# NIVERSITY

# **Bachelor of Science in Computer Science** Cybersecurity Cognate

2019-2020 Degree Completion Plan

Important:

**GENERAL EDUCATION/** 

This degree plan is effective for those starting this degree program in fall 2019 through summer 2020. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations or cognates.

### FOUNDATIONAL SKILLS REQUIREMENTS (46-49 hours) Sem Grade Course Hrs Sem Grade Course Hrs Communication & Information Literacy (13 hours)<sup>1</sup> Major Foundational Courses (0-20 hours) Composition & Rhetoric ENGL 101 3 BUSI 240 Organizational Behavior I4 3 Inquiry 101 CSIS 110 Introduction to Computing Sciences<sup>4</sup> 3 INQR 101 1 3 Communications Elective 3 CSIS 111 Introduction to Programming<sup>4</sup> Information Literacy Elective 3 ENGR 270 Technical Communication<sup>4</sup> 3 Information Literacy Elective 3 **MATH 131** Calculus & Analytical Geometry I4 4 PHYS 201 General Physics I4 Technological Solutions & Quantitative Reasoning (5-8 hours)<sup>1</sup> **UNIV 101** University Core Competencies MAJOR 1 Math Elective (MATH 114 or higher) MATH 4 Core (42 hours) Technology Competency<sup>2</sup> 0-3 CSIS 100 Intro. to Information Sciences & Systems 3 CSIS 112 Advanced Programming 3 Critical Thinking (8 hours)<sup>1</sup> **CSIS 215** Algorithms & Data Structures 3 RLGN 105 Intr Bwvw/Contemp Moral Issues<sup>3</sup> CSIS 326 Database System Concepts 3 2 RSCH 201 Research 201 3 **CSIS 342** Computer Architecture & Organization 3 Introduction to Linux Critical Thinking Elective CSIS 345 3 3 CSIS 352 3 System Administration CSIS 355 Civic & Global Engagement (5 hours)<sup>1</sup> Network Architecture & Protocols 3 EVAN 101 Evangelism & Christian Life<sup>3</sup> CSIS 434 3 2 Theory of Programming Languages Cultural Studies Elective CSIS 443 Operating Systems 3 Technical Aspects of Computer Security 3 **CSIS 461** Social & Scientific Inquiry (7 hours)<sup>1</sup> CSIS 471 Software Engineering Natural Science Elective 4 **CSIS 481** CS Capstone I<sup>5</sup> Cybersecurity Capstone I5 or CSIS 485 Social Science Elective 3 3 **CSIS 482** CS Capstone II5 Christianity & Contexts (8 hours)<sup>1</sup> or CSIS 486 Cybersecurity Capstone II5 3 **BIBL 105** Old Testament Survey New Testament Survey 2 **BIBL 110** Cognate (12 hours) **THEO 201** Theology Survey I3 CSIS 340 Studies in Information Security 3 CSIS 463 **THEO 202** Theology Survey II3 Modern Cryptography CSIS CSIS Programming Elective<sup>6</sup> MATH 350 **Discrete Mathematics** Quantitative Studies Courses (10 hours) **MATH 128** Elem, Functions & Coordinate Geometry

**MATH 211** Introduction to Statistical Analysis 3 MATH 250 Introduction to Discrete Mathematics Lab Sciences Courses (4 hours) Lab Science Elective

Technical Elective Courses (6 hours)8

Notes

All applicable prerequisites must be met

<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

All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment for more information

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

<sup>5</sup>Cybersecurity Cognate students are required to take the Cybersecurity Capstones (CSIS 485 & 486). Students in other Cognates are required to take the CS Capstones (CSIS 481 & 482) <sup>6</sup>Choose one of the following Programming Language courses: CSIS 209, 212, 244, or 312. Other languages may be approved by the department chair.

Choose any science course which includes a lab component. Students typically choose BIOL 101 and 103, 102 and 104, 224, CHEM 105, 107, 121 or PHYS 202. If choosing a Physics course, it must be one that adds to the material in PHYS 201.

Choose from: BUSI 300, 301, 313, 424, 427, or any 200-400 level Computer Science, Math, or Engineering course not already required by the degree Suggested Course Sequence on second page

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 courses in the major, quantitative studies, lab

science, technical elective, and major foundational sections

50% Of major, core, and cognate 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

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

## SUGGESTED COURSE SEQUENCE

### **FRESHMAN YEAR**

First Semester		Second Semester	
ENGL 101	3	EVAN 101	2
UNIV 101	1	INQR 101	1
Information Literacy Elective <sup>1</sup> [CSIS 110]	3	RLGN 105	2
Technology Competency <sup>2</sup>	0-3	Communications Elective <sup>1</sup> [ENGR 270]	3
CSIS 100	3	Information Literacy Elective <sup>1</sup> [CSIS 111]	3
MATH 128	4	Math Elective <sup>1</sup> [MATH 131]	4
CSER	<u>0</u>	CSER	<u>0</u>
Т	otal 14-17		Total 15

SOPHOMORE YEAR					
BIBL 105	2	BIBL 110	2		
Natural Science Elective <sup>1</sup> [PHYS 201]	4	RSCH 201	3		
Social Science Elective <sup>1</sup> [BUSI 240]	3	CSIS 215	3		
CSIS 112	3	CSIS 345	3		
CSIS 340	3	MATH 211	3		
MATH 250	3	CSER	<u>0</u>		
CSER	<u>0</u>		Total 14		
	Total 18				

JUNIOR YEAR					
CSIS 326	3	CSIS 434	3		
CSIS 342	3	CSIS 443	3		
CSIS 352	3	CSIS 461	3		
CSIS 355	3	CSIS 463	3		
MATH 350	3	CSIS 471	3		
CSER	<u>0</u>	CSER	<u>0</u>		
	Total 15		Total 15		

SENIOR YEAR					
THEO 201	2	THEO 202	2		
CSIS 485	3	Critical Thinking Elective <sup>1</sup>	3		
Computer Science Programming Elective <sup>5</sup>	3	Cultural Studies Elective <sup>1</sup>	3		
Lab Science Elective <sup>4</sup>	4	CSIS 486	3		
Technical Elective <sup>5</sup>	3-4	Technical Elective <sup>5</sup>	3-4		
CSER	<u>0</u>	CSER	<u>0</u>		
Te	otal 15-16		Total 14-15		

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information

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<sup>56</sup>Choose from: BUSI 300, 301, 313, 424, 427, or any 200-400 level Computer Science, Math, or Engineering course not already required by the

degree