

**B.S. in BIOLOGICAL SCIENCES**  
**CONCENTRATION IN MICROBIOLOGY AND BIOMEDICAL LAB SCIENCES (AY 2020-2021)**

**Core Requirements (39 units)**

<i>Lower Division BIOL Courses</i>	<i>Units</i>
BIOL 140A Principles of Cell & Molecular Biology	5
BIOL 140B Principles of Organismal Biology	5
<b>subtotal</b>	<b>10</b>

<i>Lower Division Physical Science and Math Courses</i>	<i>Units</i>
CHEM 111, 112 General Chemistry I & II (5, 5)	10
MATH 130 Calculus I	4
PHYS 125, 126 Principles of Physics I & II (4, 4)	8
<b>subtotal</b>	<b>22</b>

<i>Upper Division BIOL Courses</i>	<i>Units</i>
BIOL 310 Genetic Analysis I	4
BIOL 320 Evolutionary Biology	3
<b>subtotal</b>	<b>7</b>

**Concentration Requirements (36-39 units)**

<i>Upper Division BIOL Courses</i>	<i>Units</i>
BIOL 330 General Microbiology (offered Fall only)	5
BIOL 430 Microbial Physiology and Biochemistry	3
<b>subtotal</b>	<b>8</b>

<i>Physical Science and Math Courses</i>	<i>Units</i>
CHEM 331, 332 Organic Chemistry I & II	10
CHEM 340 Survey of Biochemistry <sup>†</sup>	3
<b>subtotal</b>	<b>13</b>

<sup>†</sup>Note: Depending on the professional objective, students may opt to take **CHEM 441 & 442 (Biochemistry I & II)** instead of **CHEM 340**. In that case CHEM 441 would count as the 3 units here and CHEM 442 as an elective below.

**Electives (select at least 15 units from the list of courses below)**

<u>Course</u>	<u>Units</u>	<u>Offered</u>	<u>Prerequisites</u>
BIOL 431 Medical Microbiology**	5	Spring	BIOL 330
BIOL 432 Microbe-Host Interactions	3	Fall	BIOL 140B
BIOL 433 Microbial Ecology	3	Spring	BIOL 330
BIOL 434 Molecular Microbiology	3	Spring	BIOL 330
BIOL 440 Molecular Virology**	3	Fall	BIOL 310
BIOL 441 Parasitology**	3	Fall	BIOL 310
BIOL 443 Hematology**	5	Fall	BIOL 140B
BIOL 444 Medical Entomology	3	Fall (every other year)	BIOL 140B
BIOL 445 Immunology**	3	Fall & Spring	BIOL 310
BIOL 454 Biology of Fungi**	3	Fall (every other year)	BIOL 140B
BIOL 468 Molecular Ecology	4	TBD	BIOL 310
CHEM 220 Quantitative Analysis**	4	Fall & Spring	CHEM 112
CHEM 442 Biochemistry II	4	Spring	CHEM 441

\*\*recommended for students interested in applying for CLS programs

\*Capstone course for the *Microbiology and Biomedical Sciences* concentration

FOR GENERAL MAJOR ADVISING: <http://www.csueastbay.edu/csci-ssc/index.html>, [cscistudentcenter@csueastbay.edu](mailto:cscistudentcenter@csueastbay.edu)

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**DEGREE:** B.S. in Biological Sciences (AY 2020-21)  
**CONCENTRATION:** Microbiology and Biomedical Lab Sciences

Graduation Semester: \_\_\_\_\_

Name (Last, First): \_\_\_\_\_

Net ID: \_\_\_\_\_

**CORE REQUIREMENTS**

Course	Grade	Semester & Year	Units	College/University Where Equivalent Course Was Taken	Equivalent Course Number	Assist.org Verification
CHEM 111	.....	.....	5	.....	.....	.....
CHEM 112	.....	.....	5	.....	.....	.....
PHYS 125	.....	.....	4	.....	.....	.....
PHYS 126	.....	.....	4	.....	.....	.....
MATH 130	.....	.....	4	.....	.....	.....
BIOL 140A	.....	.....	5	.....	.....	.....
BIOL 140B	.....	.....	5	.....	.....	.....
BIOL 310	.....	.....	4	.....	.....	.....
BIOL 320	.....	.....	3	.....	.....	.....

**CONCENTRATION REQUIREMENTS**

CHEM 331	.....	.....	5	.....	.....	.....
CHEM 332	.....	.....	5	.....	.....	.....
CHEM 340	.....	.....	3	.....	.....	.....
BIOL 330	.....	.....	5	.....	.....	.....
BIOL 430	.....	.....	3	.....	.....	.....

**ELECTIVES** (at least 15 units from the courses below)

BIOL 431	.....	.....	5	.....	.....	.....
BIOL 432	.....	.....	3	.....	.....	.....
BIOL 433	.....	.....	3	.....	.....	.....
BIOL 434	.....	.....	3	.....	.....	.....
BIOL 440	.....	.....	3	.....	.....	.....
BIOL 441	.....	.....	3	.....	.....	.....
BIOL 443	.....	.....	5	.....	.....	.....
BIOL 444	.....	.....	3	.....	.....	.....
BIOL 445	.....	.....	3	.....	.....	.....
BIOL 454	.....	.....	3	.....	.....	.....
BIOL 468	.....	.....	3	.....	.....	.....
CHEM 220	.....	.....	4	.....	.....	.....
CHEM 442	.....	.....	4	.....	.....	.....

Total Units for Concentration: (75 min.) \_\_\_\_\_

Note: A C- or better required in all courses that serve as a prerequisite.

Advisor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Dept. Chair signature: \_\_\_\_\_

Date: \_\_\_\_\_