

# MICROBIOLOGY

## Bachelor of Science Degree Requirements – 180 units [NEW PROGRAM]

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

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

### GENERAL EDUCATION REQUIREMENTS (60 units)

MATH 204 + BIOL 100A + either CHEM 101 or PHYS 101 double count for A4 + B1 + B2

#### A: Basic Subjects (16 units) [T] or Qtr/Yr Grade

A1: Written Communication		
A2: Oral Communication		
A3: Critical Thinking		
A4: Mathematics		

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

#### A1: American Institutions (8 units)

US History		
US Constitution		
California State/Local Government		

#### B: Natural Sciences (8 units)

B1: Biological (with lab)		
B2: Physical (with lab)		

#### C: Humanities (12 units; from 3 different areas)


#### D: Social Sciences (12 units; from 3 different disciplines)


#### E: Lifelong Understanding (4 units)

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#### Upper Division Theme (12 units) \_\_\_\_\_

Natural Science		
Social Science		
Humanities		

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

### UNIVERSITY REQUIREMENTS (6-8 units)

NSS 101 (or NSS 301 for transfers)		
ENGL 102		
WPE (UNIV 400 or 401)		
(d) Diversity		
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Diversity courses are fulfilled via Blocks C, D, E, or GE theme course with (d)-designation next to the course number.

### MAJOR REQUIREMENTS (112-114 units)

#### Required Courses (95 units) [T] or Qtr/Yr Grade

BIOL 100A	Introductory Biology I	(5)		
BIOL 100B	Introductory Biology II	(5)		
BIOL 300	Biometrics	(4)		
BIOL 320	Writing for Biologists	(4)		
CHEM 101	General Chemistry I*	(5)		
CHEM 102	General Chemistry II	(5)		
CHEM 103	General Chemistry III	(5)		
CHEM 291A	Organic Chemistry**	(3)		
CHEM 291B	Organic Chemistry**	(3)		
CHEM 292A	Organic Chemistry Lab**	(2)		
CHEM 301	Organic Chemistry**	(3)		
CHEM 431A	Biochemistry	(3)		
CHEM 431B	Biochemistry	(3)		
CHEM 431C	Biochemistry	(3)		
MATH 204	Applied Calculus I	(4)		
MICR 300A	General Microbiology I	(4)		
MICR 300B	General Microbiology II	(4)		
MICR 340	Microbial Genetics	(4)		
MICR 350	Medical Microbiology	(5)		
MICR 360	Theor & Appl Immun	(5)		
MICR 370	Env & Appl Micro	(4)		
PHYS 101	Physics	(4)		
PHYS 102	Physics	(4)		
PHYS 103	Physics	(4)		

\*Must pass CHEM 101 placement test before enrolling in course; \*\*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:** AP score of 4 or 5 fulfills BIOL 100A requirement. Submit all AP scores to ADM 409! [T] = transfer work

#### Electives (17-19 units; min. 8 units from MICR)

Provide course # & units only after enrollment.

	Qtr/Yr	Grade

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

Overall GPA ≥ 2.000:	Units completed at CSULA ≥ 45:
CSULA GPA ≥ 2.000:	UD units completed at CSULA ≥ 36:
Major GPA ≥ 2.000:	Units in major completed as CSULA ≥ 18:
UD units ≥ 60:	Units in GE completed at CSULA ≥ 12:
Total units completed ≥ 180:	

# MICROBIOLOGY

## PREREQUISITES & CO-REQUISITES FOR REQUIRED COURSES

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REQUIRED COURSES				PREREQUISITES & CO-REQUISITES
BIOL	100A	Introductory Biology I	(5)	<b>Co-requisites:</b> College-level English + MATH 104A; CHEM 101 recommended
BIOL	100B	Introductory Biology II	(5)	<b>Prerequisites:</b> MATH 104A + grade of C or better in BIOL 100A; <b>Co-requisite:</b> MATH 105 recommended
BIOL	300	Biometrics	(4)	<b>Prerequisites:</b> Grade of C or better in BIOL 100B; MATH 105
BIOL	320	Writing for Biologists	(4)	<b>Prerequisites:</b> BIOL 300 + WPE (GWAR)
CHEM	101	General Chemistry I	(5)	<b>Prerequisite:</b> Passing score on CHEM 101 placement test* <b>Co-requisite:</b> MATH 104A
CHEM	102	General Chemistry II	(5)	<b>Prerequisite:</b> CHEM 101
CHEM	103	General Chemistry III	(5)	<b>Prerequisite:</b> CHEM 102
CHEM	291A	Organic Chemistry	(3)	<b>Prerequisite:</b> CHEM 103
CHEM	291B	Organic Chemistry	(3)	<b>Prerequisite:</b> CHEM 291A
CHEM	292A	Organic Chemistry Lab	(2)	<b>Prerequisite:</b> CHEM 291A <b>Co-requisite:</b> CHEM 291B
CHEM	301	Organic Chemistry	(3)	<b>Prerequisite:</b> CHEM 291B
CHEM	431A	Biochemistry	(3)	<b>Prerequisite:</b> CHEM 301
CHEM	431B	Biochemistry	(3)	<b>Prerequisite:</b> CHEM 431A
CHEM	431C	Biochemistry	(3)	<b>Prerequisite:</b> CHEM 431B
MATH	204	Applied Calculus I	(4)	<b>Prerequisite:</b> MATH 105 with a grade of C or satisfactory score on exit exam for MATH 105. <b>Co-requisite:</b> MATH 204P Applied Calculus I Workshop (1) mandatory for students with a grade below B- in any prerequisite for MATH 204 or students repeating MATH 204.
MICR	300A	General Microbiology I	(4)	<b>Prerequisites:</b> BIOL 100B + CHEM 102
MICR	300B	General Microbiology II	(4)	<b>Prerequisite:</b> MICR 300A with a grade of C or higher or instructor consent
MICR	340	Microbial Genetics	(4)	<b>Prerequisite:</b> Grade of C or higher in MICR 300B or instructor consent
MICR	350	Medical Microbiology	(5)	<b>Prerequisite:</b> Grade of C or higher in MICR 300B or instructor consent
MICR	360	Theoretical & Applied Immunology	(5)	<b>Prerequisites:</b> MICR 300B or MICR 201/202 + CHEM 291A + CHEM 292A, (each with a grade of C or higher) or instructor consent
MICR	370	Environmental & Applied Microbiology	(4)	<b>Prerequisite:</b> MICR 300B with a grade of C or higher or instructor consent
PHYS	101	Physics	(4)	<b>Co-requisite:</b> MATH 104A
PHYS	102	Physics	(4)	<b>Prerequisite:</b> PHYS 101 but professor may waive
PHYS	103	Physics	(4)	<b>Prerequisite:</b> PHYS 102 but professor may waive

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

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

**\*IF YOU CANNOT PASS THE CHEM 101 PLACEMENT TEST, ENROLL IN CHEM 155.**

**OBTAIN LIST OF APPROVED ELECTIVES FOR MICROBIOLOGY MAJORS FROM DEPARTMENT OFFICE BEFORE ENROLLING IN ANY ELECTIVE COURSES**

**Undergraduates apply to graduate TWO quarters before degree will be finished in specific application windows listed in the Schedule of Classes. Schedule an appointment with the Department Principal Undergraduate Advisor.**