California State Polytechnic University, Pomona
Degree Curriculum Sheet

Plan (Major) **MANUFACTURING 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 for the major in order to receive a degree in the major.

IME 112 - Industrial and Manufacturing Engineering Fundamentals (3)
IME 113/113L - Industrial and Manufacturing Engineering Computations/ Laboratory (2/1)
IME 224/224L - Work Analysis and Design/Laboratory (3/1)
IME 239 - Industrial Costs and Controls (3)
IME 314/314L - Probability and Statistics in Engineering/Laboratory (3/1)
IME 326 - Supply Chain Planning and Control (3)
IME 331/331L - Facilities Planning and Material Handling/Laboratory (3/1)
IME 415/415L - Statistical Quality Control (3/1)
IME 460 - Senior Project Seminar (1)
MAT 115 - Analytic Geometry and Calculus II (4)
MAT 116 - Analytic Geometry and Calculus III (4)
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)
MFE 126/126L - Engineering Graphics I/Laboratory (2/1)
MFE 217/217L - Manufacturing Processes—Materials, Metrology and Treatments/Laboratory (2/1)
MFE 221/221L - Manufacturing Processes I--Material Removal/Laboratory (2/1)
MFE 226/226L - Engineering Graphics II/Laboratory (2/1)
MFE 230/230L - Manufacturing Processes II--Forming, Casting and Joining/ Laboratory (2/1)
MFE 250/250L - Principles of Numerical Control/Laboratory (2/1)
MFE 326/326L - Design for Manufacturing/Laboratory (2/1)
MFE 375/375L - Computer-Aided Design/Computer-Aided Manufacturing/ Laboratory (3/1)
MFE 380/380L - Manufacturing Metrology/Laboratory (1/1)
MFE 450/450L - Introduction to Computer Integrated Manufacturing/ Laboratory (3/1)
MFE 465 - Metal Working Theory and Applications (3)
MFE 476/476L - Advanced Computer-Aided Manufacturing Systems/ Laboratory (3/1)
IE 429/429L - Discrete Systems Simulation/Laboratory (3/1)

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 97

Elective Core Courses

Manufacturing Electives (Select with advisor approval).

Number of Elective units depends on ME 301 or ME 311 in the Required Support Courses.

Total Units 4-5

Required Support Courses

The following required support courses should be used to satisfy the indicated GE requirements. If these courses are not used to satisfy GE, the total units to degree may be more than 198 units.

CHM 121 - General Chemistry (3) and
CHM 121L - General Chemistry Laboratory (1) (B3)

CHM 122 - General Chemistry (3) and
CHM 122L - General Chemistry Laboratory (1)

EC 201 - Principles of Economics (4) (D2) or
EC 202 - Principles of Economics (4) (D2)

ECE 231/231L - Elements of Electrical Engineering (3/1)
EGR 100/100L - Engineering, Society, and You (3/1) (E)
EGR 481 - Project Design Principles and Applications (2) (B5)
EGR 482 - Project Design Principles and Applications (2) (B5)
IME 402 - Ethical Considerations in Technology and Applied Science (4) (C4)
IME 403 - Asset Allocation in Technical Decision Making (4) (D4)
MAT 114 - Analytic Geometry and Calculus I (4) (B4)
ME 214 - Vector Statics (3)
ME 215 - Vector Dynamics (4)
ME 218 - Strength of Materials I (3)

ME 311 - Fluid Mechanics I (3) or
ME 301 - Thermodynamics I (4)

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

Total Units 53-54

Interdisciplinary General Education

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

Total Units 32

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	8

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.	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.

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