

2011-13 Cal Poly Catalog

Biomedical and General Engineering Department**BS BIOMEDICAL 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

ENGR 110 Engineering Science I.....	3
BMED 111 Biomedical Engrg Calculations <i>or</i> ENGR 111 Engineering Science II (12/11/12)	3
BMED 212 Intro to Biomedical Engrg Design	3
BMED 310 Biomed. Engrg Measurement/Analysis	4
BMED 410 Biomechanics.....	4
BMED 420 Biomaterials	4
BMED 425 Biomedical Engineering Transport	4
BMED 430 Biomedical Modeling.....	2
BMED 440 Bioelectronics and Instrumentation.....	4
BMED 450 Special Topics in Biomedical Engrg	4
BMED 455 Biomedical Engineering Design I.....	4
BMED 456 Biomedical Engineering Design II.....	4
BMED 460 Engineering Physiology	4
Approved technical electives (300/400).....	14
BMED 355, 400, 404, 434, 435, 445, 450, 510, 515, 525, 530, 531, 535, 540, 545, 550, 555; CHEM 444, 446, 447; CSC 448; EE 361; ENGR 400, 451; IME 327, 356, 427, 430, 435, 577; MATE 440, 445; ME 305, 326, 343, 401 (12/31/14)(9/4/15)	
³ BMED 481, 482, 483 <i>or</i> ENGR 462 Senior Project.....	4
	65

SUPPORT COURSES

BIO 161 Intro to Cell & Molecular Bio (B2/B4)*	4
CE 204 Mechanics of Materials I.....	3
CHEM 124 Gen Chem for Engrg I (B3/B4)* <i>and</i> CHEM 125 Gen Chem for Engrg II (Add'l Area B)* <i>or</i> CHEM 127, 128 Gen Chem I, II.....	4,4
² CSC 101 Fundamentals of Computer Science <i>or</i> CSC 234 C and Unix <i>or</i> CSC 231 (12/13/13).....	3
EE 201 Electric Circuit Theory	3
ENGL 149 Technical Writing for Engineers (A3)*	4
MATE 210 Materials Engineering	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 212 Engineering Dynamics.....	3
ME 302 Thermodynamics I.....	3
ME 341 Fluid Mechanics I.....	3
PHYS 141 General Physics IA.....	4
PHYS 132 General Physics II	4

PHYS 133 General Physics III.....	4
ZOO 331 <i>or</i> ZOO 332 Human Anatomy/Physiology I <i>or</i> II.....	5
¹ Approved support electives	16
MATH 344 <i>or</i> STAT 312 <i>or</i> PHYS 417 (B6)*	4
Select from the following:	12
BIO 302, 303, 351, 405, 426, 441, 452, 475; BUS 310; CHEM 216, 217, 218, 219, 312, 313, 316, 317, 318, 371, 377, 444, 445, 446; CE 207; CSC 448; EE 251, 321, 361; KINE 406; MATH 344; MCRO 221 <i>or</i> 224, MCRO 225, 320, 402; ME 251; PHYS 417; STAT 312; ZOO 332, 428 (12/31/14)	
	93

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 req'd)

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	
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

Area C Arts and Humanities (16 units)

C1 Literature	4
C2 Philosophy	4
C3 Fine/Performing Arts	4
C4 Upper-division elective	4

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

D1 The American Experience (40404)	4
D2 Political Economy	4
D3 Comparative Social Institutions	4
D4 Self Development (CSU Area E)	4
	40

FREE ELECTIVES	0
	198

¹ For a total of 16 units:

Select one course from GE-B6*:

—MATH 344, STAT 312, PHYS 417.

Typical remaining course selections include, but are not limited to:

—BIO 302 *or* 303 *or* 351, BIO 405, BIO 426, BIO 441, BIO 452;

—CE 207; CHEM 312, CHEM 313, CHEM 444, CHEM 446;

—CHEM 473; CSC 448; EE 321, EE 361; MCRO 221 *or* 224;

—MCRO 225, MCRO 320, MCRO 402.

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

² If CSC 231 is taken for 2 units then 1 additional unit of Approved Support Electives is required. (12/13/13)

³ May substitute an additional 4 units of approved technical electives, if using BMED 456 to fulfill senior project requirement. (7/31/14)