## CSUEB Degree Roadmap

## Bachelor of Science in Biochemistry

				3 units Code may be double-counted v
	Course	TOTAL UNITS TO DEGREE: Course Title	120 Units	LD GE; and 3 units Writing II may be
First Semester	(suggested timeline	e for GE; adjust as needed for major)		double-counted with Major.
E	GS 101	Freshman Studies	1	
A1			3	
LD Major	CHEM 111	General Chemistry I	5	
34	MATH 130	Calculus I	4	
	MATH 150			Discon optor all courses required for th
D1/CODE 1			3	Please enter all courses required for th
				major, including any prerequisites. If th
		TOTAL	: 16	are any General Education courses that
Second Semes	ster (suggested time	line for GE; adjust as needed for major)		are recommended to complement the
Ξ	GS 102	Freshman Studies	1	major they should be included in the ta
-	00.01		3	below, and listed in the road map.
C1			3	
LD Major	MATH 131	Calculus II	3	
_D Major	CHEM 112	General Chemistry II	5	General Education and University
				Requirements-Suggested Courses
		TOTAL	: 15	A1. first semester
			. 15	
		e for GE; adjust as needed for major)		A2. second semester
Ξ	LIB 101	Information Literacy	1	A3. third semester
43			3	B1. PHYS 135
JD Major	CHEM 331	Organic Chemistry I	5	B2. BIOL 140 A
B2	BIOL 140A	Principles of Cell and Molecular Biology	5	B3. PHYS 135
			3	B4. MATH 130
LD Major	MATH 230	Calculus III	3	
				C1. second semester
				C2. fifth semester
		TOTAL	: 17	C3. sixth semester
Fourth Semest	er (suggested timeli	ne for GE; adjust as needed for major)		D1. first semester
	ENGL 200 or P		3	D2. fifth semester
			3	DZ. IIIIII Semester
	BIOL 140B	Principles of Organismal Biology	5	D3. seventh semester
LD Major			5 4	D3. seventh semester E. GS 101, GS 102, LIB 101
LD Major LD Major	BIOL 140B	Principles of Organismal Biology		
LD Major LD Major	BIOL 140B CHEM 220	Principles of Organismal Biology Quantitative Analysis	4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1
LD Major LD Major	BIOL 140B CHEM 220	Principles of Organismal Biology Quantitative Analysis	4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester
LD Major LD Major	BIOL 140B CHEM 220	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II	4 5	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230
LD Major LD Major UD Major	BIOL 140B CHEM 220 CHEM 332	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL	4 5	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester
LD Major LD Major UD Major Fifth Semester	BIOL 140B CHEM 220 CHEM 332	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II	4 5 : 17	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230
LD Major LD Major UD Major Fifth Semester	BIOL 140B CHEM 220 CHEM 332	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL	4 5	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester
2nd Comp LD Major LD Major UD Major Fifth Semester C2 D2	BIOL 140B CHEM 220 CHEM 332	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL	4 5 : 17	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2	BIOL 140B CHEM 220 CHEM 332 (suggested timeline	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major)	4 5 : 17 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I	4 5 : 17 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major)	4 5 : 17 3 3 4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL	4 5 3 3 4 4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I	4 5 3 3 4 4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL	4 5 3 3 4 4	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major)	4 5 17 3 3 4 4 5	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II	4 5 : 17 3 3 4 4 : 14 : 14	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major)	4 5 : 17 3 3 4 4 4 : 14 : 14	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II	4 5 : 17 3 3 4 4 : 14 : 14	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL	4 5 : 17 3 3 4 4 4 : 14 : 14 3 4 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I	4 5 : 17 3 3 4 4 4 : 14 : 14 3 4 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semester	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL	4 5 : 17 3 3 4 4 4 : 14 : 14 3 4 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semes Code 2	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major)	4 5 17 3 3 4 4 4 5 : 14 3 : 14 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Seme Code 2 UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I	4 5 17 3 3 4 4 4 5 5 17 4 3 3 5 5 14 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major UD Major C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semes Code 2 UD Major UD Major UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry Laboratory I Biochemistry elective	4 5 : 17 3 3 4 4 4 3 : 14 : 14 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major UD Major C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Seme: Code 2 UD Major UD Major UD Major UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I	4 5 17 3 3 4 4 4 3 4 3 5 5 14 3 3 3 3 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major VD Major C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Seme: Code 2 UD Major UD Major UD Major UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry Laboratory I Biochemistry elective	4 5 : 17 3 3 4 4 4 3 : 14 : 14 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major JD Major JD Major C2 D2 JD Major 31/B3 Sixth Semester JD Major 36 LD Major C3 Seventh Seme: Code 2 JD Major JD Major JD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry Laboratory I Biochemistry elective	4 5 17 3 3 4 4 4 5 5 17 4 3 3 4 3 5 5 5 14 3 3 3 3 3 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major UD Major C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Seme: Code 2 UD Major UD Major UD Major D3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443 CHEM 351	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry Laboratory I Biochemistry elective Physical Chemistry I	4 5 17 3 3 4 4 4 5 5 17 4 3 3 4 3 5 5 5 14 3 3 3 3 3 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semester Code 2 UD Major UD Major UD Major D3 Elighth Semester	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443 CHEM 351	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry elective Physical Chemistry I	4 5 : 17 3 3 4 4 4 : 14 : 14 : 14 : 14 : 14 : 14 : 1	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semest Code 2 UD Major UD Major UD Major D3 Elighth Semester UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443 CHEM 351	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry elective Physical Chemistry II	4 5 : 17 3 3 4 4 4 : 14 : 14 : 14 : 14 : 14 : 14 : 1	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major VD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3 Seventh Semest Code 2 UD Major UD Major UD Major D3 Eighth Semest UD Major UD Major UD Major	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443 CHEM 351	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry elective Physical Chemistry I	4 5 17 3 3 4 4 4 5 17 14 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester
LD Major LD Major UD Major Fifth Semester C2 D2 UD Major B1/B3 Sixth Semester UD Major B6 LD Major C3	BIOL 140B CHEM 220 CHEM 332 (suggested timeline CHEM 441 PHYS 135 r (suggested timelin CHEM 442 PHYS 136 ster (suggested time CHEM 443 CHEM 351	Principles of Organismal Biology Quantitative Analysis Organic Chemistry II TOTAL e for GE; adjust as needed for major) Biochemistry I Physics for Scientists and Engineers I TOTAL e for GE; adjust as needed for major) Biochemistry II Physics for Scientists and Engineers I TOTAL eline for GE; adjust as needed for major) Biochemistry Laboratory I Biochemistry elective Physical Chemistry II	4 5 : 17 3 3 4 4 4 : 14 : 14 : 14 : 14 : 14 : 14 : 1	E. GS 101, GS 102, LIB 101 Code 1. should also satisfy D1 Code 2. seventh semester 2nd Comp ENGL 200 or PHYS 230 B6. sixth semester C4. eighth semester

TOTAL: 12

form updated July 31, 2015