2011-13 Cal Poly Catalog
Chemistry & Biochemistry Department

BS BIOCHEMISTRY

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

* = Required in Major/Support; also satisfies GE
Course sequencing: See flowcharts at
www.csmadvising.calpoly.edu

Note: No major, support or concentration courses
may be taken as credit/no credit.

MAJOR COURSES
CHEM 127 General Chemistry (B3 & B4)* ............ 4
CHEM 128 General Chemistry ......................... 4
CHEM 129 General Chemistry ........................... 4
CHEM 316 Organic Chemistry I ......................... 5
CHEM 317 Organic Chemistry II ......................... 5
CHEM 318 Organic Chemistry III ........................ 3
CHEM 319 Advanced Organic Chemistry Lab ...... 2
CHEM 321 Quantitative Analysis ....................... 5
CHEM 325 Physical Chemistry I ........................ 3
CHEM 325 Physical Chemistry II ....................... 3
CHEM 335 Physical Chemistry III ..................... 3
CHEM 345 Physical Chemistry Laboratory .......... 2
CHEM 371 Biochemical Principles ..................... 5
CHEM 372 Metabolism .................................. 4
CHEM 373 Molecular Biology ............................ 3
CHEM 375 Molecular Biology Laboratory .......... 3
Select two units from:
CHEM 439, 474; BIO 361, 476....................... 2
CHEM 459 Undergraduate Seminar (2) or
SCM 491 Student Teacher Seminar (1)(1) ............. 2
CHEM 461 Senior Project Report ...................... 1

4 Select 12 units of approved advanced
biochemistry electives (one course must be a
lecture and at least two courses must be from
List A) or complete major with Polymers and
Coatings Concentration............................... 12/18

List A (at least two courses):
CHEM 252, 302, 341, 349*, 357, 377, 400*,
401*, 405, 414, 419, 420, 439, 441, 444, 445,
446, 447, 448, 450, 451, 454, 458, 463,
465, 466, 470, 474, 477, 478, 481, 484, 485*,
495*, 528;
BIO/PSC 424; SCM 302, 325, 451
List B:
BIO 351, 361, 405, 406, 407, 408, 409, 410, 426,
432, 452;
MCRO 402, 423, 424; ZOO 331, 332, 422

SUPPORT COURSES
BIO 161 Intro to Cell & Molecular Biology (B2)* .... 4
MATH 141, 142, 143 Calculus I, II, III (B1)* ...... 4,4,4
PHYS 121, 122, 123 College Physics or
PHYS 141, 132, 133 General Physics .................... 4,4,4
MCRO 224 General Microbiology I or
BIO 452 Cell Biology .................................... 4-5

GENERAL EDUCATION (GE)
72 units required, 16 of which are specified in Major/Support.
See page 39 for complete GE course listing.
Minimum of 12 units required at the 300 level.

Area A Communication (12 units)
A1 Expository Writing ................................. 4
A2 Oral Communication ............................... 4
A3 Reasoning, Argumentation, and Writing .......... 4

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 Major ............... 0
B4 One lab taken with either a B2 or B3 course

Area C Arts and Humanities (20 units)
C1 Literature ............................................. 4
C2 Philosophy ........................................... 4
C3 Fine/Performing Arts ................................. 4
C4 Upper-division elective .............................. 4
Area C elective (Choose one course from C1-C4) .... 4

Area D/E Society and the Individual (20 units)
D1 The American Experience (40404) ............... 4
D2 Political Economy .................................... 4
D3 Comparative Social Institutions .................... 4
D4 Self Development (CSU Area E) .................... 4
D5 Upper-division elective .............................. 4

Area F Technology Elective (upper division) (4 units) 4

FREE ELECTIVES........................................ 10-17

Concentration
(Students may select the following concentration instead of
advanced approved biochemistry electives in Major Courses)

Polymers and Coatings Concentration
CHEM 444 Polymers and Coatings I .................. 3
CHEM 445 Polymers and Coatings II ................. 3
CHEM 446 Surface Chemistry of Materials .......... 3
CHEM 447 Polymers and Coatings Lab I ............. 2
CHEM 448 Polymers and Coatings Lab II .......... 2
CHEM 449 Internship in Polymers and Coatings .... 2
MATE 210 Materials Engineering ..................... 3

1 Students should take CHEM 331 as soon as possible after completing
CHEM 129.
2 Excess units count as approved advanced Biochemistry electives.
3 SCM 491 only for students pursuing Single-Subject Teaching Credential.
4 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.
5 No more than 2 units may apply to approved advanced biochemistry
electives.
6 No more than 4 units may apply to approved advanced biochemistry
electives.
7 Students may take CHEM 349 or select from the following GE Area F
courses: BIO 308, ENVE 324, SCM 335, SCM 360. (3/17/16)