LIBERTY UNIVERSITY

Bachelor of Science in Industrial and Systems 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 COMPETENCY REQUIREMENTS (46-49 hours)

Course		Hrs	Sem	Grade
Communication (6 hours)[1]				
ENGL 101	Composition & Rhetoric	3		
_____	Communications Elective	3		
Math, Science & Technology (9-12 hours)[1]				
MATH ____	Math Elective (MATH 114 or higher)	4		
_____	Natural Science Elective	4		
_____	Technology Competency[2]	0-3		
UNIV 101	University Core Competencies	1		
Information Literacy (7 hours)[1]				
INQR 101	Inquiry 101	1		
_____	Composition Elective	3		
_____	Information Literacy Elective	3		
Critical Thinking (12 hours)[1]				
RSCH 201	Research 201	3		
_____	Literature OR Philosophy Elective	3		
_____	Social Science Elective	3		
_____	Cultural Studies Elective	3		
Christian Life & Thought (12 hours)[1,3]				
BIBL 105	Old Testament Survey	2		
BIBL 110	New Testament Survey	2		
EVAN 101	Evangelism & Christian Life	2		
RLGN 105	Intr Bwvw/Contemp Moral Issues	2		
THEO 201	Theology Survey I	2		
THEO 202	Theology Survey II	2		

Course		Hrs	Sem	Grade
Major Foundational Courses (4-15 hours)[4]				
ENGR 270	Technical Communication	3		
MATH 131	Calculus & Analytical Geometry I[5]	4		
MATH 132	Calculus & Analytical Geometry II[5]	4		
PHYS 231	University Physics I[5]	4		
MAJOR				
	Core (55 hours)			
CSIS 111	Introduction to Programming	3		
ENGI 220	Engineering Economy	3		
ENGI 230	Production Systems	3		
ENGI 300	Enterprise Forecasting	3		
ENGI 305	Data Analysis Methods & Modeling	3		
ENGI 330	Facilities Design	3		
ENGI 340	Intro. Ops. Res.: Deterministic Models	3		
ENGI 350	Intro. Ops. Res.: Probabilistic Models	3		
ENGI 360	Engineering Information Systems	3		
ENGI 420	Adv. Data Analysis & Machine Learning	3		
ENGI 430	Decision Analysis	3		
ENGI 450	Human Factors & Ergonomics	3		
ENGI 460	Digital Simulation	3		
ENGR 102	Introduction to Engineering	1		
ENGR 110	Introduction to Engineering Fundamentals	3		
ENGR 370	Quality Assurance	3		
ENGR 381	Engineering Design Introduction	3		
ENGR 481	Engineering Design I	3		
ENGR 482	Engineering Design II	3		
	Technical Electives (9 hours)[6,7]			
_____	_____	_		
_____	_____	_		
	Quantitative Studies (21 hours)			
ENGR 133	Calculus with MATLAB	1		
ENGR 210	Prob. & Statistical Methods for Engr.	3		
MATH 221	Applied Linear Algebra	3		
MATH 231	Calculus & Analytical Geometry III	4		
MATH 250	Introduction to Discrete Mathematics	3		
MATH 334	Differential Equations	3		
PHYS 232	University Physics II	4		

Graduation Requirements

- **135** Total Hours
- **2.0** Overall grade point average
- **33.75** Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for all upper-level courses in the major
- **50%** Of major, including technical electives and quantitative studies, taken through Liberty University
- **33.75** 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

[1]Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in core competency requirements

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

[3]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

[4]Major Foundational Courses can also fulfill General Education/Core Competency requirements as applicable

[5]Minimum grade of "C" is required

[6]Select from the list of Approved Engineering Technical Elective Courses

[7]ENGR 495 (Directed Research) is strongly recommended

Suggested Course Sequence on second page

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	0		
Total	15-18		

SOPHOMORE YEAR

EVAN 101	2	ENGI 230	3
RSCH 201	3	ENGI 360	3
Cultural Studies Elective[3]	3	MATH 221	3
CSIS 111	3	MATH 334	3
MATH 231[1]	4	PHYS 232	4
MATH 250	3	CSER	0
CSER	0	Total	16
Total	18		

JUNIOR YEAR

BIBL 110	2	Literature OR Philosophy Elective[3]	3
THEO 201	2	Social Science Elective[3]	3
Composition Elective[3]	3	ENGI 305	3
ENGI 330	3	ENGI 350	3
ENGI 340	3	ENGR 370	3
ENGR 210	3	ENGR 381	3
CSER	0	CSER	0
Total	16	Total	18

SENIOR YEAR

THEO 202	2	Information Literacy Elective[3]	3
ENGI 300	3	ENGI 450	3
ENGI 420	3	ENGI 460	3
ENGI 430	3	ENGR 482	3
ENGR 481	3	Technical Elective[4]	3
Technical Elective[4]	3	Technical Elective[4, 5]	3
CSER	0	CSER	0
Total	17	Total	18

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[4]Select from the list of Approved Engineering Technical Elective Courses

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