Cal Poly Pomona

Name:
Plan: **Mechanical Engineering, B.S.**
SubPlan/Option:
Min. Units Required: **127 units**

2019-2020 University Catalog
Degree Curriculum Sheet

Major Required — 95 units

CHM1150 - General Chemistry for Engineers (3)

EC2201 - Principles of Microeconomics (3) (D3) or
EC2202 - Principles of Macroeconomics (3) (D3)

EGR4810 - Project Design Principles and Applications (1) (B5)
EGR4820 - Project Design Principles and Applications (1) (B5)
EGR4830 - Project Design Principles and Applications (1) (B5)
IME4020 - Ethical Concepts in Technology and Applied Science (3) (B5 or C3)
IME4030 - Fiscal Implications in Technical Decision Making (3) (B5 or D4)
MAT1140 - Calculus I (4) (B4)
MAT1150 - Calculus II (4) (B4)
MAT2140 - Calculus III (4)
MAT2240 - Elementary Linear Algebra and Differential Equations (3)
ME1001L - Engineering Graphics and Visualization Laboratory (1)
ME1101 - Computer-Aided Computations (1)
ME1101L - Computer-Aided Computations Laboratory (1)
ME2141 - Vector Statics and Strength of Materials (3)
ME2150 - Vector Dynamics (3)
ME2191 - Mechanics of Materials (3)
ME2331 - Introduction to Design (2)
ME2331L - Introduction to Design Laboratory (1)
ME3011 - Thermodynamics (3)
ME3111 - Fluid Mechanics (3)
ME3121 - Intermediate Thermal-Fluids Engineering (3)
ME3131L - Thermal-Fluids Laboratory (1)
ME3150 - Engineering Materials (3)
ME3190 - Stress Analysis (3)
ME3250 - Machine Design (2)
ME3250L - Machine Design Laboratory (1)
ME3401 - System Dynamics (3)
ME3451 - Mechatronic Systems (2)
ME3451L - Mechatronic Systems Laboratory (1)
ME3501L - Mechanics, Behavior and Selection of Materials Laboratory (1)
ME4060 - Finite Element Analysis (2)
ME4060A - Finite Element Analysis Activity (1)
ME4150 - Heat Transfer (3)
ME4271 - Thermal Systems Design (3)
ME4391 - Control of Mechanical Systems (2)
ME4391L - Control of Mechanical Systems Laboratory (1)
ME4622 - Undergraduate Seminar (1)
MFE2010 - Manufacturing Systems and Processes (2)
MFE2010L - Manufacturing Systems and Processes Laboratory (1)
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 — 6 units

Select 6 units from the following list:

ME3070 - Alternative Energy Systems (3)
ME4050 - Acoustics and Noise Control (3)

ME4070 - Solar Thermal Engineering (2) and
ME4070L - Solar Thermal Engineering Laboratory (1)

ME4080 - Nuclear Engineering (3)

ME4110 - Heat Power (2) and
ME4110L - Heat Power Laboratory (1)

ME4120 - Internal Combustion Engines (2) and
ME4120L - Internal Combustion Engines Laboratory (1)

ME4131 - Mechanical Vibrations (3)
ME4160 - Intermediate Dynamics (3)

ME4180 - Air Conditioning (2) and
ME4180L - Air Conditioning Laboratory (1)

ME4210 - Dynamics of Machinery (3)

ME4251 - Advanced Machine Design and Analysis (2) and
ME4251L - Advanced Machine Design and Analysis Laboratory (1)

ME4330 - Engineering Computational Methods (3)
ME4441 - Air Pollution Formation and Control (3)
ME4801 - Introduction to Micro-Electromechanical Systems (3)
ME4990 - Special Topics for Upper Division Students (1-3)
ME4990A - Special Topics for Upper Division Students Activity (1-3)
ME4990L - Special Topics for Upper Division Students Laboratory (1-3)

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.