		es, B.S.: Microbiology and Biomedical La		
Requirement Area	Course	Course Title	Prerequisites	Units
-		First Semester (FALL)		
E	BIOL 130 COMM 100	Connecting to Biology		2
AI		Communication	One from the following: Satisfactory score of	3
			78 or higher on Mathematics Placement	
			Exam, MATH 120 or MATH 125 (either	
B4/LD Major	MATH 130	Calculus I	course with grade C- or better).	4
C1		Arts		3
D1/CODE 1		Social Sciece/US Code		3
			Total:	15
		Second Semester (SPRING)		1
A2		Written Communication		3
C2		Humanities		3
B2/LD Major	BIOL 140A	Principles of Cell and Molecular Biology		5
A3	PHIL 100	Workshop in Critical Thinking		3
			Total:	14
		Third Semester (FALL)		
E		Lifelong Learning and Self Development		1
LD Major	BIOL 140B	Principles of Organismal Biology	BIOL 140A with grade C- or better.	5
F		Ethnic Studies		3
B1/LD Major	CHEM 111	General Chemistry I		3
B3/LD Major	CHEM 111L	General Chemistry Lab I		2
			Total:	14
	1	Fourth Semester (SPRING)		
Add'l C1 or C2*	51101 000 DUNG 000	Arts or Humanities		3
Second Composition	ENGL 200 or PHYS 230			3
B3/LD Major	CHEM 112	General Chemistry II	CHEM 111 with grade C- or better.	5
UD Major	BIOL 310	Genetic Analysis I	BIOL 140B with a grade of C- or better.	4
,		, , , , , , , , , , , , , , , , , , ,	Total:	15
	-1	Fifth Semester (FALL)		
D2/Code 2		Social Science		3
	DUN(0.405		Satisfactory score of 78 or higher on Math	
LD Major	PHYS 125	Principles of Physics I	Proficiency Assessment or MATH 120.	4
UD Major	BIOL 330	General Microbiology		5
UD Major	CHEM 331	Organic Chemistry I	CHEM 112 with grade C- or better.	5
ob major	CHEM 551	organic crienistry i	Total:	17
		Sixth Semester (SPRING)		1
UD Major/Elective 1	BIOL			3
LD Major	PHYS 126	Principles of Physics II	PHYS 125.	4
UD Major	CHEM 332	Organic Chemistry II		5
UWR		US Code		3
			Total:	15
		Seventh Semester (FALL)		1
UD Major	CHEM 340	Survey of Biochemistry	CHEM 230 or CHEM 332, both with grade C- or better.	3
UD Major	BIOL 320	Evolutionary Biology	BIOL 310.	3
UD Major/Elective 2	510L 320	Livolational y biology	5102 310.	3
UD Major Elective 3	1			3
UD-B/Overlay		UD Science	Completion of GE areas A1, A2, A3 and B4.	3
0/ 0101.0y	1		Total:	15
	-	Eighth Semester (SPRING)		
UD-C/Overlay		UD Arts or Humanities	Completion of GE areas A1, A2, A3 and B4.	3
UD-D/Overlay	1	UD Social Science	Completion of GE areas A1, A2, A3 and B4.	3
UD Major/Elective 4			composition of the areas ray, ray, ro and by.	3
UD Major/Elective 5				4
s = major, elective 5	1			<u> </u>
	B101 400	Microbial Physiology and Biochemistry	BIOL 330, and CHEM 340 or CHEM 441.	3
UD Major/Capstone	BIOL 430	Ivitciobial Enysiology and biochemistry	bloc 550, and chem 510 of chem 111	
UD Major/Capstone	BIOL 430	Nicrobial Physiology and Biochemistry	Total:	15

Note: No changes to, or from, the credit/no credit pattern are permitted after the Grade Type Change period. There are no exceptions to this rule. Courses in a student's major department, regardless of course prefix, may not be taken "CR/NC," unless that is the only grading pattern in the course.

	EB General Breadth and Graduation Requirement Checklist 9 units): Communication in the English Language & Critical Thinking (Must earn passing grade of C-/CR or better)
A1. CO	MM 100 or 104, MLL 111
	GL 101, 102, or 104
A3. PH	
	Area B (9 units) : Scientific Inquiry & Quantitative Reasoning
	rsical Science
B2. Life	
	oratory Activity
	antitative Reasoning (Must earn passing grade of C-/CR or better.)
Area C (9	9 units): Arts & Humanities - Minimum of two different disciplines as
🗆 C1. Art	designated by course prefix (e.g., ART, THEA, MUS)
C1. Art	
	onal Lower-division Area C Course in Arts (C1) or Humanities (C2)
Area D	(6 units) : Social Sciences - Minimum of two different disciplines as
	designated by course prefix (e.g., ANTH, ECON, POSC)
□ D1.	
□ D2.	Area E (2 unite) . Lifeland Learning and Calf Davidson .
□ E.	Area E (3 units) : Lifelong Learning and Self-Development
<u>ы</u> Е.	Area F (3 units): Ethnic Studies
□ F.	
	Composition : Requires completion of GE A2 with a C-/CR or better.
	Must be completed before attaining junior standing.
Second	Composition
	University Writing Requirement
	(American Institutions Requirement) - Two courses (6 units) covering
	5. Code Requirements of US-1 (U.S. History), US-2 (U.S. Constitution),
	and US-3 (California State & Local Government).
Code 2	
Code 2	rision GE Requirements (9 units): Should be taken after completion o
Code 2 Code 2	irision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR)
Code 2 Upper Div	
Code 2 Upper Div	ision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities
Code 2 Upper Div UD-B. (UD-B. (UD-C.() UD-C.() UD-D. (UD-D. ()	
Code 2 Upper Div UD-B. (UD-C.U UD-C.U	
Code 2 Upper Div UD-B. (UD-C.U UD-D. (Overlay)	ision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major
Code 2 Upper Div UD-B. (UD-C.() UD-C.() UD-D. (Overlay (Diversi)	
Code 2 Upper Div UD-B. (UD-C.() UD-C.() UD-D. (Overlay) Diversit Social J	Sision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI)
Code 2 Upper Div UD-B. U UD-B. U UD-C.U UD-D. I Overlay Social J Sustain	isision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning (pper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI) ability (S) Elective Courses
Code 2 Upper Div UD-B. U UD-B. U UD-C.U UD-D. I Overlay Diversi Social J Sustain Choose a	Sision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) pper-division Science Inquiry and Quantitative Reasoning pper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SJ) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses.
Code 2 Upper Div UD-B. U UD-C.U UD-C.U UD-D. I Overlay Social J Social J Social J Choose a Note: BIO	
Code 2 Upper Div UD-B. U UD-C.U UD-D. U UD-D. I Overlay I Diversi Social J Sustain Choose a Note: BlO maximum	ision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning (pper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SJ) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires
Code 2 Upper Div UD-B. (UD-C.() UD-D. (UD-D. (Overlay) Social J Social J Sustain Choose a Note: BIO maximum approval b	
Code 2 Code 2 Upper Div UD-B. I UD-C.U UD-D. I Overlay Diversi Social J Sustain Choose a Note: BIO maximum approval b BIOL 350 -	Sision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SJ) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 4490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires y a faculty member and the Department Chair.
Code 2 Code	Sision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires ya faculty member and the Department Chair. Ecology Units: 4
Code 2 Code	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires ya faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3
Code 2 Upper Div UD-B. U UD-C.U UD-C.U UD-C.U UD-D. I Overlay I Diversis Social J Sustain Sustain Choose a Note: BIO maximum approval I BIOL 350 BIOL 431 BIOL 432 BIOL 433	Sision GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) Ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. A90 Independent Study and/or BIO. 489 Internship may be used for. total of 3 units elective credit. Enrollment in these courses requires ay a faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Microbial Ecology Units: 3
Code 2 Upper Div UD-B. L UD-B. L UD-C.U UD-C.U UD-D. I Overlay I Overlay I Sustain Choose a Note: BIO SIO-BIOL BIOL 431 BIOL 433 BIOL 433 BIOL 434	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SJ) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 4490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires y a faculty member and the Department Chair. Ecology Units: 4 Microbe-Host Interactions Units: 3 Microbe-Host Interactions Units: 3 Microbelast Ecology Units: 5 Microbelast Ecology Units: 3
Code 2 Upper Div UD-B. L UD-B. L UD-C.U UD-C.U UD-D. I Overlay Coverlay Co	
Code 2 Upper Div UD-B. L UD-B. L UD-C.U UD-C.U UD-D.L Overlay I Overlay I Social J	Silon GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Science Inquiry and Quantitative Reasoning Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) statice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires ya faculty member and the Department Chair. Ecology Units: 5 Medical Microbiology Units: 5 Microbial Ecology Units: 3 Molecular Kirobiology Units: 3 10 - Molecular Vinrology Units: 3 11 - Parasitology Units: 3
Code 2 Upper Div UD-6.U UD-6.U UD-C.U UD-0.1 UD-0.1 UD-0.1 Overlay Diversi Social J	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SJ) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. L490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective cedit. Enrollment in these courses requires y a faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 5 Microbel Hecology Units: 3 Microbel Scology Units: 3 Molecular Microbiology Units: 3 11 - Parasitology Units: 3
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Code 2 Voper Di Vo	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. L 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires y a faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Microbial Ecology Units: 3 11 - Parasitology Units: 3 13 - Hematology Units: 3 13 - Hematology Units: 4 15 - Immunology Units: 4
Code 2 Voper Di Vo	Sion GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires ya faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Molecular Virology Units: 3 10 - Molecular Virology Units: 3 13 - Hernatology Units: 4 13 - Internatology Units: 4 15 - Intmunolegy Units: 3 Zoonoses & Emerging Infectious Diseases Units: 3
UD-8. (UD-8. (UD-8. (UD-8. (UD-0. (U	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Arts OR Humanities GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 4490 Independent Study and/or BIOL 498 Internship may be used for. total of 3 units elective create. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Microbiology Units: 3 Ol-Molecular Microbiology Units: 3 II - Parasitology Units: 3 II - Parasitology Units: 3 Zoonoses & Emerging Infectious Diseases Units: 3
Code 2 Voper Di Vo	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Arts OR Humanities GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for. total of 3 units elective create. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Microbial Ecology Units: 3 I0 - Molecular Microbiology Units: 3 I1 - Parasitology Units: 3 I3 - Hematology Units: 3 I3 - Hematology Units: 4 S- Immunology Units: 4 S- Internship Units: 14 I- Reprised Study Units: 14 I- Reprised Study Units: 14 I- Reprised Study Units: 14 Independent Study Units: 14 Internship Units: 1-4 Internship Units
Code 2 Upper Di Up-8. (Upper Di Up-8. (Upper Di Up-8. (Upper Di Uper) Uper) Uper) Uper) Uper) Social J Social	Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Jpper-division Arts OR Humanities Jpper-division Social Sciences Requirements (9 units): Courses may be upper or lower division, and GE or major ty (Div) Usitice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. L490 Independent Study and/or BIOL 498 Internship may be used for total of 3 units elective credit. Enrollment in these courses requires y a faculty member and the Department Chair. Ecology Units: 4 Medical Microbiology Units: 3 Microbial Ecology Units: 3 Microbial Ecology Units: 3 Di - Molecular Virology Units: 4 Di - Immunology Units: 4 Di - Immunology Units: 4 Di - Independent Study Units: 1-4 Di - Biology of Fungi Units: 4 Di - Cuantitative Analysis Units: 4 Di - Quantitative Analysis Units: 4 Di - Quantitative Analysis Units: 4 Di - Quantitative Analysis Units: 4 Di - Cuantitative Analysis
Code 2 Upper Di Up-8. (Up-8. (Up-8. (Sison GE Requirements (9 units): Should be taken after completion o A1, A2, A3, and B4 with a C- (CR) Jpper-division Science Inquiry and Quantitative Reasoning Ipper-division Arts OR Humanities Jpper-division Arts OR Humanities GE or major ty (Div) ustice (SI) ability (S) Elective Courses minimum of 15 units of electives from the following list of courses. 490 Independent Study and/or BIOL 498 Internship may be used for. total of 3 units elective create. Ecology Units: 4 Medical Microbiology Units: 5 Microbe-Host Interactions Units: 3 Microbial Ecology Units: 3 I0 - Molecular Microbiology Units: 3 I1 - Parasitology Units: 3 I3 - Hematology Units: 3 I3 - Hematology Units: 4 S- Immunology Units: 4 S- Internship Units: 14 I- Reprised Study Units: 14 I- Reprised Study Units: 14 I- Reprised Study Units: 14 Independent Study Units: 14 Internship Units: 1-4 Internship Units

*Students are required to take a minimum of 40 semester units as upper division (includes 9 units upper division GE)

Updated: 5/31/2024