Cal Poly Pomona

Name: _____

Plan: **Computer Engineering, B.S.**

SubPlan/Option: _____

Min. Units Required: **124 units**

Major Required — 77 units

- BIO1110 - Life Science (2) (B2)
- CHM1150 - General Chemistry for Engineers (3)
- ECE1101 - Electrical Circuit Analysis I (3)
- ECE1101L - Electrical Circuit Analysis I Laboratory (1)
- ECE1310 - C For Engineers (3)
- ECE2101 - Electrical Circuit Analysis II (3)
- ECE2101L - Electrical Circuit Analysis II Laboratory (1)
- ECE2200 - Introduction to Microelectronics Circuits (3)
- ECE2200L - Introduction to Microelectronics Circuits Laboratory (1)
- ECE2300 - Digital Logic Design (3)
- ECE2300L - Digital Logic Design Laboratory (1)
- ECE2310 - Object Oriented Programming (3)
- ECE3101 - Signals and Systems (3)
- ECE3300 - Digital Circuit Design Using Verilog (3)
- ECE3300L - Digital Circuit Design Using Verilog Laboratory (1)
- ECE3301 - Introduction to Microcontrollers (3)
- ECE3301L - Introduction to Microcontrollers Laboratory (1)
- ECE3310 - Data Structures and Algorithms (3)
- ECE3715 - Probability, Statistics, and Random Processes for Electrical and Computer Engineers (3)
- ECE4064 - Professional Engineering Practice (1)
- ECE4300 - Computer Architecture (3)
- ECE4310 - Operating Systems for Embedded Applications (3)
- EGR4810 - Project Design Principles and Applications (1) (B5)
- EGR4820 - Project Design Principles and Applications (1) (B5)
- EGR4830 - Project Design Principles and Applications (1) (B5)
- MAT1140 - Calculus I (4) (B4)
- MAT1150 - Calculus II (4) (B4)
- MAT2140 - Calculus III (4)
- MAT2240 - Elementary Linear Algebra and Differential Equations (3)
- PHY1510 - Introduction to Newtonian Mechanics (3) (B1)
- PHY1510L - Newtonian Mechanics Laboratory (1) (B3)
- PHY1520 - Introduction to Electromagnetism and Circuits (3)
- PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)

Major Electives — 14 units

Select 14 units from the following list (a maximum of 4 units may be taken at the 3XXX level):

- ECE3101L - Signals and Systems Laboratory (1)
- ECE3200 - Microelectronic Devices and Circuits (3)
- ECE3200L - Analog Microelectronics Laboratory (1)
- ECE3201 - Instrumentation Systems (3)
- ECE3201L - Instrumentation Systems Laboratory (1)
- ECE3250 - Electromagnetic Fields (3)
- ECE3320 - Microprocessor-based system design (3)
- ECE3320L - Microprocessor-based System Design Laboratory (1)
- ECE3709 - Control Systems Engineering (3)
- ECE3709L - Control Systems Engineering Laboratory (1)
- ECE3810 - Introduction to Power Engineering (3)
- ECE3810L - 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)
- ECE4303 - TCP / IP Internetworking (3)
- ECE4303L - TCP / IP Internetworking Laboratory (1)
- ECE4304 - Discrete System Design Using VHDL (3)
- ECE4304L - Discrete System Design Using VHDL Laboratory (1)
- ECE4305 - Digital Design Using Verilog HDL (3)
- ECE4305L - 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)
- ECE4705L - Communication Systems Laboratory (1)
- ECE4708 - Digital Signal Processing (3)
- ECE4709 - Digital Communication Systems (3)
- ECE4719 - Advanced Control Systems (3)
- ECE4821 - Power Transmission Lines (3)
- ECE4821L - Power Transmission Lines Laboratory (1)
- ECE4822 - Power System Analysis (3)
- ECE4822L - Power System Analysis Laboratory (1)
- ECE4735 - Biomedical Signals, Instrumentation and Measurements (3)
- ECE4868 - Power Systems Electronics (3)
- ECE4868L - Power Systems Electronics Laboratory (1)
- ECE4869 - Power Electronics (3)
- ECE4869L - Power Electronics Laboratory (1)
- ECE4875 - Wind and Solar Power Systems (3)
- ECE4890 - Illumination Engineering (3)
- ECE4890L - Introduction to Illumination Engineering Laboratory (1)

General Education Requirements — 48 Units

Students should consult the Academic Programs website

https://www.cpp.edu/~academic-programs/general-education-course-listings.shtml

for current information regarding this requirement. Unless specific courses are required, please refer to the list of approved courses under General Education Requirements, Areas A through E.

Area A. English Language Communication and Critical Thinking (9 units)

At least 3 units from each sub-area

1. Oral Communication
2. Written Communication
3. Critical Thinking (Satisfied by completion of undergraduate Engineering degree)

Area B. Scientific Inquiry and Quantitative Reasoning (12 units)

At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3

1. Physical Sciences
2. Life Sciences
3. Laboratory Activity
4. Mathematics/Quantitative Reasoning
5. Science and Technology Synthesis

Area C. Arts and Humanities (12 units)

At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2

1. Visual and Performing Arts
2. Literature, Modern Languages, Philosophy and Civilization
3. Arts and Humanities Synthesis

Area D. Social Sciences (12 units)

At least 3 units from each sub-area

1. U.S. History and American Ideals
2. U.S. Constitution and California Government
3. Social Sciences: Principles, Methodologies, Value Systems, and Ethics
4. Social Science Synthesis

Area E. Lifelong Learning and Self-Development (3 units)

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.

How IGE fulfills General Education Requirements:

Year	Completion of IGE Courses	Satisfies GE Requirements
First	IGE 1100, IGE 1200	A2 and C2
Second/Third	IGE 2100, IGE 2200	C1 and C2
	IGE 2300, IGE 2400	D1 and D3
Third/Fourth	IGE 3100	C3 or D4

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.