CAL POLY

BS MICROBIOLOGY
2022-2026

This document displays only your course requirements at the time of publication of the catalog. You must use your Degree Progress Report to track all graduation requirements.

Note: No Major, Support, or Concentration courses may be selected as credit/no credit.

MAJOR COURSES		
BIO 150	Diversity and History of Life	4
BIO 161	Intro to Cell & Molecular Bio (B2 & B3) [1]	4
BIO 263	Intro Ecology & Evolution	4
BIO 351	Principles of Genetics	5
BIO 452	Cell Biology	4
MCRO 224	General Microbiology I	5
MCRO 225	General Microbiology II	5
MCRO 424	Microbial Physiology	5
BIO 461 or BIO 462	Senior Project - Research Proposal Senior Project Research Experience	2
Select three courses from the following: BIO 426, 475; MCRO 402, 423, 436		11-13
Electives: Select from the following [2,3,4] ***At least 14-16 units must be taken at the 300-400 level.***		19-21
Biotechnology ASCI 403, BIO 202, BIO 475, BIO/CHEM 476, BRAE 448, CHEM 372, CHEM 474, MCRO 433		
Food Microbiology DSCI 402, DSCI 444, FSN 230, FSN 275, FSN 335, FSN 340[7], FSN 364, FSN 368, FSN 374, MCRO/WVIT 301, MCRO 421		
Medical and Public Health Microbiology ASCI 321, BIO 406, BIO 407, BIO 408, BIO 409, BIO 410, BIO 426, BIO 428, BIO 429, CHEM 349[7], CHEM 377, CHEM 477, KINE 301, MCRO 320, MCRO 342, MCRO 423		
Microbial Diversity, Ecology and Evolution BIO 413, BIO 414, MCRO 402, MCRO 436, SS 422		
Bioinformatics and Data Analysis BIO 441, DATA 301, STAT 313[7], STAT 419, STAT 421		
Other electives for Microbiology Majors ASCI 203, ASCI 440, ASCI 438, BIO 162, BIO 300[3], BIO 335, BIO 336, BIO 361, BIO 400[3], BIO 434, BIO 450[3], BIO 462[5], BIO 463, BOT/PLSC 323, CHEM 218 & 223, CHEM 331, CHEM 341, CHEM 418, ENVE 434, MATH 162[7], MCRO 100, PLSC 313, PLSC 441		
Total Major Units		**68-72**

SUPPORT COURSES		
CHEM 127	Gen Chem for Ag & Life Sci I (B1 & B3) [1]	4
CHEM 128	Gen Chem for Agriculture & Life Sci II	4
CHEM 129	Gen Chem for Agriculture & Life Sci III	4
CHEM 216	Organic Chemistry I [4]	5
CHEM 217 & CHEM 220	Organic Chemistry II Organic Chem Lab For Life Sci II [4]	4
CHEM 314 or CHEM 369	Biochem: Fund. & Apps. (Upper-Div B)[1,6] Biochemical Principles (Upper-Div B)[1,6]	5
MATH 161	Calculus for the Life Sciences I (B4) [1,4]	4
PHYS 121	College Physics I	4
PHYS 122	College Physics II	4
PHYS 123	College Physics III	4
STAT 218	App Statistics for Life Sci (GE Electives) [1]	4
Total Support Units		**46**

GENERAL EDUCATION		
Area A	**English Lang. Comm. & Critical Thinking**	
A1	Oral Communication	4
A2	Written Communication	4
A3	Critical Thinking	4
Area B	**Scientific Inquiry and Quantitative Reasoning**	
B1	Physical Science (4 units in Support) [1]	0
B2	Life Science (4 units in Major) [1]	0
B3	One lab in either a B1 or B2 course (in Major)	
B4	Math/Quant. Reasoning (4 units in Support) [1]	0
Upper-Division B (4 units in Support)[1]		0
Area C	**Arts and Humanities** ***Select lower-division courses from 3 different prefixes.***	
C1	Arts	4
C2	Humanities	4
Lower-Division C Elective - Select from either C1 or C2		4
Upper-Division C		4
Area D	**Social Sciences** ***Select courses from at least 2 different prefixes***	
D1	American Institutions (Title 5/40404 Req)	4
D2	Lower-Division D	4
Upper-Division D		4
Area E	**Lifelong Learning and Self-Development**	
Lower-Division E		4
Area F	**Ethnic Studies**	
Lower-Division F		4
GE Electives in Areas C, and D ***Select lower- or upper-division courses from 2 different areas.***		
GE Electives (4 units of Area B in Support) [1]		0
GE Electives (Area C or D) [1]		4
Total GE Units		**52**
FREE ELECTIVES [7] Up to 6 units of free electives may need to be at 300-400 level to meet 60 unit minimum. Consult college advisor for additional info.		**10-14**
TOTAL DEGREE UNITS		**180**

FOOTNOTES

1 Required in Major or Support; also satisfies General Education (GE) requirement.

2 Consultation with advisor is recommended prior to selecting Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals. **At least 14-16 units must be upper-division (300-400 level)** to ensure completion of the required minimum of 60 units of upper-division courses.

3 Maximum of 6 units may be applied toward Approved Electives: BIO 200, 300, 400, 450, 485, 495; MSCI 401.

4 Students planning to attend graduate or professional schools are strongly advised to meet with their advisors to ensure that they meet necessary prerequisites for entry into these programs. Additional courses in math and chemistry may be necessary.

5 If BIO 462 is used to meet the senior project requirement, it cannot also be counted as an Elective.

6 CHEM 369 suggested for students who plan to pursue graduate school or a health professions career.

7 If a General Education (GE) course is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.