



California State University Channel Islands

# Bachelor of Science in Chemistry

## Biochemistry Option

### Advisement Form 2009-2010

Name \_\_\_\_\_ ID \_\_\_\_\_

Chemistry Curriculum	Un.	Instit.	Course	Units	Grade	Term	Prerequisites, GE & Comments
<b>Lower Division Requirements (36 units)</b>							
<b>Chemistry</b>							
CHEM 121 General Chemistry I <i>Must receive a C or better</i>	4						Prereq: Passing score on CHEM placement exam or CHEM 105; GE: B1
CHEM 122 General Chemistry II <i>Must receive a C or better</i>	4						Prereq: CHEM 121 with a C or better; GE: B1
CHEM 250 Quantitative Analysis	3						Prereq: CHEM 122 with a C or better; Corequisite: CHEM 251
CHEM 251 Quantitative Analysis Laboratory	1						Prereq: CHEM 122 with a C or better; Corequisite: CHEM 250
<b>Biology</b>							
BIOL 200 Principles of Organismal and Population Biology	4						GE: B2
BIOL 201 Principles of Cell and Molecular Biology	4						Prereq: CHEM 105 or 121; GE: B2
<b>Math</b>							
MATH 150 Calculus I	4						Prereq: Passing score on the Calculus Placement Exam or MATH 105; GE: B3
MATH 151 Calculus II	4						Prereq: MATH 150
<b>Physics</b>							
PHYS 100 Introduction to Physics I or PHYS 200 General Physics I	4						GE: B1 Prereq: MATH 150; GE: B1
PHYS 101 Introduction to Physics II or PHYS 201 General Physics II	4						Prereq: PHYS 100; GE: B1 Prereq: PHYS 200; GE: B1
<b>Upper Division Requirements (34 units)</b>							
<b>Chemistry Core Courses (23 units)</b>							
CHEM 305 Computer Applications in Chemistry	1						Prereq: CHEM 122 with a C or better; GE: B4
CHEM 311 Organic Chemistry I <i>Must receive a C or better</i>	3						Prereq: CHEM 122 with a C or better
CHEM 312 Organic Chemistry I Lab <i>Must receive a C or better</i>	1						Prereq: CHEM 311 (or taken concurrently) with a C or better
CHEM 314 Organic Chemistry II <i>Must receive a C or better</i>	3						Prereq: CHEM 311 with a C or better
CHEM 315 Organic Chemistry II Lab	1						Prereq: CHEM 311, 312, & 314 (or taken concurrently) all with C's or better
CHEM 371 Physical Chemistry I	3						Prereq: CHEM 122 with a C or better, PHYS 101 or 201, & MATH 150
CHEM 372 Physical Chemistry Laboratory	1						Prereq: CHEM 371 or taken concurrently
CHEM 460 Biochemistry I	4						Prereq: CHEM 314 with a C or better
CHEM 461 Biochemistry II	4						Prereq: CHEM 305 (or concurrent enrollment) & CHEM 460 with a C or better or consent of instructor
CHEM 499 Chemistry Capstone Colloquium	2						Prereq: CHEM 305, 371, & CHEM 492 or 494 (or concurrent enrollment); CR/NC

Upper Division Requirements, cont.	Un.	Instit.	Course	Units	Grade	Term	Prerequisites, GE & Comments
<b>Biology (8 units)</b>							
BIOL 300 Cell Biology	4						Prereq: BIOL 201 with a C or better & CHEM 122
BIOL 400 Molecular Biology	4						Prereq: BIOL 300 or 302 with a C or better
<b>Upper Division Chemistry Electives (3 units)</b>							
<i>A total of <u>three</u> units of electives from those listed below are needed. Lab courses are denoted<sup>L</sup>. Select from the following:</i>							
CHEM 301 Environmental Chemistry – Atmosphere and Climate	3						Prereq: CHEM 122 with a C or better
CHEM 302 Environmental Chemistry – Soil and Water <sup>L</sup>	4						Prereq: CHEM 122 with a C or better
CHEM 313 Organic Chemistry I Learning Community	1						Coreq: CHEM 311
CHEM 316 Organic Chemistry II Learning Community	1						Coreq: CHEM 314
CHEM/HIST 330 The History of Science: Non-Western Origins and the Western Revolution <sup>I</sup>	3						GE: B1, INTD
CHEM 335 The Chemistry of the Kitchen <sup>I</sup>	3						GE: B1, INTD
CHEM/BUS/ECON 341 Drug Discovery and Development <sup>I</sup>	3						GE: B1, D, INTD
CHEM 343 Forensic Science <sup>L, I</sup>	3						GE: B1, INTD
CHEM/PHYS 344 Energy and Society <sup>I</sup>	3						GE: B1, INTD
CHEM 373 Physical Chemistry II	3						Prereq: CHEM 122 with a C or better, PHYS 101 or 201, & MATH 150
CHEM 410 Advanced Organic Synthesis <sup>L</sup>	4						Prereq: CHEM 305 (or concurrent enrollment), CHEM 314, & 315 or consent of instructor
CHEM 415 Molecular Structure Determination <sup>L</sup>	4						Prereq: CHEM 305 (or concurrent enrollment), CHEM 314, & 315 or consent of instructor
CHEM 420 Advanced Inorganic Chemistry	3						Prereq: CHEM 314 & 371
CHEM 450 Instrumental Analysis and Laboratory <sup>L</sup>	4						Prereq: CHEM 250, 251, 305 (or concurrent enrollment or consent of instructor), & 315 with a C or better
CHEM 465 Bioinorganic Chemistry <sup>L</sup>	4						Prereq: CHEM 305 (or concurrent enrollment) & CHEM 314 with a C or better or consent of instructor
CHEM 490 Special Topics in Chemistry	1-3						Prereq: Consent of instructor; Repeatable by topic.
CHEM 492 Internship/Service Learning <sup>L, R</sup>	1-3						Prereq: Consent of instructor; Repeatable
CHEM 494 Independent Research <sup>L, R</sup>	1-3						Prereq: Consent of instructor; Repeatable
CHEM 497 Directed Studies <sup>R</sup>	1-3						Prereq: Consent of instructor; Repeatable
<sup>I</sup> Upper division interdisciplinary GE credit (CHEM 330-349 or CHEM 440-449) may be applied as chemistry electives towards the degree. For students pursuing an advanced degree, it is not recommended to choose interdisciplinary courses as chemistry electives. <sup>R</sup> No more than a combined total of <u>six</u> units of CHEM 492, 494, and 497 may be applied as electives. No more than <u>one</u> CHEM 492 or 494 may be (by petition) considered a laboratory elective.							

**Additional University Graduation Requirements**

**9 Units Upper Division Interdisciplinary GE at CSUCI (courses numbered 330-349 or 430-449)**

Course 1 \_\_\_\_\_ Course 2 \_\_\_\_\_ Course 3 \_\_\_\_\_  
(may choose 330, 335, 341, 343 or 344) (outside major)

**American Institutions Requirements:** US History \_\_\_\_\_ State and Local Gov't \_\_\_\_\_  
(choose HIST 270, 271, 272, 275 or 350) (Choose POLS 150)

*Students must receive a grade of C or better in the Language and Multicultural Requirements*

**Language Requirement:** GE C3a \_\_\_\_\_  
(one semester of college level language)

**Multicultural Requirement:** GE C3b \_\_\_\_\_

*Minimum total units to graduate: 120 of which 40 must be upper division. Please see catalog for a complete list of graduation requirements.*

Advisor \_\_\_\_\_ Date Completed: \_\_\_\_\_

Advisor Comments: \_\_\_\_\_

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