

# Civil 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 Materials Science (ENGM 250) *	3 credits
Statics (ENGM 211) *	3 credits
Engineering Surveying (ENGC 220) *	2 credits
General Physics with Calculus (PHYS 212) *	4 credits
Calculus III (MATH 301) *	3 credits
Lifelong Fitness (HHPA 120) ‡	2 credits
<b>Semester Total</b>	<b>17 credits</b>
<b>Cumulative Total</b>	<b>51 credits</b>

### Spring Semester

Thermodynamics (ENGM 311) *	3 credits
Mechanics of Materials (ENGM 320) *	3 credits
Dynamics (ENGM 212) *	3 credits
Site Develop. w/ AutoCad/Civil 3D (ENGC 210) *	2 credits
Differential Equations w/ Linear Algebra (MATH 311) *	4 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>66 credits</b>

## Third Year

### Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
Fluid Mechanics (ENGM 330) *	3 credits
Structural Analysis and Design (ENGC 330) *	3 credits
Geotechnical Engineering (ENGC 340) *	4 credits
Engineering Statistics (MATH 330) *	3 credits
HUMA 205 or Alternate Philosophy & Literature GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>18 credits</b>
<b>Cumulative Total</b>	<b>84 credits</b>

### Spring Semester

Servant Engineering II (ENGR 382) *	2 credits
Mechanics of Materials Lab (ENGM 321) *	1 credits
Water Resources Engineering (Hydrology) (ENGC 350) *	4 credits
Environmental Engineering (ENGC 310) *	3 credits
Transportation Engineering (ENGC 370) *	3 credits
Intercultural GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>100 credits</b>

## Fourth Year

### Fall Semester

Senior Design I (ENGR 481) *	1 credits
Engineering Senior Seminar (ENGR 490) *	1 credits
Engineering Economics (ENGC 360) *	2 credits
Construction Management & Professional Practice (ENGC 450) *	2 credits
HUMA 290 or Alternate Fine Arts GE Requirement ‡	3 credits
Engaging Christ in Transition (LIBA 400) ‡	3 credits
Bible Elective GE Requirement (THEO 215 or 315) ‡	3 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>115 credits</b>

### Spring Semester

Senior Design II (ENGR 482 ) *	3 credits
Design of Steel Structures (ENGC 460) *	3 credits
Reinforced Concrete Design (ENGC 430) *	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>

## Notes