

# Biomedical 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
I Believe I (THEO 101) ‡	3 credits
Knowing and Being Known (LIBA 100) ‡	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
I Believe II (THEO 102) ‡	3 credits
Introduction to Communication (COMM 100) ‡	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
Human Anatomy & Physiology I (BIOL 221) *	4 credits
General Physics with Calculus (PHYS 212) *	4 credits
Calculus III (MATH 301) *	3 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>51 credits</b>

### Spring Semester

Circuits & Instrumentation (ENGE 260) *	4 credits
Dynamics (ENGM 212) *	3 credits
Human Anatomy & Physiology II (BIOL 222) *	4 credits
Differential Equations w/ Linear Algebra (MATH 311) *	4 credits
Lifelong Fitness (HHPA 120) ‡	2 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>68 credits</b>

## Third Year

### Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
General Biology I (BIOL 211) *	4 credits
Biotransport (ENGB 330) *	3 credits
Mechanics of Biomaterials (ENGB 340) *	3 credits
Engineering Statistics (MATH 330) *	3 credits
<b>Semester Total</b>	<b>15 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
Biosignal Analysis (ENGB 350) *	3 credits
Biosignal Analysis Lab (ENGB 351) *	1 credits
Tissue Engineering (ENGB 370) *	3 credits
Intercultural GE Requirement §	3 credits
<b>Semester Total</b>	<b>15 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
Biomechanics (ENGB 420) *	3 credits
Design of Medical Devices (ENGB 410) *	3 credits
Bible Elective GE Requirement (THEO 215 or 315) ‡	3 credits
Engaging Christ in Transition (LIBA 400) ‡	3 credits
HUMA 290 or Alternate Fine Arts GE Requirement ‡	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
Rehabilitation Engineering (ENGB 430) *	3 credits
HUMA 205 or Alternate Philosophy & Literature GE Requirement ‡	3 credits
History/Politics/International Affairs GE Requirement ‡	3 credits
Principles of Macroeconomics or Microeconomics (ECON 211 or 212) *	3 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>130 credits</b>