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)

Note(s):
Senior Project Sequence ECE 3300 and ECE 3301 must be completed prior to starting the senior project sequence.
Cal Poly Pomona GPA must be greater than 2.0 to start the senior project sequence.
 EGR 4810 and EGR 4820 must be taken together in the same semester.

Major Electives — 14 units

At least 10 units from:
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)
ECE4252 - Integrated Circuit Design for Wireless Systems (3)
ECE4260 - Introduction to Photonics (3)
ECE4301 - Cryptographic Algorithms on Reconfigurable Hardware (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 - Advanced Digital Design Using Verilog HDL (3)
ECE4305L - Advanced Digital Design Using Verilog HDL Laboratory (1)
ECE4309 - Fundamentals of Cybersecurity (3)
ECE4311 - Network Forensics (3)
ECE4317 - Intelligence Systems for Engineering (3)
ECE4318 - Software Engineering (3)
ECE4319 - Application Development Using JAVA (3)
ECE4320 - Microprocessor-based System Design (3)
ECE4320L - Microprocessor-based System Design Laboratory (1)
ECE4704 - Robotics (3)
ECE4705 - Communication Systems (3)
ECE4705L - Communication Systems Laboratory (1)
ECE4708 - Digital Signal Processing (3)
ECE4709 - Digital Communication Systems (3)

ECE4715 - Machine Learning (3)
ECE4719 - Advanced Control Systems (3)
ECE4735 - Biomedical Signals, Instrumentation and Measurements (3)
ECE4821 - Power Transmission Lines (3)
ECE4821L - Power Transmission Lines Laboratory (1)
ECE4822 - Power System Analysis (3)
ECE4822L - Power System Analysis Laboratory (1)
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)
ECE4990 - Special Topics for Upper Division Students (1-3)
ECE4990L - Special Topics for Upper Division Students Laboratory (1-3)

No more than 4 units from:
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)
ECE3709 - Control Systems Engineering (3)
ECE3709L - Control Systems Engineering Laboratory (1)
ECE3810 - Introduction to Power Engineering (3)
ECE3810L - Power Engineering Laboratory (1)

General Education Requirements — 48 Units

Students should view their Degree Progress Report (DPR) for information regarding their General Education requirements. Unless specific GE courses are required for their major, please refer to the list of approved courses in the General Education Program in the University Catalog, catalog.cpp.edu. When viewing the catalog, students should select the catalog year associated with the GE requirements listed in their Degree Progress Report.

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 (9 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 Science Synthesis

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

Area F. Ethnic Studies (3 units)

Interdisciplinary General Education — 18 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 2150, IGE 2250	D1 and C2
	IGE 2350	C1
	IGE 3100	C3 or D4

American Institutions — 6 Units

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

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.