

Mechanical Engineering Course Plan

Catalog Year 2019-2020

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
Semester Total	17 credits
Cumulative Total	17 credits

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
Semester Total	17 credits
Cumulative Total	34 credits

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
Semester Total	16 credits
Cumulative Total	50 credits

Spring Semester

Circuits & Instrumentation (ENGR 260) *	4 credits
Dynamics (ENGM 212) *	3 credits
Materials & Processes in Manufacturing (ENGM 220) *	3 credits
Engineering Thermodynamics (ENGM 311) *	3 credits
Differential Equations and Linear Algebra (MATH 311) *	4 credits
Semester Total	17 credits
Cumulative Total	67 credits

Third Year

Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
Machine Dynamics and 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
Semester Total	15 credits
Cumulative Total	82 credits

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
Semester Total	16 credits
Cumulative Total	98 credits

Fourth Year

Fall Semester

Senior Design I (ENGR 481) *	1 credits
Senior Seminar (ENGR 490) *	1 credits
ME Elective (ENGM 4xx) *	3 credits
Control Systems Engineering (ENGM 480) *	3 credits
HUMA 290 or Art, Beauty and Truth GE Requirement (HUMA 290) ‡	3 credits
Christianity and Culture (LIBA 400) ‡	3 credits
Bible Elective GE Requirement (Bible Elective GE Requirement) ‡	3 credits
Semester Total	17 credits
Cumulative Total	115 credits

Spring Semester

Senior Design II (ENGR 482) *	3 credits
ME Elective (ENGM 4xx) *	3 credits
Philosophy and Literature (HUMA 205) *	3 credits
History/Politics/International Affairs GE Requirement ‡	3 credits
Principles of Microeconomics or Macroeconomics (ECON 201/202) *	3 credits
Semester Total	15 credits
Cumulative Total	130 credits