

# Mechanical Engineering Course Plan

## Catalog Year 2020-2021

### Legend

**\* Major Requirement**

Must be taken to fulfill major requirements.

**† Major Elective**

Must be taken to fulfill major requirements, or replaced with an equivalent course.

**‡ Gen-Ed Requirement**

Must be taken to fulfill general education requirements.

**§ Elective**

Can be chosen from a selection of courses.

*See MyGFU for detailed academic requirements.*

### First Year

#### Fall Semester

Engineering Principles I (ENGR 151) *	3 credits
General Chemistry (CHEM 211) *	4 credits
Calculus I (MATH 201) *	4 credits
Knowing and Being Known (LIBA 100) ‡	3 credits
I Believe I (THEO 101) ‡	3 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>17 credits</b>

#### Spring Semester

Engineering Principles II (ENGR 152) *	3 credits
General Physics with Calculus (PHYS 211) *	4 credits
Calculus II (MATH 202) *	4 credits
Introduction to Communication (COMM 100) ‡	3 credits
I Believe II (THEO 102) ‡	3 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>34 credits</b>

## Second Year

### Fall Semester

Principles of Material Science (ENGM 250) *	3 credits
Statics (ENGM 211) *	3 credits
General Physics with Calculus (PHYS 212) *	4 credits
Calculus III (MATH 301) *	3 credits
Math Elective †	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>50 credits</b>

### Spring Semester

Circuits & Instrumentation (ENGE 260) *	4 credits
Dynamics (ENGM 212) *	3 credits
Materials & Processes in Manufacturing (ENGM 220) *	3 credits
Engineering Thermodynamics (ENGM 311) *	3 credits
Differential Equations w/ Linear Algebra (MATH 311) *	4 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>67 credits</b>

## Third Year

### Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
Machine Dynamics & Vibration (ENGM 350) *	3 credits
Fluid Mechanics (ENGM 330) *	3 credits
Application of Engineering Thermodynamics (ENGM 312) *	2 credits
Mechanics of Materials (ENGM 320) *	3 credits
Lifelong Fitness (HHPA 120) ‡	2 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>82 credits</b>

### Spring Semester

Servant Engineering II (ENGR 382) *	2 credits
Finite Elements & Computer Model (ENGM 360) *	3 credits
Mechanical Engineering Design (ENGM 400) *	3 credits
Mechanics of Materials Lab (ENGM 321) *	1 credits
Heat Transfer (ENGM 380) *	3 credits
Energy Lab (ENGM 381) *	1 credits
Intercultural GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>98 credits</b>

## Fourth Year

### Fall Semester

Senior Design I (ENGR 481) *	1 credits
Engineering Senior Seminar (ENGR 490) *	1 credits
ME Elective (ENGM 4xx) *	3 credits
Control Systems Engineering (ENGM 480) *	3 credits
HUMA 290 or Alternate Fine Arts GE Requirement ‡	3 credits
Engaging Christ is Transition (LIBA 400) ‡	3 credits
Bible Elective GE Requirement (THEO 215 or 315) ‡	3 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>115 credits</b>

### Spring Semester

Senior Design II (ENGR 482) *	3 credits
ME Elective (ENGM 4xx) *	3 credits
HUMA 205 or Alternate Philosophy & Literature GE Requirement *	3 credits
Principles of Macroeconomics or Microeconomics (ECON 211 or 212) *	3 credits
History/Politics/International Affairs GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>130 credits</b>