

# **Bachelor of Science in Computer Science**

General Cognate

2018-2019 Degree Completion Plan

**Important:** This degree plan is effective for those starting this degree program in fall 2018 through summer 2019. 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/

	IPETENCY REQUIREMENTS (46-							
Course		Hrs Ser	n Grade	Course		Hrs	Sem	Grade
	tion (6 hours) <sup>1</sup>				lational Courses (4-15 hours) <sup>4</sup>			
ENGL 101	Composition & Rhetoric	3		ENGR 270	Technical Communication	3		
	Communications Elective	3		MATH 131	Calculus & Analytical Geometry I <sup>5</sup>	4		
				MATH 132	Calculus & Analytical Geometry II <sup>5</sup>	4		
Math, Science & Technology (9-12 hours) <sup>1</sup>			PHYS 231	University Physics I	4			
MATH	Math Elective (MATH 114 or higher)	4						
	Natural Science Elective	4		MAJOR				
	Technology Competency <sup>2</sup>	0-3			Core (39 hours)			
UNIV 101	University Core Competencies	1		CSIS 100	Intro. to Information Sciences & Systems	3		
	•			CSIS 110	Introduction to Computing Sciences	3	·	
Information Literacy (7 hours) <sup>1</sup>				CSIS 111	Introduction to Programming	3	·	
INQR 101	Inquiry 101	1		CSIS 112	Advanced Programming	3	·	
	Composition Elective	3		CSIS 215	Algorithms & Data Structures	3		
	Information Literacy Elective	3		CSIS 326	Database System Concepts	3		
	•			CSIS 342	Computer Architecture & Organization	3		
Critical Thir	nking (12 hours) <sup>1</sup>			CSIS 355	Network Architecture & Protocols	3	·	
RSCH 201	Research 201	3		CSIS 434	Theory of Programming Languages	3	·	
	Literature OR Philosophy Elective	3		CSIS 443	Operating Systems	3	·	
	Social Science Elective	3		CSIS 471	Software Engineering	3		
	Cultural Studies Elective	3		CSIS 481	CS Capstone I	3		-
				CSIS 482	CS Capstone II	3		
Christian Li	fe & Thought (12 hours) <sup>1,3</sup>				1			
BIBL 105	Old Testament Survey	2			Cognate (12 hours)			
BIBL 110	New Testament Survey	2		CSIS 461	Technical Aspects of Computer Security			
EVAN 101	Evangelism & Christian Life	2		or CSIS 463	Modern Cryptography	3		
RLGN 105	Intr Bwvw/Contemp Moral Issues	2		CSIS	6	3		
THEO 201	Theology Survey I	2		CSIS	6	3		
THEO 202	Theology Survey II	2		CSIS	6	3		
				<del></del>				-
					Quantitative Studies Courses (10 hours)			
				ENGR 133	Calculus with MATLAB			
				or MATH 133	Calculus with Mathematica Lab	1		
				MATH 211	Introduction to Statistical Analysis	3		
				MATH 250	Introduction to Discrete Mathematics	3		-
				MATH 350	Discrete Mathematics	3		
					Lab Sciences Courses (8 hours)			
					Natural Science Elective <sup>7</sup>	4		
					Lab Science Elective <sup>8</sup>	4		
					Zao Sciolico Licotivo	•		-
					Technical Elective Courses (12-13 hours)	9		
				CRST 290	History of Life	2-3		
				2101 270	indicate of the control of the contr	2 3		-
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### **Graduation Requirements**

131 Total Hours

2.0 Overall grade point average

32.75 Hours must be upper-level courses (300-400 level)

Grade of 'C' Minimum required for <u>all</u> courses in the major, quantitative studies, lab science and technical elective

 $\mathbf{50\%}$  Of major, core, and cognate taken through Liberty University

32.75 Hours must be completed through Liberty University

**Grad App** Submission of Graduation Application must be completed within the last semester of a student's anticipated graduation date

CSER All requirements must be satisfied before a degree will be awarded

## Notes

All applicable prerequisites must be met

Refer to the list of approved general education electives at <a href="www.liberty.edu/gened">www.liberty.edu/gened</a>

before enrolling in core competency requirements  $^2\!\!$  All students must pass the Computer Assessment OR complete applicable INFT course;

refer to <a href="www.liberty.edu/computerassessment">www.liberty.edu/computerassessment</a> for more information <a href="students">3</a>Students transferring in 45 or more UG credit hours will have the requirements of RLGN

105 & EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 & THEO 202 waived

<sup>4</sup>Major Foundational Courses can also fulfill General Education/Core Competency requirements as applicable

Minimum grade of "C" is required

<sup>6</sup>Choose from the following courses CSIS 315, 316, 340, 341, 344, 345, 375, 408, 416, 461, 463, 495, 497 or 499 not already applying in the major

Choose from BIOL 213 and 214, BIOL 225, CHEM 105, 107, 122, ENVR 220 and 221, PHYS 101 and 103, PHYS 201, 202, or 232

Choose from BIOL 101 and 103, 102 and 104, BIOL 224 or CHEM 121

<sup>9</sup>Choose a minimum of 10 credits from Approved Computer Science Courses

Suggested Course Sequence on second page

Revised: 04.18.2018 Effective: Catalog Term 2018-40

## SUGGESTED COURSE SEQUENCE

#### FRESHMAN YEAR

First Semester		Second Semester						
ENGL 101	3	EVAN 101	2					
MATH 131 <sup>1</sup>	4	INQR 101	1					
UNIV 101	1	RLGN 105	2					
Technology Competency <sup>2</sup>	0-3	Communications Elective <sup>3</sup> [ENGR 270]	3					
CSIS 100	3	Composition Elective <sup>3</sup>	3					
CSIS 110	3	Math Elective <sup>3</sup> [MATH 132 <sup>1</sup> ]	4					
MATH 133 or ENGR 133	1	CSIS 111	3					
CSER	0	CSER	0					
	Total 15-18		Total 18					
	SOPHOMORI	E YEAR						
BIBL 105	2	BIBL 110	2					
Natural Science Elective <sup>3</sup> [PHYS 231]	4	RSCH 201	3					
Social Science Elective <sup>3</sup>	3	Literature/Philosophy Elective <sup>3</sup>	3					
CRST 290	2-3	CSIS 215	3					
CSIS 112	3	MATH 250	3					
MATH 211	3	Lab Science Elective <sup>4</sup>	4					
CSER	<u>0</u>	CSER	<u>0</u>					
	Total 17-18		Total 18					
JUNIOR YEAR								
THEO 201	2	THEO 202	2					
Natural Science Elective <sup>5</sup>	4	Cultural Studies Elective <sup>3</sup>	3					
CSIS 326	3	CSIS 434	3					
CSIS 342	3	CSIS 443	3					
CSIS 355	3	CSIS 461 or 463	3					
MATH 350	3	CSIS 471	3					
CSER	<u>0</u>	CSER	<u>0</u>					
	Total 18		Total 17					
	SENIOR Y	EAR						
Information Literacy Elective <sup>3</sup>	3	CSIS 482	3					
Social Science Elective <sup>3</sup>	3	Computer Science Elective <sup>6</sup>	3					
CSIS 481	3	Computer Science Elective <sup>6</sup>	3					
Computer Science Elective <sup>6</sup>	3	Technical Elective <sup>7</sup>	3					
Technical Elective <sup>7</sup>	3	Technical Elective <sup>7</sup>	3					
Technical Elective <sup>7</sup>	3	CSER	<u>0</u>					
CSER	<u>0</u>		Total 15					
	Total 18							

## Notes

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<sup>&</sup>lt;sup>1</sup>Minimum grade of "C" is required

<sup>&</sup>lt;sup>2</sup>All students must pass the Computer Assessment OR complete applicable INFT course; refer to <a href="www.liberty.edu/computerassessment">www.liberty.edu/computerassessment</a> for more

<sup>&</sup>lt;sup>3</sup>Refer to the list of approved general education electives at <a href="https://www.liberty.edu/gened">www.liberty.edu/gened</a> before enrolling in core competency requirements <sup>4</sup>Choose from BIOL 101 and 103, 102 and 104, BIOL 224 or CHEM 121

<sup>&</sup>lt;sup>5</sup>Choose from BIOL 213 and 214, BIOL 225, CHEM 105, 107, 122, ENVR 220 and 221

<sup>&</sup>lt;sup>6</sup>Choose from the following courses not already applying to the major: CSIS 315, 316, 340, 341, 344, 345, 375, 408, 416, 461, 463, 495, 497, or 499

<sup>&</sup>lt;sup>7</sup>Choose a minimum of 10 credits from Approved Computer Science Courses