

B.S. IN BIOLOGICAL SCIENCE (AY 2026-2027)
CONCENTRATION IN CELL AND MOLECULAR BIOLOGY (75 units)

CORE REQUIREMENTS* (32 units)

LOWER DIVISION BIOLOGY	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)

UPPER DIVISION COURSEWORK	UNITS	OFFERED	PREREQUISITES
BIOL 410 <i>Genetic Analysis II</i>	3	Spring	BIOL 310
BIOL 424 <i>Bioinformatics</i>	3	Fall	BIOL 310
BIOL 426 <i>Advanced Molecular and Cell Biology†</i>	3	Spring	BIOL 310
BIOL 427 <i>Molecular and Cell Biology Lab</i>	3	Spring	BIOL 310, BIOL 426 (co-)
CHEM 331 <i>Organic Chemistry II</i>	5	Fall & Spring	CHEM 112 & 112L
CHEM 332 <i>Organic Chemistry II</i>	5	Fall & Spring	CHEM 331
CHEM 441 <i>Biochemistry I</i>	4	Fall & Spring	CHEM 332
subtotal	26		
ELECTIVES (Select 10 units from the list below)	UNITS	OFFERED	PREREQUISITES
BIOL 330 <i>General Microbiology</i>	5	Fall	BIOL 140B
BIOL 350 <i>Ecology</i>	4	Fall	BIOL 140B, STATS 303
BIOL 372 <i>Microscopic Methods</i>	3	Intermittently	BIOL 140A
BIOL 415 <i>PCR, Sequencing, & Fragment Analysis</i>	3	Fall	BIOL 310
BIOL 425 <i>Techniques in Mammalian Cell Culture</i>	3	Spring	BIOL 310, BIOL 330
BIOL 428 <i>Genomics</i>	3	Spring	BIOL 320
BIOL 431 <i>Medical Microbiology</i>	5	Spring	BIOL 330
BIOL 434 <i>Molecular Microbiology</i>	3	Spring	BIOL 330
BIOL 440 <i>Molecular Virology</i>	3	Fall	BIOL 310
BIOL 442 <i>Epidemiology</i>	3	Intermittently	BIOL 140B
BIOL 445 <i>Immunology</i>	3	Fall & Spring	BIOL 310
BIOL 447 <i>Zoonoses & Emerging Infectious Diseases</i>	3	Spring	BIOL 140B
BIOL 466 <i>Population Biology</i>	4	Intermittent	BIOL 320
BIOL 468 <i>Molecular Ecology</i>	4	Intermittent	BIOL 310, BIOL 320
BIOL 497 <i>Issues in Biological Science</i>	2	Fall	BIOL 140B
CHEM 442 <i>Biochemistry II</i>	4	Spring	CHEM 441
STAT 303 <i>Statistical Methods in Biology</i>	3	Fall & Spring	Completion of GE areas 2/B4
subtotal	10		

Note: BIOL 490 *Independent Study*, BIOL 493 *Directed Research in Biology*, BIOL 498 *Internship* or a combination of more than one 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 Cell & Molecular Biology concentration.

- **C&MB Concentration & GE Advisors:** Mr. Avel Perez or Dr. Kelley Gove (cscistudentcenter@csueastbay.edu)
- **C&MB Career Advisors:** Dr. Chris Baysdorfer (chris.baysdorfer@csueastbay.edu), Dr. Ana Almeida (ana.almeida@csueastbay.edu), Dr. Maria Gallegos (maria.gallegos@csueastbay.edu), Dr. Claudia Stone (claudia.stone@csueastbay.edu)

CONCENTRATION: Cell and Molecular Biology

Graduation Semester: _____

Name (Last, First): _____

Net ID: _____

CORE REQUIREMENTS – LOWER DIVISION COURSES

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
CHEM 111	_____	_____	3	_____	_____	_____
CHEM 111L	_____	_____	2	_____	_____	_____
CHEM 112	_____	_____	3	_____	_____	_____
CHEM 112L	_____	_____	2	_____	_____	_____
PHYS 125	_____	_____	4	_____	_____	_____
PHYS 126	_____	_____	4	_____	_____	_____
MATH 130	_____	_____	4	_____	_____	_____
BIOL 140A	_____	_____	5	_____	_____	_____
BIOL 140B	_____	_____	5	_____	_____	_____

CORE REQUIREMENTS – UPPER DIVISION COURSES

BIOL 310	_____	_____	4	_____	_____	_____
BIOL 320	_____	_____	3	_____	_____	_____

CONCENTRATION REQUIREMENTS – UPPER DIVISION COURSES

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
CHEM 331	_____	_____	5	_____	_____	_____
CHEM 332	_____	_____	5	_____	_____	_____
CHEM 441	_____	_____	4	_____	_____	_____
BIOL 410	_____	_____	3	_____	_____	_____
BIOL 424	_____	_____	3	_____	_____	_____
BIOL 425	_____	_____	3	_____	_____	_____
BIOL 426	_____	_____	3	_____	_____	_____
BIOL 427	_____	_____	3	_____	_____	_____
BIOL 428	_____	_____	3	_____	_____	_____

CONCENTRATION REQUIREMENTS - ELECTIVES (Min.10 units; Course selection is on the reverse side of this form)

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	TES Verification
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
BIOL _____	_____	_____	_____	_____	_____	_____
CHEM 442	_____	_____	_____	_____	_____	_____
STAT 303	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Total Units for Concentration: (75 min.): _____

Note: A C- or better required in all courses used toward the majors.