

# BIOLOGY

## Bachelor of Science Degree Requirements – 120 units [SEMESTER PROGRAM]

CSULA | Department of Biological Sciences | 323.343.2050 | Biological Sciences Building 143

Name:	Career Goal:	Date:
CIN:	GE Catalog (Sem. /Yr.):	Major Catalog(Sem. /Yr.):
Phone:	Student Signature:	
Email:	Advisor Signature:	

### GENERAL EDUCATION REQUIREMENTS (48 units)

#### A: Communication and Critical Thinking (9 units) [T] or Sem./Yr. Grade

A1: Oral Communication		
A2: Written Communication		
A3: Critical Thinking & Composition		

Minimum of C grade required for all courses in Block A. [T]=transfer work.

#### American Institutions (6 units)

US History		
US Constitution/California State & Local Government*		

\*transfer students or students applying AP credit who have completed the US Constitution but not the State & Local Gov. requirement may take POLS 2000

#### B: Natural Sciences and Mathematics (9 units)

MATH 2040 + BIOL 1100 + either CHEM 1100 or PHYS 1100 satisfy Blocks B1 + B2 + B4

B1: Physical (with lab)		
B2: Biological (with lab)		
B3: Interdisciplinary (with lab)		
*B4: Quantitative Reasoning & Mathematical Concepts		

\* Minimum of C grade required

#### C: Arts & Humanities (6 units)

C1: Arts		
C2: Humanities		

#### D: Social Sciences (6 units; from 2 different disciplines)


#### E: Lifelong Understanding (3 units)

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NSS 1001 fulfills lower-division CL & both block E and IHE requirements

#### Upper Division GE Courses

(9 units; 1 course must include CL designation)

Natural Sciences & Quant. Reasoning		
Arts & Humanities		
Social Science		

Courses listed or cross-listed with major cannot be taken to satisfy UD GE requirements.

#### UNIVERSITY REQUIREMENTS (15 units;

can be fulfilled with courses from Blocks C, D, E or Upper Division GE)

(WI) Writing Intensive: BIOL 3200 + 1 course		
(CL) Civic Learning/Community Engagement		
(IHE) Civic and Community-Based Learning		
(d) Diversity		
(d-re) Diversity-Race/Ethnicity focus		
(WPE) Writing Proficiency Exam		

### MAJOR REQUIREMENTS (81 units)

#### Required Courses (60 units) [T] or Sem./Yr. Grade

BIOL 1100* Principles of Biology I	(5)		
BIOL 1200* Principles of Biology II	(5)		
BIOL 3000 Biostatistics	(3)		
BIOL 3200 Professional Writing in the Life Sciences (WI)	(3)		
BIOL 3400 Cell Biology & Genetics	(3)		
BIOL 3401 Cell & Molecular Lab	(2)		
BIOL 3600 Integrative Organismal Biology	(3)		
BIOL 3800 Ecology & Evolution	(3)		
CHEM 1100 General Chemistry I	(5)		
CHEM 1110 General Chemistry II	(5)		
CHEM 2200 Organic Chemistry I**	(4)		
CHEM 2201 Organic Chemistry Lab**	(1)		
CHEM 3200 Organic Chemistry II**	(4)		
MATH 2040 Applied Calculus I	(3)		
MATH 2050 Applied Calculus II	(3)		
PHYS 1100 Physics A	(4)		
PHYS 1200 Physics B	(4)		

\*Minimum grade of C or higher required

\*\*or one year of organic chemistry with at least one term of lab from an accredited 2-year or 4-year college or university; **NOTE:** BIOL AP score of 4 or 5 fulfills BIOL 1100 requirement. Submit all AP scores to ADM 409 [T] = transfer work

#### Upper-Division Electives (21 units)

Provide course # & units only after enrollment.

	Sem./Yr.	Grade
<b>BIOL Electives (min 14 units)</b>		
<b>Additional Electives (max 7 units may be approved electives outside BIOL)</b>		

#### Please check when completed when applying for graduation.

Overall GPA ≥ 2.000:
CSULA GPA ≥ 2.000:
Major GPA ≥ 2.000:
UD units ≥ 40:
Units completed at CSULA ≥ 36:
UD units completed at CSULA ≥ 24:
Units in major completed at CSULA ≥ 12:
Units in GE completed at CSULA ≥ 8:
Total units completed ≥ 120:

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## PREREQUISITES & CO-REQUISITES FOR REQUIRED COURSES

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REQUIRED COURSES				PREREQUISITES & CO-REQUISITES
BIOL	1100	Principles of Biology I	(5)	<b>Co-requisites:</b> College-level English + Calculus Ready; CHEM 1100 recommended
BIOL	1200	Principles of Biology II	(5)	<b>Prerequisites:</b> BIOL 1100 with grade of C or better and Calculus Ready
BIOL	3000	Biostatistics	(3)	<b>Prerequisites:</b> Grade of C or better in BIOL 1200 and Calculus Ready
BIOL	3200	Professional Writing for the Life Sciences	(3)	<b>Prerequisites:</b> BIOL 3000 + WPE (GWAR)
BIOL	3400	Genetics & Cell Biology	(3)	<b>Prerequisite:</b> BIOL 3000
BIOL	3401	Cell & Molecular Lab	(2)	<b>Prerequisite:</b> BIOL 3000 <b>Co-requisite:</b> BIOL 3400
BIOL	3600	Integrative Organismal Biology	(3)	<b>Prerequisite:</b> BIOL 3000, BIOL 3400
BIOL	3800	Ecology & Evolution	(3)	<b>Prerequisites:</b> BIOL 3000, BIOL 3400
CHEM	1100	General Chemistry I	(5)	<b>Prerequisite:</b> Score of 50 or more on (or exempt from) ELM, or MATH 0930 with a minimum grade of C
CHEM	1110	General Chemistry II	(5)	<b>Prerequisite:</b> CHEM 1100
CHEM	2200	Organic Chemistry I	(4)	<b>Prerequisite:</b> CHEM 1110 or 1 year of General Chemistry
CHEM	3200	Organic Chemistry II	(4)	<b>Prerequisite:</b> CHEM 2200
CHEM	2201	Organic Chemistry Lab	(1)	<b>Prerequisite:</b> CHEM 1110 <b>Co-requisite:</b> CHEM 2200
MATH	2040	Applied Calculus I	(3)	<b>Prerequisite:</b> MATH 1050 with a grade of C or satisfactory score on exit exam for MATH 1050 or MATH 1081 and 1085 with a grade of C or better. <b>Co-requisite:</b> MATH 2040P Applied Calculus I Workshop (1) mandatory for students with a grade below B- in any prerequisite for MATH 2040 or students repeating MATH 2040.
MATH	2050	Applied Calculus II	(3)	<b>Prerequisite:</b> MATH 2040 with a grade of C or satisfactory score on exit exam for MATH 2040. <b>Co-requisite:</b> MATH 2050P Applied Calculus II Workshop (1) mandatory for students with a grade below B- in MATH 2040 or students repeating MATH 2050.
PHYS	1100	Physics A	(4)	<b>Co-requisite:</b> MATH 1050
PHYS	1200	Physics B	(4)	<b>Prerequisite:</b> PHYS 1100

**PREREQUISITES ARE COURSES THAT YOU MUST PASS PRIOR TO TAKING THE INDICATED COURSE.**

**CO-REQUISITES ARE COURSES THAT YOU SHOULD TAKE TOGETHER IN SAME SEMESTER.**