

Major Required	95 units	General Education Requirements	48 Units															
CHM1150 - General Chemistry for Engineers (3)	ME4251 - Advanced Machine Design and Analysis (2) <i>and</i> ME4251L - Advanced Machine Design and Analysis Laboratory (1)	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.																
EC2201 - Principles of Microeconomics (3) (D3) <i>or</i> EC2202 - Principles of Macroeconomics (3) (D3)	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)	Area A. English Language Communication and Critical Thinking (9 units) <i>At least 3 units from each sub-area</i> <ol style="list-style-type: none">1. Oral Communication2. Written Communication3. Critical Thinking (Satisfied by completion of undergraduate Engineering degree) Area B. Scientific Inquiry and Quantitative Reasoning (12 units) <i>At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3</i> <ol style="list-style-type: none">1. Physical Sciences2. Life Sciences3. Laboratory Activity4. Mathematics/Quantitative Reasoning5. Science and Technology Synthesis Area C. Arts and Humanities (12 units) <i>At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2</i> <ol style="list-style-type: none">1. Visual and Performing Arts2. Literature, Modern Languages, Philosophy and Civilization3. Arts and Humanities Synthesis Area D. Social Sciences (12 units) <i>At least 3 units from each sub-area</i> <ol style="list-style-type: none">1. U.S. History and American Ideals2. U.S. Constitution and California Government3. Social Sciences: Principles, Methodologies, Value Systems, and Ethics4. Social Science Synthesis Area E. Lifelong Learning and Self-Development (3 units)																
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 (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 - Modeling of Dynamic Systems (3) 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) ME4351 - Mechanical Measurements (2) ME4351L - Mechanical Measurements Laboratory (1) 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)		Interdisciplinary General Education	21 Units															
Major Electives	6 units	<p>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.</p> <p><i>How IGE fulfills General Education Requirements:</i></p> <table><tr><th>Year</th><th>Completion of IGE Courses</th><th>Satisfies GE Requirements</th></tr><tr><td>First</td><td>IGE 1100, IGE 1200</td><td>A2 and C2</td></tr><tr><td>Second/Third</td><td>IGE 2100, IGE 2200</td><td>C1 and C2</td></tr><tr><td></td><td>IGE 2300, IGE 2400</td><td>D1 and D3</td></tr><tr><td>Third/Fourth</td><td>IGE 3100</td><td>C3 or D4</td></tr></table> American Institutions Courses that satisfy this requirement may also satisfy GE Area D1 and D2.	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	
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																
Select 6 units from the following list: ME3070 - Alternative Energy Systems (3) ME4050 - Acoustics and Noise Control (3) ME4070 - Solar Thermal Engineering (2) <i>and</i> ME4070L - Solar Thermal Engineering Laboratory (1) ME4080 - Nuclear Engineering (3) ME4110 - Heat Power (2) <i>and</i> ME4110L - Heat Power Laboratory (1) ME4120 - Internal Combustion Engines (2) <i>and</i> ME4120L - Internal Combustion Engines Laboratory (1) ME4131 - Mechanical Vibrations (3) ME4160 - Intermediate Dynamics (3) ME4180 - Air Conditioning (2) <i>and</i> ME4180L - Air Conditioning Laboratory (1) ME4210 - Dynamics of Machinery (3)		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.																