LD=		Student:	E-mail					
UD=		Last First	•					
		Advisor:	Phone	<u>.</u>				
		BACHELOR OF ARTS IN GENERAL BIOLOGY	-					
All courses for the ma	ajor must be completed with a letter grade (CR/N							
Course is 3 units unle								
Lower Division Re	quirements (22 units)		Sp/Su	25 b	ased	on 2	024 of	ferings
	Prerequisites (must be completed							
	with a C- or better, unless otherwise			l _	_	١.		
Class	stated; however, Chemistry	Class Name	Units	Fa 24	Sp 25	Su 25	٧	on DPR?
	prerequisite courses must be			24	25	23		DPK!
	completed with a C or better)							
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		
Select one organic ch	nemistry lecture							
	Ţ				\vdash			
CHEM 130	Chem 115	General Organic Chemistry		yes	yes	yes		
CHEM 233	see https://bulletin.sfsu.edu/courses/chem/	Organic Chemistry I		yes	yes	yes		
PHYS 111/112	see https://bulletin.sfsu.edu/courses/phys/	General Physics I/Laboratory (3/1)	4	yes	yes	yes		
	oning - Select one set of math options from	the following three options (4-6 units):		_				
MATH 197 & MAT	H see https://bulletin.sfsu.edu/courses/math/	Prelude to Calculus I and Prelude to Calculus II (6)		yes	yes	no		
198		· ·		Ė	-			
MATH 199	see https://bulletin.sfsu.edu/courses/math/	Pre-Calculus (4)		yes	yes	yes		
MATH 226	see https://bulletin.sfsu.edu/courses/math/	Calculus I (4)		yes	yes	yes		
Upper Division Re	quirements (16-23 required units)			Fa 24	Sp 25	Su 25	٧	DPR?
Upper Division Co	oro (6 units)			24	23	23		
BIOL 355	Biol 230 + Biol 240 + Chem 115	Genetics [meets GE UD-B requirement]	3	yes				
BIOL 333	Biol 230 + Biol 240 + Biol 355	Evolution				VAC		
	r cell biology course from the following (3-4		2	_	Ė	yes		
BIOL 328	cen biology course from the jonowing (5 4		3	yes	yes	yes yes		
BIOL 350	Biol 230		3	yes	yes	yes		
0_00	Biol 230 Biol 230 + Biol 240 + Chem 115	Human Anatomy (4)	3	yes yes	yes	yes		
BIOI 357	Biol 230 + Biol 240 + Chem 115	Human Anatomy (4) Cell Biology	3	yes yes yes	yes yes yes	yes no yes		
BIOL 357 BIOL 382	Biol 230 + Biol 240 + Chem 115 Biol 355	Human Anatomy (4) Cell Biology Molecular Genetics	3	yes yes yes yes	yes yes yes yes	no yes no		
BIOL 382	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology	3	yes yes yes yes	yes yes yes yes	no yes no no		
BIOL 382 BIOL 401	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology	3	yes yes yes yes no	yes yes yes yes yes yes yes	yes no yes no no no		
BIOL 382 BIOL 401 BIOL 435	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology	3	yes yes yes no yes yes	yes yes yes yes yes yes yes yes	yes no yes no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology	3	yes yes yes no yes yes	yes yes yes yes yes yes yes no	yes no yes no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics	3	yes yes yes no yes yes no	yes yes yes yes yes yes yes yes yes	yes no yes no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology	3	yes yes yes no yes no no yes	yes yes yes yes yes yes yes no yes	yes no yes no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics	3	yes yes yes no yes yes no	yes yes yes yes yes yes yes yes yes	yes no yes no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology	3	yes yes yes yes no yes no yes no	yes yes yes yes yes yes yes no yes	yes no yes no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 +	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology	3	yes yes yes yes no yes no yes no	yes	no yes no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology	3	yes yes yes yes no yes no no yes no yes	yes	no yes no no no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612 BIOL 630 CHEM 349	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or Chem 233]	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology Animal Physiology	3	yes yes yes no yes no yes no yes no yes yes yes yes	yes	no yes no no no no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612 BIOL 630 CHEM 349 One physiology or	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or Chem 233] see https://bulletin.sfsu.edu/courses/chem/	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology Animal Physiology General Biochemistry	3	yes yes yes no yes no yes no yes no yes yes yes yes	yes	no yes no no no no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612 BIOL 630 CHEM 349 One physiology or	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or Chem 233] see https://bulletin.sfsu.edu/courses/chem/	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology Animal Physiology General Biochemistry		yes yes yes no yes no yes no yes no yes yes yes yes	yes yes yes yes yes yes yes yes yes no yes no yes no yes	no yes no no no no no no no no no		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612 BIOL 630 CHEM 349 One physiology or Take a GWAR court	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or Chem 233] see https://bulletin.sfsu.edu/courses/chem/	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology Animal Physiology General Biochemistry		yes yes yes no yes no yes no yes yes yes yes yes yes yes yes	yes yes yes yes yes yes yes yes yes no yes no yes no yes	no yes no no no no no no yes no yes		
BIOL 382 BIOL 401 BIOL 435 BIOL 442 BIOL 446 BIOL 453 BIOL 525 BIOL 612 BIOL 630 CHEM 349 One physiology or Take a GWAR cour	Biol 230 + Biol 240 + Chem 115 Biol 355 Biol 350 + Biol 355, GPA 3.0 or higher Biol 230 + Biol 240 + Chem 233 Biol 350 or Biol 401 Biol 402 + Biol 402GW + Chem 349 Biol 401 + Biol 402GW + Biol 355 Biol 230 + Biol 240 + Biol 355 Biol 230 + Biol 240 + Chem 130 Biol 230 + Biol 240 + Chem 130 + Phys 121 Biol 230 + Biol 240 + [Chem 130 or Chem 233] see https://bulletin.sfsu.edu/courses/chem/ reell biology laboratory course (1-4 units): reel f not already taken to meet requirement Biol 350 + Biol 355 + GE Area 2 Biol 401 (may be taken concurrently)	Human Anatomy (4) Cell Biology Molecular Genetics Developmental Biology General Microbiology Immunology Microbial Physiology Microbial Genomics General Parasitology Plant Physiology Human Physiology Animal Physiology General Biochemistry s in another area. Experiments in Cell and Molecular Biology - GWAR (4)		yes yes yes no yes no yes no yes yes yes yes yes yes yes yes	yes yes yes yes yes yes no yes no yes	yes no no no no no no no yes no		

BIOL 454	Biol 453 (may be taken concurrently)	Parasitology Laboratory (1)	yes	no	no	
BIOL 526	Biol 230 + Biol 240 + Chem 130	Plant Molecular Physiology Laboratory (2)	no	no	no	
BIOL 613GW	GE Area 2 + [Biol 612 or Biol 630 (may be taken concurrently)]	Human Physiology Laboratory - GWAR	yes	yes	yes	
BIOL 631GW	GE Area 2 + Biol 612 or Biol 630	Animal Physiology Laboratory - GWAR (4)	no	no	no	
BIOL 638	Biol 230, GPA 3.0 or higher	Bioinformatics & Genome Annotations (4)	yes	no	no	

Two ecology, evol	ution or organismal biology courses from t	he following (6-9 units):	Fa 24	Sp 25	Su 25	٧	DPR?
Take a GWAR cou	rse if not already taken to meet requirement	s in another area.					
BIOL 380	Biol 355 (Biol 337 is recommended)	Evolutionary Developmental Biology	no	no	no		
BIOL 425	Biol 230 + Biol 240 + [Biol 355 or Biol 401 or Biol 350] + Chem 130	Emerging Diseases	no	yes	no		
BIOL 460	Biol 230 + Biol 240	General Entomology (4)	yes	no	no		
BIOL 470	Biol 230 + Biol 240	Natural History of Vertebrates (4)	no	yes	no		
BIOL 475GW	Biol 230 + Biol 240 + GE Area 2	Herpetology - GWAR	no	yes	no		
BIOL 478GW	Biol 230 + Biol 240 + GE Area 2	Ornithology - GWAR (4)	no	yes	no		
BIOL 482	Biol 230 + Biol 240	Ecology (4)	yes	yes	no		
BIOL 490	Biol 230 + Biol 240	Ecology of Infectious Disease (4)	no	yes	no		
BIOL 500	Biol 230 + Biol 240	Evolution and Diversity of Plants (4)	yes	no	no		
BIOL 502	Biol 230 + Biol 240, GPA 3.0 or higher	Biology of the Algae	no	no	no		
BIOL 504	Biol 230 + Biol 240	Biology of the Fungi (4)	no	no	no		
BIOL 505	Biol 230 + Biol 240	Comparative Anatomy of Vascular Plants (4)	yes	no	no		
BIOL 514	Biol 230 + Biol 240, GPA 3.0 or higher	Plant Biodiversity and California Field Botany (5)	no	yes	no		
BIOL 529GW	Biol 230 + Biol 240 + GE Area A2	Plant Ecology - GWAR (4)	yes	no	no		
BIOL 532	Biol 230 + Biol 240	Restoration Ecology	no	no	no		
BIOL 534	Biol 230 + Biol 240	Wetland Ecology (4)	no	yes	no		
BIOL 555	Biol 230 + Biol 240	Marine Invertebrate Zoology (4)	yes	no	no		
BIOL 570GW	Biol 230 + Biol 240 + GE Area 2	Biology of Fishes - GWAR (4)	yes	no	no		
BIOL 580	Biol 230 + Biol 240 + Chem 215 + Chem 216; ecology course recommended	Limnology	no	no	no		
BIOL 582	Biol 230 + Biol 240	Biological Oceanography and Limnology (4)	no	yes	no		
BIOL 585	Biol 230 + Biol 240	Marine Ecology	no	no	no		
BIOL 586GW	Biol 230 + Biol 240 + GE Area 2	Marine Ecology Laboratory - GWAR (4)	no	yes	no		
BIOL 600	Biol 230 + Biol 240	Animal Behavior	no	no	no		

 $There\ are\ multiple\ options\ for\ meeting\ the\ GWAR\ requirement\ (course\ name\ must\ have\ GW)\ -\ consult\ with\ advisor$

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

Upper division electives selected in consultation with an advisor:.....

 $\it BIOL~317, BIOL~327, BIOL~330, and BIOL~349.$

[•]Confirm with advisor BEFORE taking the course for upper division biology courses not listed

								on
Upper Division electi	grades of C- GE Areas A1*, A2*, A3*, and B4* all with grades of C- GE Areas A1*, A2*, A3*, and B4* all with grades of C- GE Areas A1*, A2*, A3*, and B4* all with grades of C- Upper-division standing Upper-division standing Asian American Community Health Issues** Health, Medicine, and Nutrition in the Black Community** American Indian Science**		Fa 24	Sp 25		٧	DPR?	
**Classes can only a	ccount for 6 units of upper-division elect	ive courses.						
AA S 587		Asian Americans and Environmental Justice**		no	no	no		
AA S 591		Asian American Community Health Issues**		yes	yes	yes		
AFRS 370				yes	yes	no		
AIS 450	Upper-division standing	American Indian Science**		no	no	no		
AIS 520	Upper-division standing	Before the Wilderness: American Indian Ecology**		no	no	no		
ANTH 630	Upper-division standing	Medical Anthropology**		no	no	no		

 $[\]bullet \textit{Courses can be those listed above, not already used to satisfy requirements in those categories. } \\$

 $[\]bullet \textit{Only one of the following courses can be included among those selected: } \\$

ullet Up to three units of BIOL 699 can be used within the UD elective units

[•]All Biology courses that have BIOL 230 and/or BIOL 240 as prerequisites can also be used as electives.

BIOL 315	Restricted to upper-division standing; BIOL 240* and BIOL 458* with grades of C or better; GPA of 3.0 or better	Field Methods in Ecology and Evolution (1)	no	no	yes		
							on
If considering these co	urses, can select ONLY ONE of these fou	r courses to count toward upper division elective units.	Fa 24		Su 25	٧	DPR?
Biol 317	A college-level biology course	Ecology of California	yes	no	no		
Biol 327	GE Areas A1, A2, A3, and B4 all with grades of C- or better	AIDS: Biology of the Modern Epidemic	yes	no	no		
Biol 330	GE Areas A1, A2, A3, and B4 all with grades of C- or better	Human Sexuality	yes	yes	no		
Biol 349	Restricted to upper-division standing; GE Areas A1, A2, A3, and B4 all with grades of C- or better	Bioethics	no	no	no		
BIOL 318	GE Areas A1, A2, A3, and B4 all with grades of C- or better; one college- level biology course	Our Endangered Planet	yes	yes	yes		
BIOL 328	Biol 230	Human Anatomy (4)	yes	yes	no		
BIOL/RRS 331	Restricted to upper-division standing; BIOL 100 or BIOL 230	Research with Communities	no	yes	no		
BIOL 332	Biol 230 + Biol 240 + Biol 355, GPA 3.0 or higher	Health Disparities in Cancer	yes	no	no		
BIOL 350	Biol 230 + Biol 240 + Chem 115	Cell Biology	yes	yes	yes		
BIOL 351GW	Biol 350 + Biol 355 + GE Area 2	Experiments in Cell and Molecular Biology - GWAR (4)	yes	yes	no		
BIOL 357	Biol 355	Molecular Genetics	yes	yes	no		
BIOL 358	sophomore standing or above; BIOL 230 with a grade of C- or better and MATH 199	Forensic Genetics: Math Matters (4)	no	no	no		
BIOL 360	Upper-division standing; BIOL 350 and BIOL 355; GPA of 3.0 or better	Cancer Biology	no	no	no		
BIOL 380	Biol 355 (Biol 337 is recommended)	Evolutionary Developmental Biology	no	no	no		
BIOL 382	Biol 350 + Biol 355, GPA 3.0 or higher	Developmental Biology	no	yes	no		
BIOL 401	Biol 230 + Biol 240 + Chem 233	General Microbiology	yes	yes	no		
BIOL 402GW	Biol 401 (may be taken concurrently) + GE Area 2	General Microbiology Laboratory - GWAR	yes	yes	no		
BIOL 425	Biol 230 + Biol 240 + [Biol 355 or Biol 401 or Biol 350] + Chem 130	Emerging Diseases	no	yes	no		
BIOL 435	Biol 350 or Biol 401	Immunology	yes	no	no		
BIOL 436	Biol 402GW, concurrent enrollment in Biol 435	Immunology Laboratory (2)	yes	no	no		
BIOL 442	Biol 402 + Biol 402GW + Chem 349	Microbial Physiology	no	yes	no		
BIOL 443	Biol 442 (may be taken concurrently)	Microbial Physiology Laboratory (2)	no		no		
BIOL 453	Biol 230 + Biol 240 + Biol 355	General Parasitology	yes	+	no		
BIOL 454	Biol 453 (may be taken concurrently)	Parasitology Laboratory (1)	yes	_	no		
BIOL 458 BIOL 460	one college-level Biology course Biol 230 + Biol 240	Biometry (4) General Entomology (4)	yes		no		
		General Entomology (4)	yes		no		
BIOL 470 BIOL 475GW	Biol 230 + Biol 240 Biol 230 + Biol 240 + GE Area 2	Natural History of Vertebrates (4)	no	1	no no		
BIOL 475GW BIOL 478GW	Biol 230 + Biol 240 + GE Area 2	Herpetology - GWAR Ornithology - GWAR (4)	no no	yes	no		
BIOL 478GW BIOL 482	Biol 230 + Biol 240 + GE Area 2	Ecology (4)	yes	yes	no		
BIOL 490	Biol 230 + Biol 240	Ecology (4) Ecology of Infectious Disease (4)	no		no		
BIOL 500	Biol 230 + Biol 240	Evolution and Diversity of Plants (4)	no	ť	no		
BIOL 502	Biol 230 + Biol 240, GPA 3.0 or higher	Biology of the Algae	no	yes	no		
BIOL 504	Biol 230 + Biol 240	Biology of the Fungi (4)	no	no	no		
BIOL 505	Biol 230 + Biol 240	Comparative Anatomy of Vascular Plants (4)	yes	+	no		
BIOL 514	Biol 230 + Biol 240, GPA 3.0 or higher	Plant Biodiversity and California Field Botany (5)	no	yes	no		
BIOL 525	Biol 230 + Biol 240 + Chem 130	Plant Physiology	no	yes	no		
BIOL 526	Biol 230 + Biol 240 + Chem 130	Plant Molecular Physiology Laboratory (2)	no	no	no		
BIOL 529GW	Biol 230 + Biol 240 + GE Area A2	Plant Ecology - GWAR (4)	no	no	no		
BIOL 530	Biol 230 + Biol 240	Conservation Biology	yes	no	no		
BIOL 532	Biol 230 + Biol 240	Restoration Ecology	no	no	no		
BIOL 534	Biol 230 + Biol 240	Wetland Ecology (4)	no	no	no		
BIOL 555	Biol 230 + Biol 240	Marine Invertebrate Zoology (4)	nc	no	no		

			Fa 24	Sp 25	Su 25	٧	on DPR?
BIOL 570GW	Biol 230 + Biol 240 + GE Area 2	Biology of Fishes - GWAR (4)	yes	no	no		
BIOL /ERTH 577	Math 107 and 108 OR Math 199 OR Math 226; Biol 230 and 240 [or two 200-level or higher FRTH courses]	Climate and Ecological Interactions (4)	yes	no	no		
BIOL 580	Biol 230 + Biol 240 + Chem 215 + Chem 216; ecology course recommended	Limnology	no	no	no		
BIOL 582	Biol 230 + Biol 240	Biological Oceanography and Limnology (4)	no	yes	no		
BIOL 585	Biol 230 + Biol 240	Marine Ecology	no	no	no		
BIOL 586GW	Biol 230 + Biol 240 + GE Area 2	Marine Ecology Laboratory - GWAR (4)	no	yes	no		
BIOL 600	Biol 230 + Biol 240	Animal Behavior	no	no	no		
BIOL 612	Biol 230 + Biol 240 + Chem 130 + Phys 121	Human Physiology	yes	yes	yes		
BIOL 613GW	GE Area 2 + [Biol 612 or Biol 630 (may be taken concurrently)]	Human Physiology Laboratory - GWAR	yes	yes	yes		
BIOL 617	Biol 612 or Biol 630	Environmental Physiology	no	no	no		
BIOL 630	Biol 230 + Biol 240 + [Chem 130 or Chem 233]	Animal Physiology	yes	no	no		
BIOL 631GW	GE Area 2 + Biol 612 or Biol 630	Animal Physiology Laboratory - GWAR (4)	no	no	no		
BIOL 638	Biol 230, GPA 3.0 or higher	Bioinformatics & Genome Annotations (4)	yes	no	no		
	Biol 230 + Biol 240 + [Biol 350 or	LEADerS Service Learning Course: Learners Engaged in	,,,,	1	H		
BIOL 644	Biol 355 or Biol 357]	Advocating for Diversity in Science (4)	no	no	no		
BIOL/CHEM 667 [‡]	Math 226; Biol 230 or Chem 215 with a grade of C or better	Optical Engineering for the Biological Sciences	no	yes	no		
BIOL 670GW	GE Area A2 + BIOL 240 + BIOL 458 with grades of C or better; concurrent enrollment in BIOL 671 + [BIOL 699 or BIOL 897]	Ecology and Evolution of Marine Systems I - GWAR (6)	no	no	no		
BIOL 671	BIOL 240 + BIOL 458 with grades of C or better; concurrent enrollment in BIOL 670GW + [BIOL 699 or BIOL 897]	Ecology and Evolution of Marine Systems II (6)	no	no	no		
BIOL 694		Cooperative Internship in Biology (2-4)	yes	yes	no		
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 343	see https://bulletin.sfsu.edu/courses/chem/	Biochemistry Laboratory	yes	yes	no		
CHEM 349	see https://bulletin.sfsu.edu/courses/chem/	General Biochemistry	yes	yes	yes		
CSC 306	Upper-division standing	An Interdisciplinary Approach to Computer Programming	yes	yes	no		
CSC 408	CSC 220 or CSC 311 or equivalent; a college-level biology course	Machine Learning and Data Science for Personalized Medicine	yes	no	no		
CSC 411	CSC 220 or CSC 311 or equivalent; a college-level biology course	Introduction to Machine Learning for Interdisciplinary Data Scientists**	yes	no	no		
CSC 509	CSC 308 (may be taken concurrently).	Data Science and Machine Learning for Medical Image Analysis**	no	yes	no		
R/ENVS 331	Upper-division standing	Global Environmental Crisis (4)**	yes	yes	no		
LTNS 500	Upper-division standing	Latina/o Community Mental Health**	no	no	no		
RRS 303	GE Areas A1*, A2*, A3*, and B4* all with grades of C-	Health and Wellness among Pacific Islanders**	yes	yes	no		
RRS 304	Upper-division standing	Decolonize Your Diet: Food Justice and Gendered Labor in Communities of Color**	yes	yes	yes		
ENVS 460	Upper-division standing	Energy, Justice, and Sustainability**	no	yes	no		
ENVS 480	Upper-division standing	Climate Change Adaptation and Justice**	no	yes	no		
ERTH 330	GE Areas A1*, A2*, A3*, and B4* all with grades of C-	California Water**	yes	yes	no		
ERTH 335	GE Areas A1*, A2*, A3*, and B4* all with grades of C-	Global Warming**	yes	yes	no		
ETHS 500	Upper-division standing	Introduction to Race, Ethnicity, and Health*	yes	no	no		
FIN/ECON/ENVS 651	Sophomore standing or higher	Student Managed Fund in Environmental, Social and Governance (ESG) Investments**	yes	yes	no		
GEOG/USP 433	Upper-division standing	Urban Transportation (4)**	no	no	no		

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							Į	on
				Fa		Su	v	DPR?
0500 105	T.,	To 1 (0) 1 7 (1)**		24	25	25		
GEOG 435	Upper-division standing Restricted to upper-division standing; GE	Geography of Global Transportation (4)**		no	no	no		
PH 414	Areas A1*, A2*, A3*, and B4* all with grades of C- or better	Women's Health**		yes	yes	yes		
PHIL 383	GE Areas A1*, A2*, A3*, and B4* all with grades of C-	Ethics in Medicine**		no	no	no		
USP 514	Upper-division standing	Sustainable Development in Cities (4)**		yes	no	no		
WGS 593	GE Areas A1*, A2*, A3*, and B4* all with grades of C-	Gender, Health, and the Environment**		yes	yes	no		
6	Note: Some courses from the required	d list are double listed in the electives list - cannot doub		t cou	ırses	for b	oth list	s
Course Num.		Course Title	Units					
M/hat source has	a student to ken to most CMAR2			•				
	s student taken to meet GWAR? ust be completed with a C- or better to meet	araduation requirements	-					
orr, in course ma		•	Require	d		Com	pleted	
		Total upper division unit requirements (required and elective)	32- 39					_
		Total units for major (58 units minimum)	58					-
	ns for targeted post-graduate plans							
Health professio	n	Students must take Chem 215 (Gen Chem II with lab)						
		Students generally required to take Phys 121/122						
		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 program	ms	Students must take Chem 215 (Gen Chem II with lab)	-					
		Students should check if their graduate program requires Phys 121/122						
		Students must take the full year of organic chemistry with lab: Chem 233/234 and Chem 335/336.						
		Students should take the full year of biochemistry: Chem 340 and Chem 341						
		Student should consult with major advisor to optimize course plan for goals.						
		Completion of the BA in General Biology and additional geoscience breadth courses can be used	-					
K-12 Teaching		to meet the Subject Matter Competency Requirements for the Single Subject Credential in						
		Biological Sciences Students must take Chem 215 (Gen Chem II with lab)						
		Students must take Phys 121/122 Students must take an ecology class with a lab/field						
		component Geosciences Breadth courses must be completed (3						
		courses) ASTR 115/116: Introduction to Astronomy, 3 units						
		and Lab, 1 unit ERTH 112: Our Dynamic Earth Lecture and Lab, 4 units						
		ERTH 400: Earth Systems I, 3 units (includes lab) OR ERTH 535: Planetary Climate Change, 4 units (includes lab)	=					
Forensics Career		Student transcript should contain: Biol 355 Genetics, Biol 357 Molecular Genetics, Chem 349 General	-					
		Biochemistry, Math 124 Statistics and Chem 321/322 Analytical Chemistry.						