COMPUTATIONAL MATHEMATICS (B.S.) - COMPUTER SCIENCE - ONLINE

Important: This degree plan is effective for those starting this degree program in fall 2026 through summer 2027. 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	3
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		3
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		**39-42**

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]	3
MATH 131	Calculus and Analytic Geometry I [1]	4
Total Hours		**7**

1. Course may fulfill select general education requirements.

Code	Title	Hours
Major Courses		
MATH 132	Calculus and Analytic Geometry II	4
MATH 211	Introduction to Statistical Analysis	3
MATH 250	Introduction to Discrete Mathematics	3
MATH 345	Introduction to the History of Mathematics	3
MATH 410	Matrix and Linear Algebra	3
MATH 412	Numerical Methods	3
MATH 423	Abstract Algebraic Structures	3
MATH 430	Multivariable Calculus	3
MATH 432	Applied Differential Equations	3
MATH 441	Probability I	3
MATH 460	Mathematical Modeling and Simulation	3
MATH 491	Computational Mathematics Capstone	3
STAT 420	Regression and Forecasting I	3
Total Hours		**40**

Code	Title	Hours
Cognate		
CSIS 100	Introduction to Information Systems and Information Technology	3
CSIS 111	Introduction to Programming Using C++	3
CSIS 112	Advanced Programming Using C++	3
CSIS 215	Algorithms and Data Structures	3
CSIS 340	Studies in Information Security	3
Total Hours		**15**

Code	Title	Hours
Free Electives		
Choose 16-26 credit hours of Free Electives		16-26

All applicable prerequisites must be met

Graduation Requirements

- **120** Total hours
- **2.0** Overall grade point average
- **30** Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for all major foundational courses and all upper-level courses in the major
- **25%** Of major taken through Liberty University
- **30** 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

Freshman Year		
First Semester		**Hours**
BIBL 104	Survey of Old and New Testament	4
ENGL 101	Composition and Rhetoric	3
UNIV 104	Instructional Technology for Successful Online Learning	3
Communications Elective [1]		3

Math Elective [MATH 131 1]		4
	Hours	**17**
Second Semester		
RLGN 104	Christian Life and Biblical Worldview	4
Critical Thinking Elective [1]		3
Information Literacy Elective [CSIS 110 1]		3
MATH 132	Calculus and Analytic Geometry II	4
MATH 250	Introduction to Discrete Mathematics	3
	Hours	**17**
Sophomore Year		
Third Semester		
Information Literacy Elective [1]		3
Natural Science Elective [1]		3
CSIS 100	Introduction to Information Systems and Information Technology	3
MATH 211	Introduction to Statistical Analysis	3
MATH 430	Multivariable Calculus	3
	Hours	**15**
Fourth Semester		
THEO 104	Introduction to Theology Survey	4
Cultural Studies Elective [1]		3
Social Studies Elective [1]		3
CSIS 111	Introduction to Programming Using C++	3
Elective		3
	Hours	**16**
Junior Year		
Fifth Semester		
CSIS 112	Advanced Programming Using C++	3
MATH 410	Matrix and Linear Algebra	3
STAT 420	Regression and Forecasting I	3
Elective		3
Elective		3
	Hours	**15**
Sixth Semester		
CSIS 215	Algorithms and Data Structures	3
MATH 345	Introduction to the History of Mathematics	3
MATH 412	Numerical Methods	3
MATH 423	Abstract Algebraic Structures	3
Elective		3
	Hours	**15**
Senior Year		
Seventh Semester		
CSIS 340	Studies in Information Security	3
MATH 432	Applied Differential Equations	3
MATH 441	Probability I	3
Elective		3
Elective		1
	Hours	**13**
Eighth Semester		
MATH 460	Mathematical Modeling and Simulation	3
MATH 491	Computational Mathematics Capstone	3
Elective		3
Elective		3
Elective		3
	Hours	**15**
	Total Hours	**123**

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