



**California State Polytechnic University, Pomona  
Degree Curriculum Sheet**

Plan (Major) **Biology**

Catalog Year **2014 - 2015**

Name \_\_\_\_\_

Subplan/Option **Microbiology**

Minimum Units Required **180**

Student ID \_\_\_\_\_

Required Core Courses		
Course		Units
Foundations of Biology: Reproduction and Development & Lab	BIO 122/122L	3/2
Foundations of Biology: Biodiversity & Lab	BIO 123/123L	3/2
Biometrics & Lab	BIO 211/211L	3/1
Genetics	BIO 303	4
Scientific Communication	BIO 490	1
<b>Total Units</b>		<b>19</b>

Required Subplan/Option Core Courses		
Course		Units
Cell and Molecular Biology	BIO 310	4
Basic Microbiology & Lab	MIC 201/201L	3/1
Microbial Physiology & Lab	MIC 428/428L	4/1
<b>Total Units</b>		<b>13</b>

Elective Subplan/Option Core Courses		
Course		Units
<i>Select 4 out of 6 courses listed below.</i>		
Applied Microbiology & Lab	MIC 310/310L	(3/2)
Food Microbiology & Lab	MIC 320/320L	(3/1)
Medical Bacteriology & Lab	MIC 410/410L	(3/2)
Immunology-Serology & Lab	MIC 415/415L	(3/2)
Medical Mycology & Lab	MIC 425/425L	(3/2)
General Virology & Lab	MIC 430/430L	(3/2)
<b>Total Units</b>		<b>19-20</b>

Required Support Courses		
Course		Units
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.		
Foundations of Biology: Energy and Matter Cycles and Flows & Lab (B2, B3)	BIO 121/121L	3/2
General Chemistry & Lab (B1, B3)	CHM 121/121L	3/1
General Chemistry & Lab	CHM 122/122L	3/1
General Chemistry & Lab	CHM 123/123L	3/1
Organic Chemistry & Lab	CHM 314/317L	3/1
Organic Chemistry	CHM 315	3
Organic Chemistry	CHM 316	3
Biochemistry & Lab	CHM 327/327L	3/1
Biochemistry & Lab	CHM 328/328L	3/1
Biochemistry & Lab	CHM 329/329L	3/1
Freshman English II (A3)	ENG 105	4
or Critical Thinking (A3)	PHL 202	(4)
Stretch Composition III (A2)	ENG 107	4
or Advanced Stretch Composition II (A2)	ENG 109	(4)
or First-Year Composition (A2)	ENG 110	(4)
Calculus for the Life Sciences (B4)	MAT 120	3/1
College Physics & Lab	PHY 121/121L	3/1
College Physics & Lab	PHY 122/122L	3/1
College Physics & Lab	PHY 123/123L	3/1
Health, Nutrition and the Integrated Being (E)	FN 203	4
or General Psychology (E)	PSY 201	(4)
or Mind, Brain and Behavior: Integrated View (E)	PSY 210	(4)
or Sci and Math: Freshmen Experience I (E)	SCI 101/101A	(1/1)
and Sci and Math: Freshmen Experience II (E)	SCI 102/102A	(1/1)
<b>Total Units</b>		<b>67</b>

Elective Support Courses	
Course	Units
Select 17 or 18 units from the list of approved elective courses on the back of this curriculum sheet.	17-18
<b>Total Units</b>	<b>17-18</b>

General Education Requirements	
Area	Units
<b>Area A Communication &amp; Critical Thinking</b>	<b>12</b>
1. Oral Communication	
2. Written Communication	
3. Critical Thinking	
<b>Area B Mathematics &amp; Natural Sciences</b>	<b>16</b>
<i>Select at least one lab course from subarea 1 or 2.</i>	
1. Physical Science	
2. Biological Science	
3. Laboratory Activity	
4. Math/Quantitative Reasoning	
5. Science & Technology Synthesis	
<b>Area C Humanities</b>	<b>16</b>
1. Visual and Performing Arts	
2. Philosophy and Civilization	
3. Literature and Foreign Language	
4. Humanities Synthesis	
<b>Area D Social Sciences</b>	<b>20</b>
1. U.S. History, Constitution, American Ideals	
a. United States History	
b. Introduction to American Government	
2. History, Economics and Political Science	
3. Sociology, Anthropology, Ethnic & Gender Studies	
4. Social Science Synthesis	
<b>Area E Lifelong Understanding &amp; Self Development</b>	<b>4</b>
<b>Total Units</b>	<b>68</b>

American Institutions	
Course	Units
Courses that satisfy this requirement may also satisfy GE Area D1	<b>8</b>

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

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the quarter following completion of 120 units for undergraduates.

## Elective Support Courses: 18-19 units

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	2/2
Plant-Microbe Interactions	MIC 436/436L	2/2
Hematology*	MIC 444	3
Hematology Lab*	MIC 444L	1
Immunoematology**	MIC 445	3
Immunoematology Lab**	MIC 445L	1
Special Study for Lower Division Students	BIO 200	1-2
or Special Study for Lower Division Students	BIO 400	(1-2)
Human Physiology**	BIO 235/235L	4/1
Water Pollution Biology	BIO 420	3
Advanced Genetics	BIO 421	4
Cellular Physiology	BIO 428/428L	4/1
Internship in Biology	BIO 441	1-2
or Undergraduate Research	BIO 461	(2)
Concepts of Molecular Biology **	BIO 450	4
Molecular Biology Techniques	BIO 451	3
Molecular Biology Techniques Lab	BIO 451L	2
Molecular Biology of Recombinant DNA	BIO 455/455L	2/2
Bioinformatics	BIO 459/459L	3/2
Senior Thesis	BIO 462	2
Stem Cell Biology	BIO 465	3
Stem Cell Biology Lab	BIO 465L	1
Human Anatomy**	ZOO 234/234L	3/2
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 430/430A	3/1

\* Required course for the admission to CLS programs

\*\* Recommended course for the admission to CLS programs

# Required course for chemistry minor (CHM 301/301AA or CHM 304/304A or CHM 311)

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