# BERTY N IVERSITY U

## **Bachelor of Science in Electrical Engineering**

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/**

CORE CON	MPETENCY REQUIREMENTS (46-	-49 hours)						
Course		Hrs Sem	Grade	Course		Hrs	Sem	Grad
Communica	ation (6 hours) <sup>1</sup>				dational 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, Scier	nce & Technology (9-12 hours) <sup>1</sup>			PHYS 231	University Physics I <sup>5</sup>	4		
MATH	Math Elective (MATH 114 or higher)	4						
	Natural Science Elective	4		MAJOR				
	Technology Competency <sup>2</sup>	0-3			Core (59 hours)			
JNIV 101	University Core Competencies	1		CSIS 111	Introduction to Programming	3		
				ENGC 361	Computer Architecture	3		
nformation	n Literacy (7 hours) <sup>1</sup>			ENGE 201	Introduction to Logic Design	3		
NQR 101	Inquiry 101	1		ENGE 211	Intro. to Electrical & Electronic Circuits	4		
	Composition Elective	3		ENGE 212	AC Circuit Analysis	4		
	Information Literacy Elective	3		ENGE 311	Signals & Systems	3		
				ENGE 312	Digital Signal Processing	3		
Critical Thi	inking (12 hours) <sup>1</sup>			ENGE 321	Electronics	4		
SCH 201	Research 201	3		ENGE 331	Electromagnetic Fields	4		
	Literature OR Philosophy Elective	3		ENGE 341	Communication Systems	3		
	Social Science Elective	3		ENGE 411	Control Systems	3		
	Cultural Studies Elective	3		ENGE 421	Advanced Electronics	3		
				ENGI 220	Engineering Economy	3		
Christian L	ife & Thought (12 hours) <sup>1,3</sup>			ENGR 102	Introduction to Engineering	1		
BIBL 105	Old Testament Survey	2		ENGR 110	Introduction to Engineering Fundamental	s 3		
BIBL 110	New Testament Survey	2		ENGR 381	Engineering Design Introduction	3		
EVAN 101	Evangelism & Christian Life	2		ENGR 481	Engineering Design I	3		
LGN 105	Intr Bwvw/Contemp Moral Issues	2		ENGR 482	Engineering Design II	3		
HEO 201	Theology Survey I	2			6	3		
HEO 202	Theology Survey II	2						
					Technical Electives (3 hours) <sup>7,8</sup>			
						_		
					Quantitative Studies (21 hours)			
				ENGR 133	Calculus with MATLAB	1		_
				ENGR 210	Prob. & Statistical Analysis for Engr.	3		
				MATH 221	Applied Linear Algebra	3		
				MATH 231	Calculus & Applied Geometry III	4		
				MATH 250	Introduction to Discrete Mathematics	3		
				MATH 334	Differential Equations	3		
					1	-		

	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 core competency requirements
	<sup>2</sup> All students must pass the Computer Assessment OR complete applicable INFT course;
Graduation Requirements	refer to www.liberty.edu/computerassessment for more information
133 Total Hours	<sup>3</sup> Students transferring in 45 or more UG credit hours will have the requirements of RLGN
2.0 Overall grade point average	105 & EVAN 101 waived; Students transferring in 60 or more UG credit hours will also
33.25 Hours must be upper-level courses (300-400 level)	have the requirements of THEO 201 & THEO 202 waived
Grade of 'C' Minimum required for all upper-level courses in the major	<sup>4</sup> Major Foundational Courses can also fulfill General Education/Core Competency
50% Of major, including technical electives and quantitative studies, taken	requirements as applicable
through Liberty University	<sup>5</sup> Minimum grade of "C" is required
33.25 Hours must be completed through Liberty University	<sup>6</sup> Choose from: ENGC 465, ENGE 351 or ENGE 431
Grad App Submission of Graduation Application must be completed within the	<sup>7</sup> Select from the list of Approved Engineering Technical Elective Courses
last semester of a student's anticipated graduation date	<sup>8</sup> ENGR 495 (Directed Research) is strongly recommended
CSER All requirements must be satisfied before a degree will be awarded	Suggested Course Sequence on second page

PHYS 232

University Physics II

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### SUGGESTED COURSE SEQUENCE

#### FRESHMAN YEAR

First Semester		Second Semester	
ENGL 101	3	BIBL 105	2
MATH 131 <sup>1</sup>	4	INQR 101	1
RLGN 105	2	Communications Elective <sup>3</sup> [ENGR 270]	3
UNIV 101	1	Mathematics Elective <sup>3</sup> [MATH 132 <sup>1</sup> ]	4
Technology Competency <sup>2</sup>	0-3	Natural Science Elective <sup>3</sup> [PHYS 231 <sup>1</sup> ]	4
ENGR 102	1	ENGI 220	3
ENGR 110	3	CSER	0
ENGR 133	1	Total	17
CSER	<u>0</u>		
	Total 15-18		

#### SOPHOMORE YEAR

RSCH 201	3	ENGE 201	3
CSIS 111	3	ENGE 212	4
ENGE 211	4	MATH 221	3
MATH 231 <sup>1</sup>	4	MATH 334	3
MATH 250	3	PHYS 232	4
CSER	<u>0</u>	CSER	<u>0</u>
	Total 17		Total 17

#### JUNIOR YEAR

BIBL 110	2	THEO 201	2
EVAN 101	2	Composition Elective <sup>3</sup>	3
ENGE 311	3	ENGE 312	3
ENGE 321	4	ENGE 341	3
ENGE 331	4	ENGE 421	3
ENGR 210	3	ENGR 381	3
CSER	<u>0</u>	CSER	<u>0</u>
	Total 18		Total 17

#### SENIOR YEAR

THEO 202	2	Cultural Studies Elective <sup>3</sup>	3
Literature OR Philosophy Elective <sup>3</sup>		Information Literacy Elective <sup>3</sup>	3
ENGC 361	3	Social Science Elective <sup>3</sup>	3
ENGC 465	3	ENGR 482	3
(OR ENGE 351 OR ENGE 431 in Spring)		Technical Elective <sup>4, 5</sup>	3
ENGE 411	3	CSER	<u>0</u>
ENGR 481	3		Total 15
CSER	<u>0</u>		
Total	17		

#### Notes

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

<sup>2</sup>All students must pass the Computer Assessment OR complete applicable INFT course; refer to <u>www.liberty.edu/computerassessment</u> for more information

<sup>4</sup>Select from the list of Approved general education electives at <u>www.liberty.edu/gened</u> before enrolling in core competency requirements <sup>4</sup>Select from the list of Approved Engineering Technical Elective Courses <sup>5</sup>ENGR 495 (Directed Research) is strongly recommended