

B.S. in BIOLOGICAL SCIENCES (AY 2026-2027)
CONCENTRATION IN MICROBIOLOGY & BIOMEDICAL LAB SCIENCES (75 units)

CORE REQUIREMENTS* (39 units)

LOWER DIVISION COURSEWORK	UNITS	OFFERED	PREREQUISITES
BIOL 140A <i>Principles of Cell & Molecular Biology</i>	5	Fall & Spring	N/A
BIOL 140B <i>Principles of Organismal Biology</i>	5	Fall & Spring	BIOL 140A
CHEM 111 & 111L <i>General Chemistry I (lec & lab)</i>	5	Fall & Spring	MATH 120(25) or 130
CHEM 112 & 112L <i>General Chemistry II (lec & lab)</i>	5	Fall & Spring	CHEM 111 & 111L
MATH 130 <i>Calculus I</i>	4	Fall & Spring	MATH 120 or MATH 125
PHYS 125 <i>Principles of Physics I</i>	4	Fall & Spring	MATH 120 or MATH 125
PHYS 126 <i>Principles of Physics II</i>	4	Fall & Spring	PHYS 125
Subtotal	32		
UPPER DIVISION COURSEWORK	UNITS	OFFERED	PREREQUISITES
BIOL 310 <i>Genetic Analysis I</i>	4	Fall & Spring	BIOL 140B
BIOL 320 <i>Evolutionary Biology</i>	3	Fall & Spring	BIOL 310
Subtotal	7		

CONCENTRATION REQUIREMENTS* (36 units)

BIOLOGY CONCENTRATION COURSES	UNITS	OFFERED	PREREQUISITES
BIOL 330 <i>General Microbiology</i>	5	Fall	BIOL 140B
BIOL 430 <i>Microbial Physiology & Metabolism**</i>	3	Spring	BIOL 330, CHEM 340* or 441*
CHEM 331 & 332 <i>Organic Chemistry I & II</i>	10	Fall & Spring	CHEM 112 & 112L & CHEM 331
CHEM 340 <i>Survey of Biochemistry</i>	3	Fall & Spring	CHEM 230 or CHEM 332
subtotal	21		

Notes: Depending on your professional objective, you may opt to take **CHEM 441 & 442 (Biochemistry I & II)** instead of CHEM 340. In this scenario, 3 units of CHEM 441 would substitute for CHEM 340 and CHEM 442 could count as a 4-unit elective.

ELECTIVES (Select 15 units from the list below)	UNITS	OFFERED	PREREQUISITES
BIOL 350 <i>Ecology</i>	4	Fall & Spring	BIOL 140B*, STATS 303
BIOL 372 <i>Microscopic Methods</i>	3	Intermittently	BIOL 140A
BIOL 431 <i>Medical Microbiology</i> †	5	Spring	BIOL 330
BIOL 432 <i>Microbe-Host Interactions</i>	3	Fall	BIOL 140B
BIOL 433 <i>Microbial Ecology</i>	3	Spring	BIOL 330
BIOL 434 <i>Molecular Microbiology</i>	3	Spring	BIOL 330
BIOL 440 <i>Molecular Virology</i> †	3	Fall	BIOL 310
BIOL 441 <i>Parasitology</i> †	3	Fall	BIOL 310
BIOL 443 <i>Hematology</i> †	4	Fall & Spring	BIOL 140B, CHEM 112
BIOL 445 <i>Immunology</i> †	3	Fall & Spring	BIOL 310, CHEM 230 or 332
BIOL 447 <i>Zoonoses & Emerging Infect. Diseases</i>	3	Intermittently	BIOL 330
BIOL 454 <i>Biology of Fungi</i> †	3	Fall (every other yr)	BIOL 140B
BIOL 497 <i>Issues in Biological Science</i>	2	Fall	BIOL 140B
CHEM 220 <i>Quantitative Analysis</i> †	4	Fall & Spring	CHEM 112
STAT 303 <i>Statistical Methods in Biology</i>	3	Fall & Spring	completion of GE Area B4 or 2
subtotal	15		

Notes: 1) These Courses marked with † are recommended if your career objective includes applying to a Clinical Lab Scientist (CLS) licensing program after earning your Bachelor's degree. 2) BIOL 490 *Independent Study*, BIOL 493 *Directed Research in Biology*, BIOL 498 *Internship* or a combination of 2 or more of these courses may be used for a maximum of 3 total units of elective credit.

* Must pass all courses with a C- or better.

** Capstone course for the Microbiology & Biomedical Sciences Concentration.

• **Micro Concentration & GE Advisors:** Mr. Avel Perez or Dr. Kelley Gove (cscistudentcenter@csueastbay.edu)

• **Micro Concentration Career Advisors:** Dr. Carol Lauzon (carol.lauzon@csueastbay.edu), Dr. Abigail Morales (abigail.morales@csueastbay.edu), & Dr. Hongye Wang (hongye.wang@csueastbay.edu)

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CONCENTRATION: Microbiology and Biomedical Lab Sciences

Graduation Semester: _____

Name (Last, First): _____

Net ID: _____

CORE REQUIREMENTS – LOWER DIVISION COURSEWORK

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
CHEM 111	_____	_____	5	_____	_____	_____
CHEM 111L	_____	_____	2	_____	_____	_____
CHEM 112	_____	_____	5	_____	_____	_____
CHEM 112L	_____	_____	2	_____	_____	_____
PHYS 125	_____	_____	4	_____	_____	_____
PHYS 126	_____	_____	4	_____	_____	_____
MATH 130	_____	_____	4	_____	_____	_____
BIOL 140A	_____	_____	5	_____	_____	_____
BIOL 140B	_____	_____	5	_____	_____	_____

CORE REQUIREMENTS – UPPER DIVISION COURSEWORK

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
BIOL 310	_____	_____	4	_____	_____	_____
BIOL 320	_____	_____	3	_____	_____	_____

CONCENTRATION REQUIREMENTS – UPPER DIVISION COURSEWORK

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
CHEM 331	_____	_____	5	_____	_____	_____
CHEM 332	_____	_____	5	_____	_____	_____
CHEM 340	_____	_____	3	_____	_____	_____
BIOL 330	_____	_____	5	_____	_____	_____
BIOL 430	_____	_____	3	_____	_____	_____

CONCENTRATION REQUIREMENTS - ELECTIVES *(At least 15 units from the courses below)*

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
CHEM 220	_____	_____	4	_____	_____	_____
STAT 303	_____	_____	3	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Total Units for Concentration (75 units): _____ Note: A C- or better is required in all courses used toward the major..