# UNIVERSITY. ONLINE

# **Bachelor of Science in Computational Mathematics**

Information Systems Cognate

2024-2025 Degree Completion Plan

**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 (39-42 hours)

Course		Hrs Sem Grade	Course		Hrs Sem	Grade
Communication & Information Literacy (12 hours) <sup>1</sup>			Major Foundational Courses (0-7 hours)			
ENGL 101	Composition & Rhetoric	3	CSIS 110	Introduction to Computer Science <sup>3</sup>	3	
	Communications Elective	3	MATH 131	Calculus & Analytic Geometry I3	4	
	Information Literacy Elective	3				
	Information Literacy Elective	3	<b>MAJOR</b>			
				Core (40 hours)		
Technological Solutions & Quantitative Reasoning (3-6 hours) <sup>1</sup>			MATH 132	Calculus & Analytic Geometry II	4	
UNIV 104	Instructional Tech. for Online Learning	0-3	MATH 211	Introduction to Statistical Analysis	3	
MATH	Math Elective (MATH 114 or higher)	3	MATH 250	Introduction to Discrete Mathematics	3	
			MATH 345	Intro. to the History of Mathematics	3	
Critical Thinking (7 hours) <sup>1</sup>		MATH 410	Matrix & Linear Algebra	3		
RLGN 104	Christian Life & Biblical Worldview <sup>2</sup>	4	MATH 423	Abstract Algebraic Structures	3	
	Critical Thinking Elective	3	MATH 430	Multivariable Calculus	3	
			MATH 432	Applied Differential Equations	3	
Civic & Glo	bal Engagement (3 hours) <sup>1</sup>		MATH 441	Probability I	3	
	Cultural Studies Elective	3	MATH 460	Mathematical Modeling & Simulation	3	
			MATH 491	Computational Mathematics Capstone	3	
Social & Sci	ientific Inquiry (6 hours) <sup>1</sup>		STAT 420	Regression & Forecasting I	3	
	Natural Science Elective	3		4	_	
	Social Science Elective	3				
				Cognate (15 hours)		
Christianity & Contexts (8 hours) <sup>1</sup>		CSIS 100	Intro. to Information Sciences & Systems	3		
BIBL 104	Survey of Old & New Testament	4	CSIS 208	Application Programming	3	
THEO 104	Introduction to Theology Survey <sup>2</sup>	4	CSIS 310	Web Architecture & Development	3	
			CSIS 330	Business Data Communication Systems	3	
			CSIS 340	Studies in Information Security	3	

## **FREE ELECTIVES (16-26 hours)**

#### Notes **Graduation Requirements** All applicable prerequisites must be met Refer to the list of approved general education electives at www.liberty.edu/gened before 120 Total Hours 2.0 Overall grade point average enrolling in foundational skills requirements 30 Hours must be upper-level courses (300-400 level) Students transferring in 45 or more UG credit hours will have the requirement of RLGN Grade of 'C' Minimum required for all major foundational courses and all upper-level 104 waived; Students transferring in 60 or more UG credit hours will also have the courses in the major requirement of THEO 104 waived 25% Of major taken through Liberty University Courses may also fulfill select General Education Requirements. Please refer to the list of 30 Hours must be completed through Liberty University approved general education electives at www.liberty.edu/gened Grad App Submission of Degree Completion Application must be completed Choose any MATH, PHYS, or STAT course not already applying to the degree within the last semester of a student's anticipated graduation date Suggested Course Sequence on second page

# SUGGESTED COURSE SEQUENCE

## FIRST YEAR

First Semester		Second Semester	
BIBL 104	4	RLGN 104	4
ENGL 101	3	Critical Thinking Elective <sup>1</sup>	3
UNIV 104	0-3	Information Literacy Elective <sup>1</sup> [CSIS 110]	3
Communications Elective <sup>1</sup>	3	MATH 132	4
Math Elective <sup>1</sup> [MATH 131]	<u>4</u>	MATH 250	3
	Total 14-17	Total	. 17

SECOND YEAR						
Information Literacy Elective <sup>1</sup>		3	THEO 104		4	
Natural Science Elective <sup>1</sup>		3	Cultural Studies Elective <sup>1</sup>		3	
CSIS 100		3	Social Science Elective <sup>1</sup>		3	
MATH 211		3	CSIS 208		3	
MATH 430		3	Elective		<u>3</u>	
	Total	15		Total	16	

THIRD YEAR					
CSIS 310	3	CSIS 330	3		
MATH 410	3	MATH 345	3		
STAT 420	3	MATH 423	3		
Elective	3	Core Elective <sup>2</sup>	3		
Elective	<u>3</u>	Elective	<u>3</u>		
	Total 15		Total 15		

FOURTH YEAR					
CSIS 340		3	MATH 460	3	
MATH 432		3	MATH 491	3	
MATH 441		3	Elective	3	
Elective		3	Elective	3	
Elective		<u>1</u>	Elective	<u>3</u>	
	Total	13		Total 15	

## Notes

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

<sup>2</sup>Choose any MATH, PHYS, or STAT course not already applying to the degree