



**California State Polytechnic University, Pomona
Degree Curriculum Sheet**

Plan (Major) **COMPUTER ENGINEERING, B.S.**

Catalog Year **2017-2018**

Name _____

Subplan/Option _____

Minimum Units Required **194**

Student ID _____

Required Core Courses

Required of all students. A 2.0 cumulative GPA is required in core courses in order to receive a degree in the major.

ECE 109 - Introduction to Electrical Engineering (3) and
ECE 109L - Introduction to Electrical Engineering Laboratory (1)

ECE 114 - C for Engineers (3) and
ECE 114L - Programming Laboratory for Engineers (1)

ECE 130 - Discrete Structures (4)

ECE 204 - Introduction to Digital Logic Design (4) and
ECE 204L - Introduction to Digital Logic Design Laboratory (1)

ECE 205 - Digital Circuit Design Using Verilog (3) and
ECE 205L - Digital Circuit Design Using Verilog Laboratory (1)

ECE 207 - Network Analysis I (3) and
ECE 207L - Network Analysis I Laboratory (1)

ECE 209 - Network Analysis II (3) and
ECE 209L - Network Analysis II Laboratory (1)

ECE 220 - Electronic Devices and Circuits (4) and
ECE 220L - Electronics Laboratory (1)

ECE 256 - Object Oriented Programming (4)
ECE 302 - Electromagnetic Fields (4)
ECE 304 - Data Structures for Engineers (4)

ECE 306 - Discrete Time Signals and Systems (4) and
ECE 306L - Discrete Time Signals and Systems Laboratory (1)

ECE 309 - Control Systems Engineering (4) and
ECE 309L - Control Systems Laboratory (1)

ECE 315 - Probability, Statistics, and Random Processes for Electrical and Computer Engineering (4)

ECE 325 - Electronic Design of Digital Circuits (3) and
ECE 325L - Electronic Design of Digital Circuits Laboratory (1)

ECE 341 - Introduction to Microcontrollers (3) and
ECE 341L - Introduction to Microcontrollers Laboratory (1)

ECE 425 - Computer Architecture (4)

ECE 426 - Operating Systems for Embedded Applications (3) and
ECE 426L - Operating Systems for Embedded Application Laboratory (1)

ECE 431 - Computer Networks (3) and
ECE 431L - Computer Networks Laboratory (1)

or

Continue next column

Required Core Courses Con't.

ECE 433 - TCP/IP Internetworking (3) and
ECE 433L - TCP/IP Internetworking Laboratory (1)

ECE 464 - Professional Topics for Engineers (1) and
ECE 467 - Team Project III (1)

ECE 480 - Software Engineering (4)

Total Units 86

Elective Core Courses

The electives must be satisfied by selecting courses from the following list. If a course with an associated lab is selected, both must be taken. See Elective Core Courses list on the back of the Curriculum Sheet.

Total Units 11

Interdisciplinary General Education

See Interdisciplinary General Education Courses on the back of the Curriculum Sheet.

Total Units 32

Required Support Courses

The following required support courses should be taken to satisfy the indicated GE Requirements to achieve the minimum units to degree listed at the top of this sheet.

CHM 121 - General Chemistry (3) and
CHM 121L - General Chemistry Laboratory (1) (B3)
or
CHM 115 - General Chemistry for Engineers (4)

EGR 481 - Project Design Principles and Applications (2) (B5) and
EGR 482 - Project Design Principles and Applications (2) (B5)

MAT 114 - Analytic Geometry and Calculus I (4) (B4)
MAT 115 - Analytic Geometry and Calculus II (4) (B4)
MAT 116 - Analytic Geometry and Calculus III (4) (B4)
MAT 214 - Calculus of Several Variables I (3)
MAT 215 - Calculus of Several Variables II (3)
MAT 224 - Elementary Linear Algebra and Differential Equations (4)

PHY 131 - General Physics (3) (B1) and
PHY 131L - General Physics Laboratory (1) (B3)

PHY 132 - General Physics (3) and
PHY 132L - General Physics Laboratory (1)

PHY 133 - General Physics (3) and
PHY 133L - General Physics Laboratory (1)

Total Units 42

General Education Requirements

Area A Communication & Critical Thinking (12 units)

1. Oral Communication
2. Written Communication
3. Critical Thinking

Area B Mathematics & Natural Sciences (16 units)

1. Physical Science
2. Biological Science
3. Laboratory Activity
4. Math/Quantitative Reasoning
5. Science & Technology Synthesis

Area C Humanities (16 units)

1. Visual and Performing Arts
2. Philosophy and Civilization
3. Literature and Foreign Language
4. Humanities Synthesis

Area D Social Sciences (20 units)

1. U.S. History, Constitution, American Ideals
 - a. United States History
 - b. Introduction to American Government
2. History, Economics and Political Science
3. Sociology, Anthropology, Ethnic & Gender Studies
4. Social Science Synthesis

Area E Lifelong Understanding & Self Development (4 units)

Total Units 68

American Institutions

Courses that satisfy this requirement may also satisfy GE Area D1

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American Cultural Perspectives Requirement

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.

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All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the quarter following completion of 120 units for undergraduates.

Elective Core Courses

The electives must be satisfied by selecting courses from the following list. If a course with an associated lab is selected, both must be taken.

ECE 342 - Computer Engineering II (4) and
ECE 342L - Computer Engineering II Laboratory (1)

ECE 343 - Microprocessor I (4) and
ECE 343L - Microprocessor I Laboratory (1)

ECE 404 - Robotics (3) and
ECE 404L - Robotics Laboratory (1)

ECE 408 - Digital Signal Processing I (3) and
ECE 408L - Digital Signal Processing Laboratory (1)

ECE 414 - Digital Control Systems (3) and
ECE 414L - Digital Control Systems Laboratory (1)

ECE 415 - Digital Design using Verilog HDL (3) and
ECE 415L - Digital Design using Verilog HDL Laboratory (1)

ECE 423 - Very Large Scale Integrated (VLSI) Circuit Design (4) and
ECE 423L - VLSI Design Laboratory (1)

ECE 424 - Digital System Design using VHDL (3) and
ECE 424L - Digital System Design Using VHDL Laboratory (1)

ECE 428 - Digital Signal Processing II (4)
ECE 429 - Application Development Using JAVA (4)

ECE 432 - Microprocessor II (3) and
ECE 432L - Microprocessor II Laboratory (1)

ECE 439 - Embedded System Design and Applications (4)
ECE 499/499L - Special Topics for Upper Division Students (1-4) (with advisor approval) (Lecture Component Only)

Interdisciplinary General Education

An alternate pattern for partial fulfillment of GE Areas A, C, D, and E available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Students must be exempt from or score at least 147 on the EPT to qualify for IGE. 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
Freshman	IGE 120, IGE 121, IGE 122	A2 as well as any 2 courses from C1-C3
Sophomore	IGE 220, IGE 221, IGE 222	D1 (8 units) and D3
Junior	IGE 223, IGE 224	D2 and Area E