

COMPUTATIONAL MATHEMATICS (B.S.) - ONLINE

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 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
Free Electives		
	Choose 31-41 credit hours of Free Electives	31-41
Total Hours		31-41

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		Hours
First Semester		
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
MATH 211 Introduction to Statistical Analysis	3
MATH 430 Multivariable Calculus	3
Elective	3
Hours	15

Fourth Semester

THEO 104 Introduction to Theology Survey	4
Cultural Studies Elective ¹	3
Social Studies Elective ¹	3
Elective	3
Elective	3
Hours	16

Junior Year**Fifth Semester**

MATH 410 Matrix and Linear Algebra	3
STAT 420 Regression and Forecasting I	3
Elective	3
Elective	3
Elective	3
Hours	15

Sixth Semester

MATH 345 Introduction to the History of Mathematics	3
MATH 412 Numerical Methods	3
MATH 423 Abstract Algebraic Structures	3
Elective	3
Elective	3
Hours	15

Senior Year**Seventh Semester**

MATH 432 Applied Differential Equations	3
MATH 441 Probability I	3
Elective	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