2011-13 Cal Poly Catalog

Industrial & Manufacturing Engineering Department

BS MANUFACTURING ENGINEERING

- 60 units upper division
- GWR
- 2.0 GPA
- USCP

* = Required in Support; also satisfies GE. Note: No major or support courses may be taken as credit/no credit.

MAJOR COURSES

- IME 101 Intro Industrial and Manufacturing Engr
- IME 140 Graphics Communication and Modeling
- IME 141 Manufacturing Processes: Net Shape
- IME 142 Manufacturing Processes: Matls Joining
- IME 144 Intro Design and Manufacturing
- IME 145 Intro to Engineering Ethics
- IME 223 Process Improvement Fundamentals
- IME 241 Process Design I
- IME/MATE 326 Eng Test Dsgn & Analysis or IME 327 (1/23/14)
- IME 335 Computer-Aided Manufacturing I
- IME 341 Tool Engineering I or IME 330 (1/23/14)
- IME 342 Manufacturing Systems Integration
- IME 352 Manufacturing Process Design II or IME 450 (1/23/14)
- IME 356 Manufacturing Automation
- IME 417 Supply Chain and Logistics Management
- IME 418 Product-Process Design
- IME 430 Quality Engineering
- IME 481, 482 Senior Project Design Lab I, II

Select 12 units from the following. All but 4 units must be upper level (300-level or above) engineering courses (AERO, BMED, CE, EE, IME, MATE, ME):

- AERO 300, 301, 302, 303, 304, 306, 320, 331, 401
- BMED 212, 310, 410, 425, 440
- BUS 310, 311, 346, 488
- AG/HUM/EDES/ENGR/SCM/UNIV 350
- CE 207
- EE 361
- IME/MATE/HNRS 322
- IME/MATE 458/CPE 488
- IME/AERO 510, 511
- MATE 310, 320, 330, 340, 350, 355, 360, 430, 435, 440, 445, 450, 460
- MATH 344, 350
- ME 305, 318, 326, 328, 329, 341, 343, 405, 406, 410, 412, 415, 416, 422, 423, 430, 431, 441, 446

Effective Spring 2012

SUPPORT COURSES

- BIO 213 and ENGR/BRAE 213 (B2) ................................... 2,2
- CE 204 Mechanics of Materials I .................................. 3
- CHEM 124 Gen Chem for Engineering (B3/B4)* .................. 4
- CHEM 125 Gen Chem for Engineering ............................. 4
- CSC 232 Computer Programming for Scientists and Engineers ................................................................. 3
- EE 201 Electric Circuits Theory ..................................... 3
- EE 251 Electric Circuits Lab .......................................... 1
- EE 321 Electronics ...................................................... 3
- ENGL 149 Technical Writing for Engineers (A3)* ............... 4
- MATE 210 Materials Engineering .................................... 3
- MATE 215 Materials Laboratory I .................................... 1
- MATH 141, 142 Calculus I, II (B1)* ............................... 4,4
- MATH 143 Calculus III (Add’l Area B)* ......................... 4
- MATH 241 Calculus IV .................................................. 4
- MATH 244 Linear Analysis I ......................................... 4
- ME 211 Engineering Statics ......................................... 3
- ME 212 Engineering Dynamics ...................................... 3
- ME 302 Thermodynamics I .......................................... 3
- PHYS 141 General Physics IA (Add’l Area B)* ................. 4
- PHYS 132, 133 General Physics II, III ............................ 4,4
- STAT 321 Prob/Stats for Engrs/Scientists (B6)* ............... 4

GENERAL EDUCATION (GE)

72 units required, 32 of which are specified in Support.
- See page 39 for complete GE course listing.
- Minimum of 8 units required at the 300 level.

Area A Communication (8 units)

- A1 Expository Writing ................................................. 4
- A2 Oral Communication .............................................. 4
- A3 Reasoning, Argumentation, and Writing * 4 units in Support .......................................................... 0

Area B Science and Mathematics (no add’l units required)

- B1 Mathematics/Statistics * 8 units in Support ............... 0
- B2 Life Science * 4 units in Support ............................. 0
- B3 Physical Science * 4 units in Support ....................... 0
- B4 One lab taken with either a B2 or B3 course ............ 0
- B5 (not required for Engineering students) .................. 0
- B6 Upper-division Area B * 4 units in Support ............. 0
- Additional area units * 8 units in Support ................... 0

1 IME 400 and IME 500 require a course substitution form and no more than 4 total units are allowed.
2 The courses selected to satisfy this requirement may not be used to satisfy other major, support, or general education requirements (no double counting of coursework).
3 A maximum of 4 units of technical electives may be taken outside of the College of Engineering.
4 Consultation with advisor is recommended prior to selecting technical electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
5 IME 156 (2 units) and an additional 2 units of technical electives may substitute. (1/23/14)
6 An additional 4 units of technical electives may substitute. (1/23/14)
**Area C  Arts and Humanities (16 units)**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Literature</td>
<td>4</td>
</tr>
<tr>
<td>C2 Philosophy</td>
<td>4</td>
</tr>
<tr>
<td>C3 Fine/Performing Arts</td>
<td>4</td>
</tr>
<tr>
<td>C4 Upper-division elective</td>
<td>4</td>
</tr>
</tbody>
</table>

**Area D/E  Society and the Individual (16 units)**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 The American Experience (40404)</td>
<td>4</td>
</tr>
<tr>
<td>D2 Political Economy</td>
<td>4</td>
</tr>
<tr>
<td>D3 Comparative Social Institutions</td>
<td>4</td>
</tr>
<tr>
<td>D4 Self Development (CSU Area E)</td>
<td>4</td>
</tr>
</tbody>
</table>

| Total                                                   | 40    |

**FREE ELECTIVES**

| Total                                                   | 0     |