California State Polytechnic University, Pomona
Degree Curriculum Sheet

Plan (Major) **CHEMISTRY** Catalog Year **2011-2012** Name _____ Evaluator _____
Subplan/Option **Molecular Modeling and Simulation** Minimum Units Required **180** Student ID _____ GWT Satisfied _____Yes ____No

Required Core Courses

Course		Units
General Chemistry	CHM 121/121L	3/1
General Chemistry	CHM 122/122L	3/1
General Chemistry	CHM 123/123L	3/1
Quantitative Analysis	CHM 221/221L	2/2
Organic Chemistry	CHM 314	3
Organic Chemistry	CHM 315	3
Organic Chemistry	CHM 316	3
Organic Chemistry Lab	CHM 317L	1
Organic Chemistry Lab	CHM 318L	1
Organic Chemistry Lab	CHM 319L	1
Spectroanalytical Methods	CHM 342/342L	2/2
Separation Methods	CHM 343/343L	2/2
Electroanalytical Methods	CHM 344/344L	2/2
Physical Chemistry Lab	CHM 352/352L	1/2
Organic Synthesis	CHM 422/422L	2/2
or Organic Analysis	CHM 424/424L	(2/2)
Senior Research Project	CHM 491	3
Senior Research Project	CHM 492	3
Undergraduate Seminar	CHM 493	2
	Total Units	**55**

Required Subplan/Option Core Courses

Course		Units
Intro to Molecular Modeling	CHM 260	4
Physical Chemistry	CHM 311	3
Physical Chemistry	CHM 312	3
Physical Chemistry	CHM 313	3
Methods of Data Acquisition	CHM 418	4
At least two courses from CHM 360, 416, 417, and 420		8
Two elective courses, approved 300, 400-level or higher, excluding CHM 400, 491, 492, 493 & 499.		6-8
	Total Units	**31-33**

Required Support Courses

Course		Units
Basic Biology (B2, B3)	BIO 115/115A/115L	3/1/1
Introduction to C++	CS 128	4
Analytic Geom & Calculus (B4)	MAT 114	4
Analytic Geom & Calculus	MAT 115	4
Analytic Geom & Calculus	MAT 116	4
General Physics (B1, B3)	PHY 131/131L	3/1
General Physics	PHY 132/132L	3/1
General Physics	PHY 133/133L	3/1
	Total Units	**33**

Elective Support Courses

Course		Units
A minimum of 4 units from the following courses:		
Biophysics	BIO 410 or PHY 410	4
Chemical Engineering Analysis/Lab	CHE 132/142L	2/1
Introduction to Numerical Methods	MAT 201	4
Laplace Transforms and Fourier Series	MAT 317	3
Materials Science and Engineering	MTE 207	3
Sampling Survey Methods	STA 310	4
	Total Units	**4**

Unrestricted Electives

Course	Units
Unrestricted Electives	0-1
Select a sufficient number of courses so that the total from "Required Subplan/Option", "Required Support", "GE", and "Unrestricted Electives" is at least 121 units.	
Total Units	**0-1**

General Education Requirements

Area	Units
Area A Communication & Critical Thinking	**12**
1 Oral Communication	
2 Written Communication	
3 Critical Thinking	
Area B Mathematics & Natural Sciences	**16**
Select at least one lab course from sub-area 1 or 2.	
1 Physical Science	
2 Biological Science	
3 Laboratory Activity	
4 Math/Quantitative Reasoning	
5 Science & Technology Synthesis	
Area C Humanities	**16**
1 Visual and Performing Arts	
2 Philosophy and Civilization	
3 Literature and Foreign Language	
4 Humanities Synthesis	
Area D Social Sciences	**20**
1 U.S. History, Constitution, American Ideals	
2 History, Economics and Political Science	
3 Sociology, Anthropology, Ethnic & Gender Studies	
4 Social Science Synthesis	
Area E Lifelong Understanding & Self Development	**4**
Total Units	**68**

American Institutions Courses that satisfy this requirement may also satisfy G.E. Area D1	8

American Cultural Perspectives Requirement Refer to catalog for list of courses that satisfy this requirements. Course may also satisfy major, minor, GE, or unrestricted elective requirements.	4

The following required support courses should be taken to satisfy the indicated GE Requirements to achieve the minimum units to degree listed at the top of this sheet.

Course		GE Area
General Physics	PHY 131/131L	B1, B3
Basic Biology	BIO 115/115A/115L	B2, B3
Analytic Geometry and Calculus	MAT 114	B4

The remaining GE requirements may be satisfied by any course approved for that area.

No more than 105 community college quarter units or 36 extension credit quarter units may be applied toward a Bachelor's degree.
A minimum 2.0 cumulative GPA is required in core (including option) courses, Cal Poly Pomona courses, and overall work completed in order to receive a degree in this major.