

Bachelor of Science in Computational Mathematics

Engineering Cognate

2022-2023 Degree Completion Plan

ONLINE

This degree plan is effective for those starting this degree program in fall 2022 through summer 2023. 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/

FOUNDATION	ONAL SKILLS REQUIREMENTS ((39-4)	2 hours)					
Course		Hrs	Sem	Grade	Course		Hrs	Sem	Grade
Communicat ENGL 101	ion & Information Literacy (12 hour Composition & Rhetoric	(s) ¹			Major Found CSIS 110	lational Courses (0-7 hours) Introduction to Computer Science ³	3		
	Communications Elective	3			MATH 131	Calculus & Analytic Geometry I ³	4		
	Information Literacy Elective	3				, , ,			
	Information Literacy Elective	3			MAJOR	Core (40 hours)			
Technological Solutions & Quantitative Reasoning (3-6 hours) ¹				INDS 400	Knowledge Synth. For Prof. & Pers. Dev. 4	3			
UNIV 104	Instructional Tech. for Online Learning	0-3			MATH 132	Calculus & Analytic Geometry II	4		
MATH	Math Elective (MATH 114 or higher)	3			MATH 211	Introduction to Statistical Analysis	3		
					MATH 250	Introduction to Discrete Mathematics	3		
Critical Thinking (7 hours) ¹				MATH 410	Matrix & Linear Algebra	3			
RLGN 104	Christian Life & Biblical Worldview ²	4			MATH 423	Abstract Algebraic Structures	3		
	Critical Thinking Elective	3			MATH 430	Multivariable Calculus	3		
					MATH 432	Applied Differential Equations	3		
Civic & Global Engagement (3 hours) ¹					MATH 441	Probability I	3		
	Cultural Studies Elective	3			MATH 460	Mathematical Modeling & Simulation	3		
						Natural Science Elective ^{5,6}	_		
Social & Scientific Inquiry (6 hours) ¹					Natural Science Elective ^{5,6}	_			
	Natural Science Elective	3				Natural Science Elective ^{5,6}	_		
	Social Science Elective	3							
						Cognate (15 hours)			
Christianity & Contexts (8 hours) ¹					Engineering Elective ^{7,8}	_			
BIBL 104	Survey of Old & New Testament	4				Engineering Elective ^{7,8}	_		
THEO 104	Introduction to Theology Survey ²	4				Engineering Elective ^{7,8}	_		
						Engineering Elective ^{7,8}	_		
						Engineering Elective ^{7,8}	_		
					EDEE ELEC	TIVES (16-26 hours) ⁹			
			FREE ELECTIVES (10-20 Hours)		_				
							_		
							_		
							_		
							_		

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

All applicable prerequisites must be met

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

²Students 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

³Courses may also fulfill select General Education Requirements. Please refer to the list of approved general education electives at www.liberty.edu/gened

⁴INDS 400 should be taken in the final semester.

Choose a 200-400 level BIOL, CHEM, PHSC, or PHYS course not already required in the degree: a minimum of 9 hours total required⁶

⁶Important: The Natural Science Electives required in the Major must be chosen from the same discipline (BIOL, CHEM, PHSC, or PHYS)

Chose a course not already applying to the degree from one of the following disciplines:

ENGI, ENGR, or ENGV.

A minimum of 15 hours total is required for the Cognate.

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 and the Cognate Electives Student should contact academic advisor for more information

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 ¹	3		
UNIV 104		0-3	Information Literacy Elective ¹ [CSIS 110]	3		
Communications Elective ¹		3	MATH 132			
Math Elective ¹ [MATH 131]		<u>4</u>	MATH 250	<u>3</u>		
	Total	14-17	Tota	ıl 17		
	S	ECOND Y	TEAR			
Information Literacy Elective ¹		3	THEO 104	4		
Natural Science Elective ¹		3	Cultural Studies Elective ¹	3		
MATH 211		3	Natural Science Elective ^{2,3}	3		
MATH 430		3	Social Science Elective ¹	3		
Elective		<u>3</u>	Elective	<u>3</u>		
	Total	15	Tota	ıl 16		
	5	THIRD YI	EAR			
MATH 410		3	MATH 423	3		
Engineering Elective ^{4,5}		3	Engineering Elective ^{4,5}	3		
Natural Science Elective ^{2,3}		3	Natural Science Elective ^{2,3}	3		
Elective ⁶		3	Elective ⁶	3		
Elective		<u>3</u>	Elective	<u>3</u>		
	Total	15	Tota	ıl 15		
	F	OURTH Y	/EAR			
MATH 432		3	INDS 400	3		
MATH 441		3	MATH 460	3		
Engineering Elective ^{4,5}		3	Engineering Elective ^{4,5}	3		
Engineering Elective ^{4,5}		3	Elective	3		
Elective		<u>1</u>	Elective	3		
	Total	13	Tota	ıl 15		

Notes

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

²Choose a 200-400 level BIOL, CHEM, PHSC, or PHYS course not already required in the degree

³Important: The Natural Science Electives required in the Major must be chosen from the same discipline (BIOL, CHEM, PHSC, or PHYS)

⁷Chose a course not already applying to the degree from one of the following disciplines: ENGI, ENGR, or ENGV.

⁸A minimum of 15 hours total is required for the Cognate.

⁶May 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