

# ELECTRICAL ENGINEERING

## 2020-2021 Curriculum Flowchart

### Freshman Year

PAGN1XX-2XX 0.5  
Phys. Edu.

HASS100 4  
FSs  
Nat.& Hmn. Values

CHGN121 4 FSs  
Prin. Chemistry I

CSM101 0.5 FS  
Fr. Seminar

Distributed FSs  
Science Elective #

MATH111 4 FSs  
Calc. I  
Pre: Precalc

PAGN1XX-2XX 0.5  
Phys. Edu.

Distributed FSs  
Science Elective #

PHGN100 4.5 FSs  
Physics I  
Pre: MATH111  
Co-req: MATH112

MATH112 4 FSs  
Calc. II  
Pre: MATH111 (≥C)

EDNS151 3 FSs  
Intro to Design

### Sophomore Year

PAGN1XX-2XX 0.5  
Phys. Edu.

HASS200 3 FSs  
Global Studies  
Pre: HASS100

PHGN200 4.5 FSs  
Physics II  
Pre: PHGN100 (≥C-)  
Co-req: MATH213

MATH213 4 FSs  
Calc. III  
Pre: MATH112 (≥C)

CSCI261 3 FSs  
Programming  
Concepts

PAGN1XX-2XX 0.5  
Phys. Edu.

EBGN201 3 FSs  
Prin. of Economics

EENG284 4 FS  
Digital Logic  
Pre: CSCI261 (≥C-)  
Co: EENG282 or  
PHGN215

EENG282 4 FS  
Electrical Circuits  
Pre: PHGN200

MATH225 3 FSs  
Diff. Eqn.  
Pre: MATH112 (≥C-)

### Junior Year

EENG383 4 FS  
Microcomputers  
Pre: EENG282 or  
PHGN215 (≥C-),  
EENG284 or PHGN317  
(≥C-)

EENG389 4 FS  
Elect. Mach. I  
Pre: EENG282 (≥C-)

EENG310 4 FS  
Info. Systems  
Pre: EENG282 or  
PHGN215 (≥C-),  
MATH225

EENG307 3 FSs  
Feedback Control  
Pre: EENG282 or  
PHGN215 (≥C-), and  
MATH225

MATH332 3 FSs  
Linear Algebra  
Pre: MATH213

MEGN361 OR CEEN241 3 FSs  
OR Emphasis Area Course  
Pre: for Thermo: MATH213 (≥C-) or for Statics:  
PHGN100, MATH112

EENG350 2 FS  
SEED Lab  
Pre: EENG383,  
EENG307

EENG386 3 FS  
Eng. EM  
Pre: EENG282 (≥C-),  
MATH225

EENG311 3 FS  
Info Systems II  
Pre: EENG310

EENG385 4 FS  
Elec. Dev. & Circ.  
Pre: EENG307

EENG391-394 \*\*  
1 FS  
Field Engineering  
Pre: See Cat.

EENG391-394 \*\*  
1 FS  
Field Engineering  
Pre: See Cat.

### Senior Year

ELEC 3 FSs  
Elective

ELEC 3 FSs  
Elective

EDNS491 3 FS  
Senior Design I  
Co: EENG350, EENG389

H&SS 3 FSs  
Mid-level\*

H&SS 3 FSs  
Mid-level\*

ELEC 3 FSs  
Elective

H&SS 3 FSs  
400-level\*

Free  
Elective 3 FSs

Free  
Elective 3 FSs

EDNS492 3 FS  
Senior Design II  
Pre: EDNS491

Free  
Elective 3 FSs

\* See 2020-2021 Undergraduate Catalog for list of acceptable courses

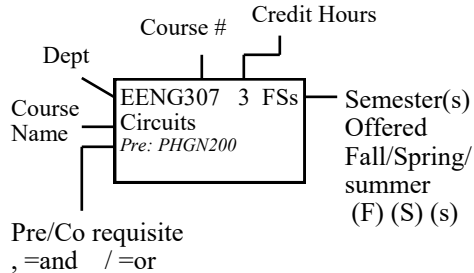
\*\* Must choose 2 of 4- EENG 391, 392, 393, 394

# CBEN110, CHGN122 or CHGN125, CSCI101 or GEGN101 may be taken for Dist Science

**Electrical Engineering Electives** (organized by emphasis area)

Electrical Engineering students are required to take nine credits of electrical engineering electives. Taking all nine credit hours in one of the four emphasis areas is encouraged; however, not required. To have emphasis area on official transcript, must take 12 credits.

**Legend**



**Information and Systems Sciences**

Course	Course Title	Credit Hours	Semester(s) Offered
EENG411	Digital Signal Processing	3	Sp
EENG413	Analog & Digital Comm Systems	4	Check Trailhead
EENG417	Modern Control Design	3	F
EENG427	Wireless Communications	3	Check Trailhead
EENG437	Intro to Computer Vision	3	F
MEGN441	Intro to Robotics	3	F, Sp

**Energy Systems and Power Electronics**

Course	Course Title	Credit Hours	Semester(s) Offered
EENG390	Energy & Electricity	3	F
EENG470	Intro to High Power Electronics	3	Check Trailhead
EENG475	Intercon. Of Renewable Energy, integ. Pwer Electronics, Power systesm, and Power Quality	3	Check Trailhead
EENG480	Power Systems Analysis	3	F
EENG481	Analysis and Design of Advanced Energy Systems	3	Check Trailhead
EENG489	Computational Methods in Energy Systems & Power	3	Sp

**Antennas and Wireless Communications**

Course	Course Title	Credit Hours	Semester(s) Offered
EENG425	Introduction to Antennas	3	Sp
EENG427	Wireless Communications	3	Check Trailhead
EENG428	Computational Electromagnetics	3	F
EENG429	Active RF & Microwave Devices	3	Check Trailhead
EENG430	Passive RF & Microwave Devices	3	F
EENG486	EM Fields & Waves	3	Check Trailhead

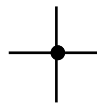
**Integrated Circuits and Electronics**

Course	Course Title	Credit Hours	Semester(s) Offered
EENG411	Digital Signal Processing	3	Sp
EENG421	Semiconductor Physics & Design	3	F
EENG423	Introduction to VLSI Design	3	Sp
PHGN435	Interdisciplinary Microelectronics Processing Laboratory	3	Sp

Shows Prerequisite Requirement



Shows lines crossing and connecting together



Concurrent Enrollment Allowed

(Arrow points toward course with pre/co requisite requirement)



**Electrical Engineering- General**

Course	Course Title	Credit Hours	Semester(s) Offered
CEEN405	Numerical Methods for Engineers	3	Check Trailhead
CSCI341	Computer Organization	3	F, Sp
CSCI410	Elements of Comp Systems	3	Sp
CSCI440	Parallel Computing for Scientists & Engineers	3	Sp
CSCI442	Operating Systems	3	F, Sp
MATH335	Introduction to Mathematical Statistics	3	F, Sp
MATH455	Partial Differential Equations	3	F, Sp
MEGN330	Introduction to Biomechanical Engineering	3	F
PHGN300	Modern Physics I	3	F
PHGN320	Modern Physics II: Quantum	4	Sp
PHGN440	Solid State Physics	3	F
PHGN441	Solid State Physics Applications & Phenomena	3	Check Trailhead
PHGN462	Electromagnetic Waves & Optical Physics	3	F

Advising flowcharts are intended as a quick reference only. For full degree details please see the Catalog applicable to your Catalog year.

Flowchart based on the 20-21 Undergraduate Catalog