LIBERTY UNIVERSITY

Bachelor of Science in Mechanical Engineering

2019-2020 Degree Completion Plan

Important:

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.

GENERAL EDUCATION/

FOUNDATI	ONAL SKILLS REQUIREMENTS	(46-49	hours)						
Course		Hrs	Sem Gra	de	Course		Hrs	Sem	Grade
Communication & Information Literacy (13 hours) ¹				Major Foundational Courses (4-15 hours)					
ENGL 101	Composition & Rhetoric	3			ENGR 270	Technical Communication ⁴	3		
INQR 101	Inquiry 101	1			MATH 131	Calculus & Analytical Geometry I4,5	4		
	Communications Elective	3			MATH 132	Calculus & Analytical Geometry II ^{4,5}	4		
	Information Literacy Elective	3			PHYS 231	University Physics I ^{4,5}	4		
	Information Literacy Elective	3							
					MAJOR				
Technological Solutions & Quantitative Reasoning (5-8 hours) ¹					Core (65 hours)				
UNIV 101	University Core Competencies	1			CHEM 121	General Chemistry I	4		
MATH	Math Elective (MATH 114 or higher)	4			ENGI 220	Engineering Economy	3		
	Technology Competency ²	0-3			ENGM 310	Materials Engineering	3		
					ENGM 350	Computer-Aided Engineering	3		
Critical Thin	king (8 hours) ¹				ENGM 375	Thermal-Fluids Design Lab	2		
RLGN 105	Intr Bwvw/Contemp Moral Issues ³	2			ENGM 415	Design of Machine Components	3		
RSCH 201	Research 201	3			ENGM 445	Materials & Manufacturing Processing	4		
	Critical Thinking Elective	3			ENGR 102	Introduction to Engineering	1		
					ENGR 110	Introduction to Engineering Fundamentals	3		
Civic & Global Engagement (5 hours) ¹				ENGR 125	Visualization for Engineers	1			
EVAN 101	Evangelism & Christian Life ³	2			ENGR 235	Statics	3		
	Cultural Studies Elective	3			ENGR 240	Dynamics	3		
					ENGR 313	Mechatronics	4		
Social & Scie	entific Inquiry (7 hours) ¹				ENGR 315	Fluid Dynamics	3		
	Natural Science Elective	4			ENGR 330	Mechanics of Materials	4		
	Social Science Elective	3			ENGR 360	Heat Transfer	3		
					ENGR 381	Engineering Design Introduction	3		
Christianity	& Contexts (8 hours) ¹				ENGR 385	Thermodynamics II	3		
BIBL 105	Old Testament Survey	2			ENGR 405	Dynamic Systems Modeling	3		
BIBL 110	New Testament Survey	2			ENGR 481	Engineering Design I	3		
THEO 201	Theology Survey I ³	2			ENGR 482	Engineering Design II	3		
THEO 202	Theology Survey II ³	2			PHYS 320	Thermodynamics	3		

Technical Electives (6 hours)6,7

		-	
	Quantitative Studies (15 hours)		
ENGR 133	Calculus with MATLAB	1	
ENGR 210	Prob. & Statistical Methods for Engr.	3	
MATH 231	Calculus & Analytical Geometry III	4	 -
MATH 334	Differential Equations	3	 -
PHYS 232	University Physics II	4	

	All applicable prerequi
	¹ Refer to the list of appr
	before enrolling in four
Graduation Requirements	² All students must pass
136 Total Hours	refer to www.liberty.e
2.0 Overall grade point average	³ Students transferring in
34 Hours must be upper-level courses (300-400 level)	105 & EVAN 101 wai
Grade of 'C' Minimum required for all upper-level courses in the major	have the requirements
50% Of major, including technical electives and quantitative studies, taken through Liberty University	⁴ Courses may also fulfil
34 Hours must be completed through Liberty University	⁵ Minimum grade of "C"
Grad App Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date	⁶ Select from the list of A ⁷ ENGR 495 (Directed F
CSER All requirements must be satisfied before a degree will be awarded	Suggested Course Sequ

Notes

All applicable prerequisites must be met Refer to the list of approved general education electives at <u>www.liberty.edu/gened</u> before enrolling in foundational skill requirements All students must pass the Computer Assessment OR complete applicable INFT course; refer to <u>www.liberty.edu/computerassessment</u> for more information '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 'Courses may also fulfill select General Education Requirements. Please refer to the list of approved general education electives at <u>www.liberty.edu/gened</u> 'Minimum grade of "C" is required 'Select from the list of Approved Engineering Technical Elective Courses 'ENGR 495 (Directed Research) is strongly recommended *Suggested Course Sequence on second page*

Revised: 07.16.2019

SUGGESTED COURSE SEQUENCE

FRESHMAN YEAR

First Semester		Second Semester	
ENGL 101	3	BIBL 105	2
MATH 131 ¹	4	INQR 101	1
RLGN 105	2	Communications Elective ³ [ENGR 270]	3
UNIV 101	1	Mathematics Elective ³ [MATH 132 ¹]	4
Technology Competency ²	0-3	Natural Science Elective ³ [PHYS 231 ¹]	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

EVAN 101	2	RSCH 201	3
CHEM 121	4	ENGM 310	3
ENGR 125	1	ENGR 210	3
ENGR 235	3	ENGR 240	3
MATH 231 ¹	4	MATH 334	3
PHYS 232	4	PHYS 320	3
CSER	<u>0</u>	CSER	<u>0</u>
	Total 18		Total 18

JUNIOR YEAR

Information Literacy Elective ³	3	BIBL 110	2
ENGM 350	3	Critical Thinking Elective ³	3
ENGR 313	4	ENGM 375	2
ENGR 315	3	ENGR 330	4
ENGR 360	3	ENGR 381	3
CSER	<u>0</u>	ENGR 385	3
	Total 16	CSER	<u>0</u>
			Total 17

SENIOR YEAR

THEO 201	2	2	THEO 202		2
Cultural Studies Elective ³	3	3	Information Literacy Elective ³		3
ENGM 415	3	3	Social Science Elective ³		3
ENGR 405	3	3	ENGM 445		4
ENGR 481	3	3	ENGR 482		3
Technical Elective ⁴	3	3	Technical Elective ^{4, 5}		3
CSER	<u>0</u>)	CSER		<u>0</u>
	Total 1'	7		Total	18

Notes

¹Minimum grade of "C" is required

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

³Refer to the list of approved general education electives at <u>www.liberty.edu/gened</u> before enrolling in core competency requirements ⁴Select from the list of Approved Engineering Technical Elective Courses ⁵ENGR 495 (Directed Research) is strongly recommended