



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

Plan (Major) **MECHANICAL ENGINEERING**

Catalog Year **2014 - 2015**

Name \_\_\_\_\_

Subplan/Option \_\_\_\_\_

Minimum Units Required **194**

Student ID \_\_\_\_\_

<b>Required Core Courses</b>		
<b>Course</b>		<b>Units</b>
Required of all students. A 2.0 cumulative GPA is required in core courses in order to receive a degree in the major.		
Mechanical Engineering Orientation Lab	ME 100L	1
Vector Statics	ME 214	3
Vector Dynamics	ME 215	4
Strength of Materials I	ME 218	3
Strength of Materials II	ME 219	3
Strength of Materials Lab	ME 220L	1
Mechanics Lab	ME 224L	1
Engineering Digital Computations & Activity	ME 232/232A	2/1
Intro to Mechanical Design & Lab	ME 233/233L	3/1
Thermodynamics I	ME 301	4
Thermodynamics II	ME 302	4
Fluid Mechanics I	ME 311	3
Fluid Mechanics II	ME 312	3
Fluid Mechanics Lab	ME 313L	1
Engineering Materials	ME 315	4
Intermediate Dynamics	ME 316	3
Stress Analysis	ME 319	4
Machine Design & Lab	ME 325/325L	3/1
Engineering Numerical Computations Activity	ME 330A	1
Modeling and Simulation of Dynamic Systems	ME 340	3
Engineering Materials and Selection Lab	ME 350L	1
Finite Element Analysis & Activity	ME 406/406A	3/1
Heat Transfer	ME 415	4
Air Conditioning & Lab	ME 418/418L	(3/1)
or Thermal Systems Design	ME 427	4
Theory and Design for Mech Measurement & Lab	ME 435/435L	3/1
Control of Mechanical Systems & Lab	ME 439/439L	3/1
Analytic Geometry and Calculus II	MAT 115	4
Analytic Geometry and Calculus III	MAT 116	4
Calculus of Several Variables I	MAT 214	3
Calculus of Several Variables II	MAT 215	3
Elem Linear Algebra and Diff Equations	MAT 224	4
General Physics & Lab	PHY 133/133L	3/1
<b>Total Units</b>		<b>100</b>

<b>Required Emphasis Courses</b>	
<b>Course</b>	<b>Units</b>
The Mechanical Engineering program requires each student to select technical elective courses in one of the two technical emphases to meet the graduation requirement: Mechanical Design and Energy Systems. Each Mechanical Engineering student is required to specify three courses out of one of the two emphases as listed below. No other courses from any other department or university will be accepted as substitutes for these courses. The courses included in the two required technical emphasis courses pool are as follows:  (see reverse side)	12
<b>Total Units</b>	<b>12</b>

<b>Required Support Courses</b>		
<b>Course</b>		<b>Units</b>
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.		
Students may receive senior project credit by taking EGR 481 and EGR 482, provided they satisfy all prerequisite requirements for senior project and get approval from the department by completing the department senior project form. For senior project prerequisites, please refer to prerequisites for ME 461 and ME 462.		
General Chemistry & Lab (B1, B3)	CHM 121/121L	3/1
Principles of Economics (D2)	EC 201	4
or Principles of Economics (D2)	EC 202	(4)
Elements of Electrical Engineering & Lab	ECE 231/231L	3/1
Engineering, Society, and You & Lab (E)	EGR 100/100L	3/1
Project Design Principles and Applications (B5)	EGR 481	2
and Project Design Principles and Applications (B5)	EGR 482	2
Ethical Considerations in Tech and Applied Sci (C4)	IME 402	4
Asset Allocation in Tech Decision Making (D4)	IME 403	4
Analytic Geometry and Calculus I (B4)	MAT 114	4
Engineering Graphics I & Lab	MFE 126/126L	2/1
Manufacturing Systems Processes & Lab	MFE 201/201L	3/1
General Physics & Lab (B3)	PHY 131/131L	3/1
<b>Total Units</b>		<b>43</b>

<b>General Education Requirements</b>	
<b>Area</b>	<b>Units</b>
<b>Area A Communication &amp; Critical Thinking</b>	12
1. Oral Communication	
2. Written Communication	
3. Critical Thinking	
<b>Area B Mathematics &amp; Natural Sciences</b>	16
<i>Select at least one lab course from subarea 1 or 2.</i>	
1. Physical Science	
2. Biological Science	
3. Laboratory Activity	
4. Math/Quantitative Reasoning	
5. Science & Technology Synthesis	
<b>Area C Humanities</b>	16
1. Visual and Performing Arts	
2. Philosophy and Civilization	
3. Literature and Foreign Language	
4. Humanities Synthesis	
<b>Area D Social Sciences</b>	20
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	
<b>Area E Lifelong Understanding &amp; Self Development</b>	4
<b>Total Units</b>	<b>68</b>

<b>American Institutions</b>	
Courses that satisfy this requirement may also satisfy GE Area D1	8

<b>American Cultural Perspectives Requirement</b>	
Refer to catalog for list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements.	4

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.

<b>Mechanical Design Emphasis</b>		<b>Units</b>
Engineering Numerical Computations	ME 330	4
Acoustics and Noise Control	ME 405	4
Mechanical Vibrations	ME 413	4
Air Conditioning & Lab**	ME 418/418L	3/1
or Thermal Systems Design**	ME 427	4
Dynamics of Machinery	ME 421	4
Advanced Machine Design & Lab	ME 425/425L	3/1
Special Topics for Upper Division Students**	ME 499	4

\*\*ME 418/418L or ME 427 may be taken depending on which one was used by the student to satisfy the ME major core requirement, i.e. if the student used ME 427 in ME major core requirement, he or she can take ME 418/418L in the Energy Systems emphasis.

<b>Energy Systems Emphasis</b>		<b>Units</b>
Alternative Energy Systems	ME 307	4
Engineering Numerical Computations	ME 330	4
Solar Thermal Engineering	ME 407/L	3/1
Nuclear Engineering	ME 408	4
Heat Power & Lab	ME 411/411L	3/1
Internal Combustion Engines & Lab	ME 412/412L	3/1
Air Conditioning & Lab**	ME 418/418L	3/1
Thermal Systems Design**	ME 427	4
Special Topics for Upper Division Students*	ME 499	4

\* Deviations pending approval per Academic Advisor and Mechanical Engineering Curriculum Committee approval.