COMPUTATIONAL MATHEMATICS (B.S.) - INFORMATION SYSTEM - 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
Cognate		
CSIS 100	Introduction to Information Sciences and Systems	3
CSIS 208	Application Programming	3
CSIS 310	Web Programming	3
CSIS 330	Business Data Communication Systems	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
Total Hours		**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

Course	Title	Hours
First Year		
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	0-3
Communications Elective [1]		3

Course	Title	Hours
Math Elective (MATH 131) [1]		4
	Hours	**14-17**
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**
Second Year		
First 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**
Second Semester		
THEO 104	Introduction to Theology Survey	4
Cultural Studies Elective [1]		3
Social Science Elective [1]		3
Elective		3
Elective		3
	Hours	**16**
Third Year		
First Semester		
MATH 410	Matrix and Linear Algebra	3
STAT 420	Regression and Forecasting I	3
Engineering Elective [2,3]		3
Elective		3
Elective		3
	Hours	**15**
Second Semester		
MATH 345	Introduction to the History of Mathematics	3
MATH 423	Abstract Algebraic Structures	3
Core Elective [4]		3
Engineering Elective [2,3]		3
Elective		3
	Hours	**15**
Fourth Year		
First Semester		
MATH 432	Applied Differential Equations	3
MATH 441	Probability I	3
Engineering Elective [2,3]		3
Engineering Elective [2,3]		3
Elective		1
	Hours	**13**
Second Semester		
MATH 460	Mathematical Modeling and Simulation	3
MATH 491	Computational Mathematics Capstone	3
Engineering Elective [2,3]		3
Elective [5]		3
Elective		3
	Hours	**15**
	Total Hours	**120-123**

1. Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling foundational skills requirements.
2. Choose a course not already applying to the degree from one of the following disciplines: ENGI, ENGR, or ENGV.
3. A minimum of 15 hours total is required for the Cognate.
4. Choose any MATH, PHYS, or STAT course not already applying to the degree.
5. May need up to 9 hours of 300-400 level electives to fulfill upper-level requirement; this is dependent upon courses chosen for the Natural Science Electives. Student should contact academic advisor for more information.