 |
| MATH 250 | Introduction to Discrete Mathematics | 3 |
| Technical Elective Course | | |
| | Elective ¹ | 3 |
| Total Hours | | 79 |

¹ Choose any of the following courses that are not already required by the degree: CSIS 209, CSIS 244, any 300-400 level non-programming Computer Science course, any 300-400 level Cybersecurity course, ENGR 245, or MATH 350. Other courses may be approved by the department chair. The student may opt to substitute an achieved and current DoD 8140.03 Cybersecurity (CS) required certification from the list of DoD 8140.03 approved Cybersecurity certification vendors for a technical elective as approved by the department chair.

All applicable prerequisites must be met

Graduation Requirements

- **121** Total Hours
- **2.0** Overall grade point average
- **30.25** Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for **all** courses in the major, quantitative studies, technical elective, and major foundational sections
- **25%** Of major, core, and cognate taken through Liberty University
- **30.25** Hours must be completed through Liberty University
- **Grad App** Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date
- **CSER** All requirements must be satisfied before a degree will be awarded

Course Sequence

| Course | Title | Hours |
|---|--|--------------|
| Freshman Year | | |
| First Semester | | |
| Information Literacy Elective (CSCN 110) ¹ | | 3 |
| Math Elective ¹ | | 4 |
| Technology Competency ² | | 0-3 |
| ENGL 101 | Composition and Rhetoric | 3 |
| EVAN 101 | Evangelism and the Christian Life | 2 |
| RLGN 105 | Introduction to Biblical Worldview | 2 |
| UNIV 101 | Foundational Skills | 1 |
| CSER | | |
| Hours | | 15-18 |
| Second Semester | | |
| Communications Elective (ENGR 270) ¹ | | 3 |
| Information Literacy Elective (CSCN 111) ¹ | | 3 |
| BIBL 105 | Old Testament Survey | 2 |
| CSCN 230 | Business Data Communications and Networks | 3 |
| MATH 201 | Introduction to Probability and Statistics | 3 |
| CSER | | |
| Hours | | 14 |
| Sophomore Year | | |
| First Semester | | |
| BIBL 110 | New Testament Survey | 2 |
| CSCN 112 | Programming in C++ Advanced | 3 |
| CSCN 340 | Information Security Concepts and Principles | 3 |
| CSCN 345 | Linux Operating System | 3 |
| MATH 250 | Introduction to Discrete Mathematics | 3 |
| CSER | | |
| Hours | | 14 |
| Second Semester | | |
| Social Science Elective (BUSI 240) ¹ | | 3 |
| CSCN 215 | Data Structures and Algorithms using C++ | 3 |
| CSCN 352 | Windows System Administration | 3 |

| Course | Title | Hours |
|--|---|----------------|
| CSCN 366 | Advanced Communications Architectures, Protocols, and Cybersecurity | 3 |
| CSCN 464 | Applied Modern Cryptography | 3 |
| CSER | | |
| Hours | | 15 |
| Junior Year | | |
| First Semester | | |
| Natural Science Elective [PHYS 201] ¹ | | 4 |
| CSCN 321 | Python and R for Data Science | 3 |
| CSCN 326 | Database Design and Management | 3 |
| CSCN 342 | Computer Architecture | 3 |
| CSCN 377 | Applied Cybersecurity | 3 |
| CSER | | |
| Hours | | 16 |
| Second Semester | | |
| CSCN 322 | Data Engineering | 3 |
| CSCN 443 | Operating Systems Design | 3 |
| CSCN 444 | Enterprise System Architectures | 3 |
| CSCN 461 | Aspects of Computer Security-Defensive | 3 |
| CSCN 471 | Software Engineering Management | 3 |
| THEO 201 | Theology Survey I | 2 |
| CSER | | |
| Hours | | 17 |
| Senior Year | | |
| First Semester | | |
| CSCN 435 | Malware Analysis Tools and Techniques | 3 |
| CSCN 436 | Malware Analysis Tools and Techniques - Lab | 1 |
| CSCN 437 | Embedded Systems | 3 |
| CSCN 462 | Advanced Aspects of Computer Security-Ethical Hacking | 3 |
| CSCN 485 | Cybersecurity Practicum I | 3 |
| Technical Elective ³ | | 3 |
| CSER | | |
| Hours | | 16 |
| Second Semester | | |
| Critical Thinking Elective ¹ | | 3 |
| Cultural Studies Elective ¹ | | 3 |
| CSCN 445 | Applied Digital Forensics | 3 |
| CSCN 486 | Cybersecurity Practicum II | 3 |
| THEO 202 | Theology Survey II | 2 |
| CSER | | |
| Hours | | 14 |
| Total Hours | | 121-124 |

¹ Refer to the list of approved general education electives at general education electives before enrolling in foundational skills requirements.

² All students must pass the Computer Assessment OR complete applicable INFT course; refer to Computer Assessment for more information.

³ Choose any of the following courses that are not already required by the degree: CSIS 209, or CSIS 244, any 300-400 level Computer Science course, any 300-400 level Cybersecurity course, ENGR 245,

or MATH 350. Other courses may be approved by the department chair. The student may opt to substitute an achieved and current DoD 8140.03 Cybersecurity (CS) required certification from the list of DoD 8140.03 approved Cybersecurity certification vendors for a technical elective as approved by the department chair.