Department of Biology Graduation Checklist https://biology.sfsu.edu/advising/undergraduate

LD=		
UD=		

Student: _ Last First Advisor: _

E-mail Phone

BACHELOR OF SCIENCE IN BIOLOGY: CONCENTRATION IN MICROBIOLOGY

All courses for the major must be completed with a letter grade (CR/NC is not acceptable). Course is 3 units unless otherwise noted.

Lower Division Require	ements (34-37 units)		Units				٧	DPR?
Class	Prerequisites (must be completed with a C- or better, unless otherwise stated; however, Chemistry prerequisite courses must be completed with a C or better)	Class Name	Units	Fa 24	Sp 25	Su 25	>	on DPR?
BIOL 230		Introductory Biology I (5)	5	yes	yes	no		
BIOL 231		Advising for Success as a Biology Major (1)	1	yes	yes	no		
BIOL 240	Biol 230	Introductory Biology II (5) [Meets GE Area B2 (Life Science)]	5	yes	yes	no		
CHEM 115	see https://bulletin.sfsu.edu/courses/chem/	General Chemistry I with Lab (4)	4	yes	yes	yes		
CHEM 215	Chem 115	General Chemistry II with Lab (4)	4	yes	yes	yes		
MATH 226 ¹	see https://bulletin.sfsu.edu/courses/math/	Calculus I (4)	4	yes	yes	yes		
PHYS 111/112 ¹	see https://bulletin.sfsu.edu/courses/phys/	General Physics I/Laboratory (3/1)	4	yes	yes	yes		
PHYS 121/122 ¹	see https://bulletin.sfsu.edu/courses/phys/	General Physics II and Laboratory (3/1)	4	yes	yes	yes		
Select one organic che	mistry ¹ sequence (3-6 units):		3 - 6					
CHEM 130	Chem 115	General Organic Chemistry		yes	yes	yes		
CHEM 233 and CHEM 335	see https://bulletin.sfsu.edu/courses/chem/	Organic Chemistry I and Organic Chemistry II		yes	yes	yes		
Note: Chem 115 and C	hem 215 were revised as of Fall 2024	Total lower division requirements (units):	34-37					

The courses listed in **purple bold text** are the biology core courses shared across the Biology BS concentrations.

Upper Division Requirements (15 units)

Upper Division Electives (11 units)

opper bitision kequi							
BIOL 337	Biol 230 + Biol 240 + Biol 355	Evolution	3	yes	yes	yes	
BIOL 355 ²	Biol 230 + Biol 240 + Chem 115	Genetics [meets GE UD-B requirement]	3	yes	yes	yes	
BIOL 401	Biol 230 + Biol 240 + Chem 233	General Microbiology	3	yes	yes	no	
BIOL 402GW	Biol 401 (may be taken concurrently) + GE Area 2	General Microbiology Laboratory - GWAR	3	yes	yes	no	
Biochemistry course ¹	selected from the following (3 units):		3				
CHEM 340	Chem 215 + Chem 233 + Chem 335 with grades of C or better	Biochemistry I		yes	yes	no	
CHEM 349	Chem 215 (grade C or better) + either [Chem 130 (grade C or better) or Chem 335 (grade of C- or better)]	General Biochemistry		yes	yes	yes	

Upper Division Requirements (units) 15

Upper division electives	s in Microbiology: Select 11 units from ti	he following courses, including at						on
least two laboratory co	ourses with approval of an advisor		Ī	Fa	Sp	Su	v	DPR?
				24	25	25	v	DPR!
BIOL 420 ²	Biol 401 + Biol 402GW	General Virology		yes	no	no		
BIOL 425	Biol 230 + Biol 240 + [Biol 355 or Biol 401 or Biol 350] + Chem 130	Emerging Diseases		no	yes	no		
BIOL 430 ¹	Bio 401 with a C or better	Medical Microbiology		no	yes	no		
BIOL 435 ¹	Biol 350 or Biol 401	Immunology		yes	no	no		
BIOL 442	Biol 401 + Biol 402GW + Chem 349	Microbial Physiology		no	yes	no		
BIOL 446	Biol 401 + Biol 402GW + Biol 355	Microbial Genomics (4)		no	yes	no		
BIOL 453 ²	Biol 230 + Biol 240 + Biol 355	General Parasitology		yes	no	no		
BIOL 490	Biol 230 + Biol 240	Ecology of Infectious Diseases (4)		no	yes	no		
BIOL 644	Biol 230 + Biol 240 + [Biol 350 or Biol	LEADerS Service Learning Course: Learners Engaged in Advocating for Diversity in		no	no	no		
5.62.011	355 or Biol 357]	Science (4)						
BIOL 638	Biol 230, GPA 3.0 or higher	Bioinformatics & Genome Annotation (4)		yes	no	no		
Select two laboratory of	courses from the following:							
BIOL 431 ²	Biol 401 + Biol 402GW + Chem 349	Medical Microbiology Lab (2)		no	no	no		
BIOL 436 ²	Biol 402GW, concurrent enrollment in Biol 435	Immunology Laboratory (2)		yes	no	no		
BIOL 443	Biol 442 (may be taken concurrently)	Microbial Physiology Laboratory (2)		no	no	no		
BIOL 454 ²	Biol 453 (may be taken concurrently)	General Parasitology Laboratory (1)		no	no	no		
BIOL 625 ¹	one college-level physiology course	Hematology		no	yes	no		

Department of Biology Graduation Checklist https://biology.sfsu.edu/advising/undergraduate

BIOL 699	Restricted to senior Biology majors; consent of the department and instructor.	Independent Study in Biology (1-3 units) requires faculty mentor's approval		yes	yes	no	
CHEM 336	see https://bulletin.sfsu.edu/courses/chem/	Organic Chemistry II Laboratory (2)		yes	yes	yes	
OR CHEM 343 ²	see https://bulletin.sfsu.edu/courses/chem/	Biochemistry I Laboratory		yes	yes	no	
	ion to Clinical Laboratory Science gradua Idmission to Clinical Laboratory Science g						
Course Num.		Course Title	Units				
				•			
What course has stud	lent taken to meet GWAR? (Typically Biol	402GW)					

GWAR course must be completed with a C- or better to meet graduation requirements

	Required	Completed
Total upper division unit requirements:	26	
Total units for major (minimum 60 units)	60-63	

Recommendations for targeted post-graduate pl	ans
Health profession	Students generally required to take the full year of organic chemistry with lab: Chem
	233/234 and Chem 335/336 (check your target program)
	Students should check their target programs to confirm requirements.
Graduate programs	Students generally required to take the full year of organic chemistry with lab: Chem
Graduate programs	233/234 and Chem 335/336 (check your target program)
	Students should take the full year of biochemistry: Chem 340 and Chem 341
	Students should complete at least two semesters of calculus and one semester of
	physical chemistry.
	Student should consult with major advisor to optimize course plan for goals.
Clinical Laboratory Science Program	
Clinical Laboratory Science Program	Note the courses indicated in the checklist as required or recommended for CLS
	graduate programs
	CLS graduate programs require a minimum 3.0 GPA.
	Students should take Chem 130 (General Organic Chemistry, 3 units) and Chem 349
	(General Biochemistry, 3 units)
	Students must take the following courses as their upper division ELECTIVES in
	Microbiology concentration
	BIOL 430 (Medical Microbiology, 3 units)
	BIOL 435 (Immunology, 3 units)
	BIOL 625 (Hematology, 3 units)
	Students should take the following courses (not part of the major) required for CLS
	program:
	CHEM 321 & 322 (Quantitative Chemical Analysis + Lab, 3/2 units)
	Rial 612 (Human Rhysialam, 2 units)

Biol 612 (Human Physiology, 3 units)