California State Polytechnic University, Pomona
Degree Curriculum Sheet

Plan (Major) **Biology** Catalog Year **2011-2012** Name _____ Evaluator _____
Subplan/Option **Microbiology** Minimum Units Required **180** Student ID _____ GWT Satisfied ____ Yes ____ No

Required Core Courses

Course		Units
Foundations of Biology	BIO 122/122L	3/2
Foundations of Biology	BIO 123/123L	3/2
Biometrics	BIO 211/211L	3/1
Genetics	BIO 303	4
Scientific Communication	BIO 490	1
	Total Units	**19**

Required Subplan/Option Core Courses

Course		Units
Cell and Molecular Biology	BIO 310	4
Basic Microbiology	MIC 201/201L	3/1
Microbial Physiology	MIC 428/428L	4/1
	Total Units	**13**

Elective Subplan/Option Core Courses

Course		Units
Select 4 out of 6 courses listed below		
Applied Microbiology	MIC 310/310L	(3/2)
Food Microbiology	MIC 320/320L	(3/1)
Medical Bacteriology	MIC 410/410L	(3/2)
Immunology-Serology	MIC 415/415L	(3/2)
Medical Mycology	MIC 425/425L	(3/2)
General Virology	MIC 430/430L	(3/2)
	Total Units	**19-20**

Required Support Courses

Course		Units
Foundations of Biology (B2, B3)	BIO 121/121L	3/2
General Chemistry (B1, B3)	CHM 121/121L	3/1
General Chemistry	CHM 122/122L	3/1
General Chemistry	CHM 123/123L	3/1
Organic Chemistry	CHM 314/317L	3/1
Organic Chemistry	CHM 315	3
Organic Chemistry	CHM 316	3
Biochemistry	CHM 327/327L	3/1
Biochemistry	CHM 328/328L	3/1
Blochemistry	CHM 329/329L	3/1
Freshman English I (A2)	ENG 104	4
Freshman English II (A3)	ENG 105	4
Calculus for Life Sciences (B4)	MAT 120	4
College Physics	PHY 121/121L	3/1
College Physics	PHY 122/122L	3/1
College Physics	PHY 123/123L	3/1
Health, Nutrition & Integrated Being (E)	FN 203	4
or General Psychology (E)	PSY 201	(4)
or Mind, Brain & Behavior: Integrated View (E)	PSY 210	(4)
or Sci. and Mathematics: Freshmen Exp. I (E)	SCI 101/101A	(1/1)
-and-		
Sci. and Mathematics: Freshmen Exp. II (E)	SCI 102/102A	(1/1)
	Total Units	**67**

Elective Support Courses

Course	Units
Approved Electives Approved elective courses are listed on the back of this curriculum sheet.	18
Total Units	**18**

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
Freshman English I	ENG 104	A2
Freshman English II	ENG 105	A3
General Chemistry	CHM 121/121L	B1, B3
Foundations of Biology	BIO 121/121L	B2, B3
Calculus for Life Sciences	MAT 120	B4
Health, Nutrition & Integrated Being	FN 203	E
or General Psychology	PSY 201	(E)
or Mind, Brain & Behavior: Integrated View	PSY 210	(E)
or Sci. and Mathematics: Freshmen Exp. 1 and Exp. 2	SCI 101/101A & SCI 102/102A	(E)

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.

APPROVED ELECTIVES FOR MICROBIOLOGY OPTION

Applied Microbiology	MIC 310/310L	3/2
Food Microbiology	MIC 320/320L	3/1
General Epidemiology	MIC 330	4
Medical Bacteriology*	MIC 410/410L	3/2
Immunology-Serology*	MIC 415/415L	3/2
Medical Mycology**	MIC 425/425L	3/2
General Virology**	MIC 430/430L	3/2
Microbial Ecology	MIC 435/435L	3/1
Plant-Microbe Interactions	MIC 436/436L	3/1
Hematology*	MIC 444/444L	3/1
Immunohematology**	MIC 445/445L	3/1
Special Study for Lower Division Students	BIO 200	2
or Special Study for Lower Division Studen	BIO 400	(2)
Water Pollution Biology	BIO 420	3
Advanced Genetics	BIO 421	3
Cellular Physiology	BIO 428/428L	4/1
Internship in Biology	BIO 441	4
or Undergraduate Research	BIO 461	(4)
Concepts of Mol Biology	BIO 450	4
Molecular Biology Techniques	BIO 451/451L	3/2
Molecular Biology of Recombinant DNA	BIO 455/455L	2/2
Bioinformatics	BIO 459/459L	3/2
Undergraduate Research	BIO 462	2
Stem Cell Biology	BIO 465	3
General Plant Pathology	BOT 323/323L	2/2
Mycology	BOT 425/425L	2/2
Anatomy**	ZOO 234/234L	2/2
Human Physiology**	ZOO 235/235L	3/1
Histology	ZOO 422/422L	2/3
Medical Parasitology**	ZOO 425/425L	3/2
Quantitative Analysis*#	CHM 221/221L	2/2
Fundamentals of Physical Chemistry#	CHM 301/301A	3/1
Elements of Physical Chemistry#	CHM 304/304A	3/1
Physical Chemistry#	CHM 311	3
Organic Chemistry Lab#	CHM 318L	1
Organic chemistry Lab#	CHM 319L	1
Clinical Chemistry**	CHM 331/331L	2/2
Food Safety and Current Issues	FST 325	4
Principles of HACCP	FST 423/423L	3/1

* Required course for the admission to CLS programs

** Recommended course for the admission to CLS programs

Required course for chemistry minor (CHM301/A or CHM304/A or CHM 311)

Note: Courses not listed may be acceptable following consultation with advisor.