

# Electrical 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

Digital Logic Design (ENGE 220) *	4 credits
Math/Science Elective †	3 credits
General Physics with Calculus (PHYS 212 ) *	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>51 credits</b>

### Spring Semester

Electrical Circuit Analysis (ENGE 250) *	4 credits
Electrical Power Systems (ENGE 270) *	3 credits
Introduction to Computer Science II (CSIS 202) *	3 credits
Calculus III (MATH 301) *	3 credits
HUMA 205 or Alternate Philosophy & Literature GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>16 credits</b>
<b>Cumulative Total</b>	<b>67 credits</b>

## Third Year

### Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
Electronic Devices & Circuits (ENGE 311) *	4 credits
Microprocessor Architecture (ENGE 320) *	4 credits
Electrical Signals & Networks (ENGE 330) *	3 credits
Math Elective †	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
Applications of Electronic Devices (ENGE 312) *	4 credits
Electromagnetic Fields & Waves (ENGE 360) *	3 credits
Embedded Systems Design (ENGE 420) *	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
Communication Systems (ENGE 430) *	3 credits
Power Electronics & Renewable Energy (ENGE 470) *	3 credits
Bible Elective GE Requirement (THEO 215 or 315) ‡	3 credits
Engaging Christ in Transition (LIBA 400) ‡	3 credits
Principles of Macroeconomics or Microeconomics (ECON 211 or 212) ‡	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
Microwave Eng. & Applications (ENGE 460) *	3 credits
Digital Signal Processing (ENGE 480) *	3 credits
History/Politics/International Affairs GE Requirement ‡	3 credits
HUMA 290 or Alternate Fine Arts GE Requirement ‡	3 credits
<b>Semester Total</b>	<b>15 credits</b>
<b>Cumulative Total</b>	<b>130 credits</b>

## Notes