

# Mechanical Engineering Course Plan

## Catalog Year 2021-2022

### 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
The Bible (THEO 101) ‡	3 credits
Caring for Words (WRIT 111) ‡	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 I (PHYS 211) *	4 credits
Calculus II (MATH 202) *	4 credits
Christianity (THEO 102) ‡	3 credits
Communication in Society (COMM 111) ‡	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 II (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
Mechanics of Materials (ENGM 320) *	3 credits
Fluid Mechanics (ENGM 330) *	3 credits
Application of Engineering Thermodynamics (ENGM 312) *	2 credits
Machine Dynamics and Vibrations (ENGM 350) *	3 credits
Personhood (PSYC 100) ‡	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>83 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
Justice (SSCI 100) ‡	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>99 credits</b>

## Fourth Year

### Fall Semester

Senior Design I (ENGR 481) *	1 credits
Engineering Senior Seminar (ENGR 490) *	1 credits
Mechanical Engineering Elective (ENGM 4xx) †	3 credits
Control Systems Engineering (ENGM 480) *	3 credits
Arts & Global Culture (ARTP/V 120) ‡	3 credits
Ethics (THEO 380) ‡	3 credits
<b>Semester Total</b>	<b>14 credits</b>
<b>Cumulative Total</b>	<b>113 credits</b>

### Spring Semester

Senior Design II (ENGR 482) *	3 credits
Mechanical Engineering Elective (ENGM 4xx) *	3 credits
Faith & Story (LITR 111) ‡	3 credits
Principles of Economics (ECON 200) *	3 credits
The Modern & Postmodern World (HIST 111) ‡	3 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>128 credits</b>