

# MECHANICAL ENGINEERING (B.S.) - RESIDENT

**Important:** This degree plan is effective for those starting this degree program in fall 2022 through summer 2023. 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/Foundational Skills Requirements

Code	Title	Hours
<b>Communication &amp; Information Literacy</b> <sup>1</sup>		
ENGL 101	Composition and Rhetoric	3
INQR 101	Inquiry	1
Communications Elective		3
Information Literacy Elective		3
Information Literacy Elective		3
<b>Technological Solutions &amp; Quantitative Reasoning</b> <sup>1</sup>		
UNIV 101	Foundational Skills	1
Math Elective	MATH 114 or higher	4
Technology Competency <sup>2</sup>		0-3
<b>Critical Thinking</b> <sup>1</sup>		
RLGN 105	Introduction to Biblical Worldview <sup>3</sup>	2
RSCH 201	Research	3
Critical Thinking Elective		3
<b>Civic &amp; Global Engagement</b> <sup>1</sup>		
EVAN 101	Evangelism and the Christian Life <sup>3</sup>	2
Cultural Studies Elective		3
<b>Social &amp; Scientific Inquiry</b> <sup>1</sup>		
Natural Science Elective		4
Social Science Elective		3
<b>Christianity &amp; Contexts</b> <sup>1</sup>		
BIBL 105	Old Testament Survey	2
BIBL 110	New Testament Survey	2
THEO 201	Theology Survey I <sup>3</sup>	2
THEO 202	Theology Survey II <sup>3</sup>	2
<b>Total Hours</b>		<b>46-49</b>

<sup>1</sup> Refer to the list of approved general education electives before enrolling in foundational skill requirements

<sup>2</sup> All students must pass the Computer Assessment OR complete applicable INFT course

<sup>3</sup> Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 Introduction to Biblical Worldview (2 c.h.) & EVAN 101 Evangelism and the Christian Life (2 c.h.) waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 Theology Survey I (2 c.h.) & THEO 202 Theology Survey II (2 c.h.) waived

## Major Requirements

Code	Title	Hours
<b>Major Foundational Courses</b>		
ENGR 270	Technical Communication <sup>1</sup>	3
MATH 131	Calculus and Analytic Geometry I <sup>1,2</sup>	4
MATH 132	Calculus and Analytic Geometry II <sup>1,2</sup>	4
PHYS 231	University Physics I <sup>1,2</sup>	4
<b>Total Hours</b>		<b>15</b>

<sup>1</sup> Course may also fulfill select general education requirements

<sup>2</sup> Minimum grade of "C" is required

Code	Title	Hours
<b>Major Core</b>		
CHEM 121	General Chemistry I	4
ENGI 220	Engineering Economy	3
ENGM 310	Materials Engineering	3
ENGM 350	Computer-Aided Engineering	3
ENGM 375	Thermal Fluids Design Lab	2
ENGM 415	Design of Machine Components	3
ENGM 445	Material and Manufacturing Processing	4
ENGR 102	Introduction to Engineering	1
ENGR 110	Introduction to Engineering Fundamentals	3
ENGR 125	Visualization for Engineers	1
ENGR 235	Statics	3
ENGR 240	Dynamics	3
ENGR 313	Mechatronics	4
ENGR 315	Fluid Dynamics	3
ENGR 330	Mechanics of Materials	3
ENGR 360	Heat Transfer	3
ENGR 381	Engineering Design Introduction	3
ENGR 385	Thermodynamics II	3
ENGR 405	Dynamic Systems Modeling	3
ENGR 481	Engineering Design I	3
ENGR 482	Engineering Design II	3
PHYS 320	Thermodynamics	3
<b>Total Hours</b>		<b>64</b>

Code	Title	Hours
<b>Technical Electives</b>		
Technical Electives <sup>1,2</sup>		<b>6</b>
Technical Electives <sup>1,2</sup>		
<b>Total Hours</b>		<b>6</b>

<sup>1</sup> Select from the list of Approved Engineering Technical Elective Courses

<sup>2</sup> ENGR 495 Directed Research (1-6 c.h.) is strongly recommended

Code	Title	Hours
<b>Quantitative Studies</b>		
ENGR 133	Calculus with MATLAB	1
ENGR 210	Probability and Statistical Methods for Engineering	3
MATH 231	Calculus and Analytical Geometry III	4

Code	Title	Hours
MATH 334	Differential Equations	3
PHYS 232	University Physics II	4
<b>Total Hours</b>		<b>15</b>

*All applicable prerequisites must be met*

## 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
- **25%** 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 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