

MICROBIOLOGY

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 (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)

--	--	--

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		
(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)		
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)		
CHEM 4300	Biochemistry I	(3)		
MATH 2040	Applied Calculus I	(3)		
MICR 3100	General Microbiology	(4)		
MICR 3300	Microbial Genetics	(3)		
MICR 3500	Bacterial Physiology	(3)		
MICR 3700	Medical Microbiology	(4)		
MICR 3900	Appl. & Env. Microbiology	(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 (15 units); min. 8 units from MICR, at least one lecture or lecture + lab course)

Provide course # & units only after enrollment. Sem./Yr. Grade

Additional Electives (max 7 units may be from outside MICR)			

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:	

MICROBIOLOGY

PREREQUISITES & CO-REQUISITES FOR REQUIRED COURSES

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

REQUIRED COURSES				PREREQUISITES & CO-REQUISITES
BIOL	1100	Principles of Biology I	(5)	Co-requisites: College-level English + Calculus Ready; CHEM 1100 recommended
BIOL	1200	Principles of Biology II	(5)	Prerequisites: BIOL 1100 with grade of C or better and Calculus Ready
BIOL	3000	Biostatistics	(3)	Prerequisites: Grade of C or better in BIOL 1200 and Calculus Ready
BIOL	3200	Professional Writing for the Life Sciences (3)		Prerequisites: BIOL 3000 + WPE (GWAR)
CHEM	1100	General Chemistry I	(5)	Prerequisite: 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)	Prerequisite: CHEM 1100
CHEM	2200	Organic Chemistry I	(4)	Prerequisite: CHEM 1110 or 1 year of General Chemistry
CHEM	2201	Organic Chemistry Lab	(1)	Prerequisite: CHEM 1110 Co-requisite: CHEM 2200
CHEM	3200	Organic Chemistry II	(4)	Prerequisite: CHEM 2200
CHEM	4310	Biochemistry I	(3)	Prerequisite: CHEM 3200 or one year of organic chemistry lecture; and CHEM 2300 or BIOL 3400, each with a minimum grade of C-
MATH	2040	Applied Calculus I	(3)	Prerequisite: 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. Co-requisite: 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.
MICR	3100	General Microbiology	(4)	Prerequisite: BIOL 1200; CHEM 1100
MICR	3300	Microbial Genetics	(3)	Prerequisite: MICR 3100 with a grade of C or better
MICR	3500	Bacterial Physiology	(3)	Prerequisite: MICR 3300; CHEM 3200
MICR	3700	Medical Microbiology	(4)	Prerequisites: MICR 3100 or BIOL 3100 with grade of C or higher
MICR	3900	Appl. & Env. Microbiology	(3)	Prerequisite: MICR 3100 or BIOL 3100 with grade of C or higher
PHYS	1100	Physics A	(4)	Co-requisite: MATH 1050
PHYS	1200	Physics B	(4)	Prerequisite: 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.