## Elective Requirements

In addition to the above, EE majors must complete 4 additional upper-division elective courses (minimum of 3 courses from one track). Unlisted graduate-level courses may be used to fulfill an elective requirement with prior department approval. Most, if not all, elective courses have pre-reqs. They are subject to change frequently please visit [http://www.soe.ucsc.edu/courses](http://www.soe.ucsc.edu/courses) to ensure you have met them.

### Communications, Signals, Systems, & Controls Track

- EE 130/L / 230 Optical Fiber Communication
- EE 136 Engineering Electromagnetics (Strongly Recommended)
- EE 152 / 252 Intro to Wireless Signals/Systems
- EE 153 / 250 Digital Signal Processing
- EE 154 / 241 Feedback Control Systems
- EE 251 Principles of Digital Communications
- EE 253 Introduction to Information Theory
- EE 261 Error Control Coding
- EE 282 Statistical Signal Processing
- EE 284 Image Processing and Reconstruction
- CMPE 118/L Intro to Mechatronics
- CMPE 150/L Intro to Mechatronics
- CMPE 251 Error-Control Coding
- AMS 147 Computational Methods & Applications

### Electronics & Optics Track

- EE 104 Bio-electronics & Bio-instrumentation
- EE 115 Intro to MEMS Design
- EE 130/L / 230 Optical Fiber Communication
- EE 136 Engineering Electromagnetics (Strongly Recommended)
- EE 154 / 241 Feedback Control Systems
- EE 157/L RF Hardware Design/Lab
- EE 172 / 221 Advanced Analog Integrated Circuits
- EE 175/L Energy Generation and Control
- EE 176/L Energy Conversion and Control
- EE 177/L Power Electronics
- EE 178 Device Electronics
- EE 211 Introduction to Nanotechnology
- EE 213 Nanocharacterization of Materials
- EE 231 Optical Electronics
- EE 180J Advanced Renewable Energy Sources
- CMPE 118/L Intro to Mechatronics
- CMPE 121/L Microprocessor System Design (Strongly Recommended)
- CMPE 173/L High Speed Digital Design
- AMS 147 Computational Methods & Applications

### Senior Design Project (Choose One)

- EE 129A Engineering Design Project I (EE 171 and CE 100 and permission of the Instructor)
- EE 129B Engineering Design Project II (EE 129A and one of the following: EE 107, CE 118 or CE 121; permission of the instructor)
- EE 129C Engineering Design Project III (EE 129B)
- EE 195 Senior Thesis (10 units over 2 quarters; and students must take EE 157 or CE 118/L to fulfill design experience) **(Department Approval)**
- EE 123A Engineering Design Project I (EE 171 and CE 100 and previous or concurrent enrollment in CE 185 and previous or concurrent enrollment in at least one of the following: EE 157, CE 118 or CE 121 and permission of instructor.)
- EE 123B Engineering Design Project II (EE 123A)

### Prior to graduation, you are required to:

1. Complete an Exit Survey
2. Attend an Exit Interview with a designated EE faculty
3. Maintain a 2.5 cumulative GPA in all required & elective courses for the major, OR Submit a Portfolio for Department Review, OR Submit a Senior Thesis with Department Approval

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* CMPS 12AL or CMPS 5J and CMPS 11
** Students who complete Math 21 and Math 24 (or the equivalents) in lieu of AMS 10 and 20 are strongly encouraged to take the Matlab self-paced tutorial prior to enrolling in EE 101/L.
† Satisfies the DC requirement
### Approved List of Ethics Courses:

- CMPE 80E  Engineering Ethics
- PHIL 22 Intro to Ethical Theory
- PHIL 24 Intro to Contemporary Ethics: Contemporary Moral Issues
- PHIL 28 Environmental Ethics
- BME 80G or PHIL 80G Bioethics in the 21st Century: Science, Business, and Society

### Student Information

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### Course Chart

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http://ua.soe.ucsc.edu :: advising@soe.ucsc.edu :: (831) 459-5840 :: revised 7/9/2012