### Major Required Core

- **BIO1110 - Life Science (2) (B2)**
- **CHM1210 - General Chemistry I (3) (B3)**
- **ECE1101 - Electrical Circuit Analysis I (3)**
- **ECE1101L - Electrical Circuit Analysis Laboratory (1)**
- **ECE1310 - C For Engineers (3)**
- **ECE1701 - Circuit Analysis II (3)**
- **ECE2200 - Introduction to Microelectronics Circuits (3)**
- **ECE2300 - Digital Logic Design (3)**
- **ECE3101 - Signals and Systems (3)**
- **ECE3300 - Digital Circuit Design Using Verilog (3)**
- **ECE3300L - Digital Circuit Design Using Verilog Laboratory (1)**
- **ECE3301 - Introduction to Micromotors (3)**
- **ECE3301L - Introduction to Microcontrollers Laboratory (1)**
- **ECE3310 - Data Structures and Algorithms (3)**
- **ECE3315 - Probability, Statistics, and Random Processes for Electrical and Computer Engineers (3)**
- **ECE3330 - Computer Architecture (3)**
- **ECE3340 - Operating Systems for Embedded Applications (3)**
- **EGR410 - Project Design Principles and Applications (1) (B5)**
- **EGR420 - Project Design Principles and Applications (1) (B5)**
- **EGR430 - Project Design Principles and Applications (1) (B5)**
- **MAT1140 - Calculus I (4) (B4)**
- **MAT1150 - Calculus II (4) (B4)**
- **MAT240 - Elementary Linear Algebra and Differential Equations (3)**
- **PHY1510 - Introduction to Newtonian Mechanics (3) (B1)**
- **PHY1510L - Introductory Laboratory on Electromagnetism and Circuits (1)**
- **PHY1520 - Introduction to Electromagnetism and Circuits (3)**
- **PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)**

### General Education Requirements

**48 Units**

- **1. Physical Sciences**
  - ECE3101L - Signals and Systems Laboratory (1)
  - ECE3200 - Microelectronic Devices and Circuits (3)
  - ECE3200L - Analog Microwaretronics Laboratory (1)
  - ECE3201 - Instrumentation Systems (3)
  - ECE3201L - Instrumentation Systems Laboratory (1)
  - ECE3250 - Electromagnetic Fields (3)
  - ECE3320 - Microcomputer-based system design (3)
  - ECE3320L - Microprocessor-based System Design Laboratory (1)
  - ECE3709 - Control Systems Engineering (3)
  - ECE3709L - Control Systems Engineering Laboratory (1)
  - ECE3810 - Power Engineering Laboratory (1)
  - ECE4200 - CMOS Analog Circuits (3)
  - ECE4200L - CMOS Analog Circuits Laboratory (1)
  - ECE4201 - Advanced Analog Circuit Design (3)
  - ECE4201L - Advanced Analog Circuit Design Laboratory (1)
  - ECE4203 - VLSI (Very Large Scale Integrated) Circuit Design (3)
  - ECE4203L - VLSI (Very Large Scale Integrated) Circuit Design Laboratory (1)
  - ECE4250 - Fields and Waves in RF Electronics (3)
  - ECE4251 - RF Design (3)
  - ECE4260 - Introduction to Photonics (3)
  - ECE4333 - TCP / IP Internetworking (3)
  - ECE4333L - TCP / IP Internetworking Laboratory (1)
  - ECE4334 - Discrete System Design Using VHDL (3)
  - ECE4340L - Discrete System Design Using VHDL Laboratory (1)
  - ECE4350 - Digital Design Using Verilog HDL (3)
  - ECE4350L - Digital Design Using Verilog HDL Laboratory (1)
  - ECE4311 - Network Forensics (3)
  - ECE4317 - Intelligence Systems for Engineering (3)
  - ECE4318 - Software Engineering (3)
  - ECE4319 - Application Development Using JAVA (3)
  - ECE4704 - Robotics (3)
  - ECE4705 - Communication Systems (3)

### Interdisciplinary General Education

**21 Units**

An alternate pattern for partial fulfillment of GE Areas A, C, and D available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Please refer to the University Catalog General Education Program section for additional information.

### Interdisciplinary General Education

<table>
<thead>
<tr>
<th>Year</th>
<th>Completion of IGE Courses</th>
<th>Satisfies GE Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>IGE 1100, IGE 1200</td>
<td>A2 and C2b</td>
</tr>
<tr>
<td>Sophomore</td>
<td>IGE 2100, IGE 2200</td>
<td>C1 and C2a</td>
</tr>
<tr>
<td>Junior</td>
<td>IGE 2300, IGE 2400</td>
<td>D1 and D3</td>
</tr>
<tr>
<td>Senior</td>
<td>IGE 3100</td>
<td>C3 or D4</td>
</tr>
</tbody>
</table>

### American Institutions

**6 Units**

Courses that satisfy this requirement may also satisfy GE Area D1 and D2.

### American Cultural Perspectives Requirement

**3 Units**

Refer to the University Catalog General Education Program section for a list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements.

### Graduation Writing Test

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the semester following completion of 60 units for undergraduates.