

COMPUTER SCIENCE CYBERSECURITY (B.S.) - ONLINE

Important: This degree plan is effective for those starting this degree program in fall 2024 through summer 2025. 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 104	Instructional Technology for Successful Online Learning	0-3
	Math Elective MATH 114 or higher	4
Critical Thinking ¹		
RLGN 104	Christian Life and Biblical Worldview ²	4
	Critical Thinking Elective	3
Civic & Global Engagement ¹		
	Cultural Studies Elective	3
Social & Scientific Inquiry ¹		
	Natural Science Elective	4
	Social Science Elective	3
Christianity & Contexts ¹		
BIBL 104	Survey of Old and New Testament	4
THEO 104	Introduction to Theology Survey ²	4
Total Hours		41-44

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

² Students transferring in 45 or more UG credit hours will have the requirement of RLGN 104 waived; Students transferring in 60 or more UG credit hours will also have the requirement of THEO 104 waived

Major Requirements

Code	Title	Hours
Major Foundational Courses		
CSIS 110	Introduction to Computer Science ^{1,2}	3
MATH 128	Elementary Functions and Coordinate Geometry ^{1,2}	4
PHYS 201	General Physics I ^{1,2}	4
Total Hours		11

¹ Course may fulfill select general education requirements.

² Minimum grade of 'C' required

Code	Title	Hours
Major Core		
CSIS 100	Introduction to Information Sciences and Systems	3
CSIS 111	Introduction to Programming Using C++	3
CSIS 112	Advanced Programming	3
CSIS 215	Algorithms and Data Structures	3
CSIS 325	Database Management Systems	3
CSIS 340	Studies in Information Security	3
CSIS 342	Computer Architecture and Organization	3
CSIS 345	Introduction to Linux	3
CSIS 352	System Administration	3
CSIS 355	Network Architecture and Protocols	3
CSIS 434	Theory of Programming Languages	3
CSIS 443	Operating Systems	3
CSIS 461	Technical Aspects of Computer Security	3
CSIS 463	Modern Cryptography	3
CSIS 471	Software Engineering	3
CSIS 485	Cybersecurity Capstone I	3
CSIS 486	Cybersecurity Capstone II	3
Total Hours		51

Code	Title	Hours
Quantitative Studies Courses		
MATH 131	Calculus and Analytic Geometry I	4
MATH 211	Introduction to Statistical Analysis	3
MATH 250	Introduction to Discrete Mathematics	3
MATH 350	Discrete Mathematics	3
Total Hours		13

Code	Title	Hours
Lab Sciences Courses		
	Lab Science Elective ¹	4
Total Hours		4

¹ Choose from BIOL 101 Principles of Biology (3 c.h.) and BIOL 103 Principles of Biology Laboratory (1 c.h.), or PHSC 210 Elements of Earth Science (3 c.h.) and PHSC 211 Elements of Earth Science Lab (1 c.h.), or any other Lab Science Course *and* its associated Lab

Code	Title	Hours
Technical Elective Courses		
	Technical Elective ^{1,2}	
	Technical Elective ^{1,2}	
	Technical Elective ^{1,2}	
	Technical Elective ^{1,2}	
Total Hours		12-15

¹ Choose a minimum of 12 credits from any CSIS course not already required in the degree, or any ENGx (Engineering) course

² A 300-400 level Computer Science Information Systems internship is strongly recommended

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, lab science, and technical electives
- 25% Of major 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

Course Sequence

Course	Title	Hours
First Year		
First Semester		
Math Elective (MATH 128) ¹		4
CSIS 100	Introduction to Information Systems and Information Technology	3
UNIV 104	Instructional Technology for Successful Online Learning	0-3
Information Literacy Elective (CSIS 110) ¹		3
ENGL 101	Composition and Rhetoric	3
Hours		13-16
Second Semester		
MATH 131	Calculus and Analytic Geometry I	4
Technical Elective ^{2,3}		3
CSIS 111	Introduction to Programming Using C++	3
Communications Elective ¹		3
Hours		13
Second Year		
First Semester		
MATH 211	Introduction to Statistical Analysis	3
Technical Elective ^{2,3}		3
CSIS 112	Advanced Programming Using C++	3
MATH 250	Introduction to Discrete Mathematics	3
BIBL 104	Survey of Old and New Testament	4
Hours		16
Second Semester		
CSIS 340	Studies in Information Security	3
MATH 350	Discrete Mathematics	3
CSIS 215	Algorithms and Data Structures	3
Natural Science Elective (PHYS 201) ¹		4
Information Literacy Elective ¹		3
Hours		16
Third Year		
First Semester		
CSIS 345	Introduction to Linux	3
THEO 104	Introduction to Theology Survey	4
CSIS 325	Database Management Systems	3
Cultural Studies Elective ¹		3

Course	Title	Hours
Lab Science Elective ⁴		3
Hours		16
Second Semester		
CSIS 342	Computer Architecture and Organization	3
CSIS 352	System Administration	3
CSIS 355	Network Architecture and Protocols	3
CSIS 434	Theory of Programming Languages	3
Social Sciences Elective ¹		3
Hours		15
Fourth Year		
First Semester		
CSIS 463	Modern Cryptography	3
CSIS 443	Operating Systems	3
CSIS 461	Technical Aspects of Computer Security	3
CSIS 471	Software Engineering	3
RLGN 104	Christian Life and Biblical Worldview	4
Hours		16
Second Semester		
CSIS 485	Cybersecurity Capstone I	3
Technical Elective ^{2,3}		3
CSIS 486	Cybersecurity Capstone II	3
Technical Elective ^{2,3}		3
Critical Thinking Elective ¹		3
Hours		15
Total Hours		120-123

¹ Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in foundational skills requirements

² Choose from: any CSIS course³ not already required in the degree, or any ENGx (Engineering) course. A total of 12 credits are required for Technical Electives.

³ A 300-400 level Computer Science Information Systems internship is strongly recommended

⁴ Choose from BIOL 101 and BIOL 103, OR PHSC 210 and 211, OR any other Lab Science course and its associated Lab