

The Electrical Engineering major provides a broad curriculum that covers topics from a variety of areas. Through the Core Curriculum taken during the first two years, students will gain exposure to broader topics and the areas of specialization. Within an area of specialization, students will choose Entry-Level Electives as well as Advanced Electives based on their interests.

The EE degree offers three areas of specialization: Computer Engineering; Circuits, Signals, and Systems; and Electrical Sciences.

Computer Engineering contains courses that focus on software engineering, digital hardware, embedded systems, and VLSI design.

Circuits, Signals, and Systems covers areas in VLSI design, media and audio systems, wireless communications, adaptive control, and mixed-signal integrated circuits.

Courses in the Electrical Sciences area cover communications hardware, integrated-circuit technology, energy sources and management, and mixed-signal integrated circuits.

The diagram below shows the paths for each area of specialization. You should use the diagram and the suggested course plan on the following page to develop your individual course plan.

## CORE CURRICULUM

All courses are required for an electrical engineering degree.



## EE ELECTIVES:

Take minimum 16.0 units of Advisor approved, upper-division EE electives






## FIRST YEAR

### FALL SEMESTER

<b>MATH 125</b> (GE F)  4	<b>EE 141</b> 4	<b>EE 155</b> 4	<b>EE 105</b> (MATH 125) 3	<b>ENGR 102</b> 2
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### SPRING SEMESTER

<b>MATH 126 or MATH 129</b> MATH 125  4	<b>CHEM 105aL or MASC 110L</b>  4	<b>WRIT 150</b> 4	<b>GE A</b>  4	<b>OPTIONAL ELECTIVE</b> 3
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## SECOND YEAR

### FALL SEMESTER

<b>MATH 226 or MATH 229</b> MATH 126 or MATH 129 4	<b>PHYS 151L</b> (GE E) MATH 125 or 126 or 226 4	<b>EE 109</b> EE 155 3	<b>GE B</b> 4	<b>OPTIONAL ELECTIVE</b> 3
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### SPRING SEMESTER


<b>MATH 245</b> MATH 226 or MATH 229 4	<b>PHYS 152L</b> PHYS 151L, (MATH 226) 4	<b>EE 250L</b> EE 109L 3	<b>GE C</b> 4	<b>OPTIONAL ELECTIVE</b> 3
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## THIRD YEAR

### FALL SEMESTER

<b>WRIT 340</b> WRIT 150 3	<b>EE 202L</b> PHYS 152L, (MATH 245) 4	<b>PHYS 153L</b> PHYS 152L 4	<b>EE 355</b> EE 155 3	<b>EE ELECTIVE</b> 3-4
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### SPRING SEMESTER

<b>EE 330</b> MATH 445, EE 202L, PHYS 152 3	<b>EE 364</b> MATH 245 3	<b>EE 301L</b> EE 202L 4	<b>GE D</b>  4	<b>OPTIONAL ELECTIVE</b> 4
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## FOURTH YEAR

### FALL SEMESTER

<b>EE ELECTIVE</b> 3-4	<b>EE ELECTIVE</b> 3-4	<b>EE ELECTIVE</b> 3-4	<b>GE B</b> 4	<b>OPTIONAL ELECTIVE</b> 2-5
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### SPRING SEMESTER

<b>EE ELECTIVE</b> 4	<b>CAPSTONE DESIGN</b> 3	<b>GE C</b> 4	<b>OPTIONAL ELECTIVE</b> 4	<b>OPTIONAL ELECTIVE</b> 3
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### MATHEMATICS (12 UNITS)

**MATH 125:** Calculus I  
**MATH 129:** Calculus II  
**MATH 229:** Calculus III  
**MATH 245:** Mathematics of Phys. and Engr. I

### PHYSICS (12 UNITS)

**PHYS 151L:** Mechanics and Thermodynamics  
**PHYS 152L:** Electricity and Magnetism  
**PHYS 153L:** Optics and Modern Physics

### CHEMISTRY / MATERIALS SCIENCE (4 UNITS)

**CHEM 105AL:** General Chemistry  
 or **MASC 110L:** Materials Science

### GENERAL EDUCATION (32 UNITS)

**GE A** The Arts (1 Course)  
**GE B** Humanistic Inquiry (2 Courses)  
**GE C** Social Analysis (2 Courses)  
**GE D** Life Sciences (1 Course)  
**GE E** Physical Sciences (1 Course)  
**GE F** Quantitative Reasoning (1 Course)  
**GE G,H** Global Perspectives (2 Courses)\*  
**GESM** General Education Seminar (1 Course)\*

### WRITING (7 UNITS)

**WRIT 150:** Writing and Critical Reasoning  
**WRIT 340:** Advanced Writing

### ENGINEERING (55 UNITS)

**EE 105:** Intro. to Electrical Engineering  
**EE 109:** Intro. to Embedded Systems  
**EE 141L:** Applied Linear Algebra for Engineering  
**EE 155:** Intro. to Comp. Programming for EE  
**EE 202L:** Linear Circuits  
**EE 250L:** TBA  
**EE 301L:** Linear Systems  
**EE 330:** Electromagnetics I  
**EE 355:** Software Design for Engineers  
**EE 364:** Intro to Probability & Statistics  
**ENGR 102:** Engineering Freshman Academy  
**EE ELECTIVES**

### OTHER COURSES (7 UNITS)

**REQUIRED ELECTIVE**  
**CAPSTONE**

### \* SPECIAL NOTES



Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 17 for more information.

**GE:** Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by exam. Additionally, your GESM course should be taken in categories A, B, C, or D only. See pp. 16-17 for more information and consult your advisor for detailed assistance.

**REQUIRED ELECTIVE:** Required electives are needed to meet minimum unit requirement and can be met with AP/IB and transfer credit.

**OPTIONAL ELECTIVES:** Consult with your academic advisor to explore optional elective courses. These courses are not required.

**EE ELECTIVES:** Minimum 16 units of advisor approved, upper-division EE Electives. Refer to the diagram on the facing page.

**CAPSTONE:** Take one Capstone Course. Refer to the diagram on the facing page.