

**2011-13 Cal Poly Catalog****Materials Engineering Department****BS MATERIALS 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**

MATE 110 Intro to Materials Engrg Design I.....	1
MATE 120 Intro to Materials Engrg Design II .....	1
MATE 130 Intro to Materials Engrg Design III.....	1
MATE 210 Materials Engineering and MATE 215 Materials Laboratory I.....	3,1
MATE 222 Materials Selection for the Life Cycle...	4
MATE 225 Materials Laboratory II .....	1
MATE 232 Materials, Ethics, and Society .....	4
MATE 235 Materials Laboratory III.....	1
MATE 310 Noncrystalline Materials Systems .....	4
MATE 330 Hybrid Materials Systems .....	4
MATE 340 Electronic Materials Systems .....	4
MATE 350 Structural Materials Systems.....	4
MATE 360 Metallurgical Materials Systems .....	4
MATE 370 Process Design .....	4
<sup>4</sup> MATE 481 Corporate Culture.....	1
MATE 482, 483, 484 Senior Project I, II, III.....	1,2,2
<sup>1,2</sup> Technical electives .....	12
Select at least 3 courses from the following:	
ENVE 470 (Environmental Nanotechnology);	
MATE 400, 401, 406, 425, 430, 435, 440, 445, 450, 460, 470, 471, 500, 501, 504, 510, 520, 522, 525, 540, 545; BMED 531/MATE 550 or BMED 432; 560, 565, 570, 571, 580, 590, MATE/CHEM 446, MATE/IME 458/CPE 488, MATE/BMED 530, MATE/ME 555, PHYS 412, 413, CHEM 444 (3/25/15)(10/26/15)(2/12/16)	
<sup>1,2</sup> Approved electives/Technical Breadth electives.....	13
Select 13 units from the following:	
AERO/HNRS 310;	
BMED 310, 550; BMED/MATE 530;	
BRAE 239;	
BUS 207, 212, 488;	
CD/PSY 254;	
CE 207;	
CHEM 216, 217, 218, 312, 316, 317, 318, 319, 444, 447, 466; (7/5/12)(3/4/16)	
CHEM/MATE 446;	
CPE 488/IME/MATE 458;	
CSC/CPE 235;	
EE/PHYS 422;	
ECON 221;	
ENGR 451, 470, 471; ENGR 322/SCM 302;	
ERSC/GEOG 250;	
GEOL 201;	
HIST 410, 417;	
IME 223, 303, 421; IME/HNRS/MATE 322;	
IT 341;	

MATE 400, 401, 406, 410, 425, 430, 435, 440,  
445, 450, 460, 470, 471, 500, 504, 510, 540,  
550, 570, 571, 580; MATE 550 or BMED 432;  
(10/26/15)(4/19/16)

ME 212, 341;

NR/RPTA 203, NR 434; (10/5/12)

PHYS 211, 412, 413;

PSY 256, 305, 419;

UNIV/HNRS 392, 424, 492;

ZOO 331

Total units for Major Courses:

**72**

**SUPPORT COURSES**

CE 204 Mechanics of Materials I.....	3
CHEM 124 Gen Chem for Engrg I (B3/B4)* .....	4
CHEM 125 Gen Chem for Engineering II.....	4
<sup>3</sup> CHEM 305 Physical Chemistry .....	4
CSC 231 Programming for Engineering Students or CSC 234 C and Unix .....	2
EE 201, 251 Electric Circuits Theory and Lab .....	3,1
ENGL 149 Technical Writing for Engineers (A3)* .....	4
IME 314 Engineering Economics (or IME 326).....	3
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 343 Heat Transfer or ME 302 Thermodyn. I ...	3
PHYS 141 General Physics IA (Add'l Area B)* ....	4
PHYS 132, 133 General Physics II, III.....	4,4
STAT 312 Statistical Methods for Engineers (B6)* .....	4
IME 144 Intro to Design and Manufacturing .....	4

**74**

**GENERAL EDUCATION (GE)**

72 units required, 28 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 (4 units)**

B1 Mathematics/Statistics * 8 units in Support.....	0
B2 Life Science .....	4
B3 Physical Science * 4 units in Support .....	0
B4 One lab taken with either a B2 or B3 course	

<sup>1</sup> 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).

<sup>2</sup> Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

<sup>3</sup> MATE 470 with the topic "Thermodynamics of Materials" for 4 units may substitute. (8/30/12)

<sup>4</sup> 1 additional unit of an upper-division technical elective or an approved technical breadth elective may substitute. (7/15/13)

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B5 (not required for Engineering students)	
B6 Upper-division Area B * 4 units in Support .....	0
Additional Area B units* 8 units in Support .....	0
<b>Area C Arts and Humanities (16 units)</b>	
C1 Literature .....	4
C2 Philosophy .....	4
C3 Fine/Performing Arts .....	4
C4 Upper-division elective .....	4
<b>Area D/E Society and the Individual (16 units)</b>	
D1 The American Experience (40404) .....	4
D2 Political Economy .....	4
D3 Comparative Social Institutions .....	4
D4 Self Development (CSU Area E) .....	4
	<b>44</b>
<b>FREE ELECTIVES</b> .....	<b>0</b>
	<b>190</b>