

BIOCHEMISTRY: BIOCHEMICAL SCIENCE BS PATHWAY

Total Units Required: 190 units

Required Course Listings

This breakdown shows a Biochemistry: Biochemical BS Pathway to be completed in 4 years at La Sierra University. All courses with a star (*) indicate a prerequisite or multiple prerequisites for the class. Courses with a dagger (†) are only offered in years ending with an odd number (e.g. 2022-2023 school year) and courses with a double dagger (‡) are only offered in years ending with an even number (e.g. 2023-2024 school year). By following the suggested/required sequencing all necessary prerequisite courses will be fulfilled. Please consult the Bulletin, Records, or your Guided Pathways Advisor for more information about prerequisites.

Major Requirements (113 units)		
Course	Course Title	Units
CHEM 111	General Chemistry I	4
CHEM 111L	General Chemistry I Lab	1
CHEM 112	General Chemistry II*	4
CHEM 112L	General Chemistry II Lab*	1
CHEM 113	General Chemistry III*	4
CHEM 113L	General Chemistry III Lab*	1
CHEM 224	Analytical Chemistry*	5
CHEM 281	Organic Chemistry I*	4
CHEM 281L	Organic Chemistry I Lab*	1
CHEM 282	Organic Chemistry II*	4
CHEM 282L	Organic Chemistry II Lab*	1
CHEM 321	Molecular Science Research Literature Review*	2
CHEM 322	Molecular Science Research Lab*	2
CHEM 351	Physical Chemistry: Thermodynamics*	4
CHEM 352	Physical Chemistry: Dynamics*	4
CHEM 380	Advanced Organic Chemistry*†	3
CHEM 380L	Advanced Organic Chemistry Lab*†	1
CHEM 421	Writing for Molecular Science Research*	1
CHEM 422	Molecular Science Research Presentation*	1
CHEM 427	Separation Science & Fluorescence*	4
CHEM 431	Biochemistry I*	4
CHEM 432	Biochemistry II*	4
CHEM 481L	Experimental Biochemistry Lab I*	1
CHEM 482L	Experimental Biochemistry Lab II*	2
CHEM 485	Biochemistry Topics*	4
CHEM 3/400	Chemistry Upper Division Elective*	8
BIOL 111	General Biology I*	4
BIOL 111A	General Biology Seminar	0
BIOL 111L	General Biology I Lab*	1
BIOL 112	General Biology II*	4
BIOL 112L	General Biology II Lab*	1
BIOL 113	General Biology III*	4
BIOL 113L	General Biology III Lab*	1
MATH 131	Calculus I*	4
MATH 132	Calculus II*	4
PHYS 231A/B	Physics I (General or University)*	4
PHYS 231L	General Physics I Lab*	1
PHYS 232A/B	Physics II (General or University)*	4
PHYS 232L	General Physics II Lab*	1
PHYS 233A/B	Physics III (General or University)*	4
PHYS 233L	General Physics III Lab*	1

General Education Requirements (77 units)		
Course	Course Title	Units
UNST 101	First Year Seminar	3
ENGL 111	College Writing I	3
ENGL 112	College Writing II*	3
ENGL 113	College Writing III*	3
WDLG 151	World Language I	4
WDLG 152	World Language II*	4
WDLG 153	World Language III*	4
HLSC 120	Lifetime Fitness	2
SSCI 20X-SL	SSCI Theme Course (with Service Learning)	4
THM1 X00	Theme I Elective	4
HUMN 10X	HUMN Theme Course	4
THM2 X00	Theme II Elective	8
RLGN 304	Adventism in Global Perspective*	4
RELB X00	Theme IIIBiii - Scripture Elective	4
THM3 3/400	Theme III Elective Upper Division*	4
THM3 X00	Theme III Elective	4
NSCI 40X-SL	NSCI Theme Course (with Service Learning)*	4
UNST 404D-SL	Senior Seminar: Religion, Values & Social Responsibility in Chemistry (with Service Learning)*‡	4
elct X00	Elective	7

Sequencing

Biochemistry: Biochemical Science BS Pathway in 4 years at La Sierra University.

Year 1	Fall Quarter (15 units)			Year 1	Winter Quarter (17 units)			Year 1	Spring Quarter (17 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units			
CHEM 111	General Chemistry I	4	CHEM 112	General Chemistry II*	4	CHEM 113	General Chemistry III*	4			
CHEM 111L	General Chemistry I Lab	1	CHEM 112L	General Chemistry II Lab*	1	CHEM 113L	General Chemistry III Lab*	1			
MATH 131	Calculus I*	4	MATH 132	Calculus II*	4	ENGL 113	College Writing III*	3			
ENGL 111	College Writing I	3	ENGL 112	College Writing II*	3	UNST 101	First Year Seminar	1			
HLSC 120	Lifetime Fitness	2	UNST 101	First Year Seminar	1	THM2 X00	Theme II Elective	4			
UNST 101	First Year Seminar	1	HUMN 10X	HUMN Theme Course	4	THM3 X00	Theme III Elective	4			
Year 2	Fall Quarter (14 units)			Year 2	Winter Quarter (14 units)			Year 2	Spring Quarter (14 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units			
CHEM 281	Organic Chemistry I*	4	CHEM 282	Organic Chemistry II*	4	CHEM 224	Analytical Chemistry*	5			
CHEM 281L	Organic Chemistry I Lab*	1	CHEM 282L	Organic Chemistry II Lab*	1	BIOL 113	General Biology III*	4			
BIOL 111	General Biology I*	4	BIOL 112	General Biology II*	4	BIOL 113L	General Biology III Lab*	1			
BIOL 111A	General Biology Seminar	0	BIOL 112L	General Biology II Lab*	1	WDLG 153	World Language III*	4			
BIOL 111L	General Biology I Lab*	1	WDLG 152	World Language II*	4						
WDLG 151	World Language I	4									
Year 3	Fall Quarter (17 units)			Year 3	Winter Quarter (16 units)			Year 3	Spring Quarter (17 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units			
CHEM 431	Biochemistry I*	4	CHEM 321	Molecular Science Research Literature Review*	2	CHEM 322	Molecular Science Research Lab*	2			
CHEM 3/400	Chemistry Upper Division Elective*	4	CHEM 427	Separation Science & Fluorescence*	4	CHEM 482L	Experimental Biochemistry Lab II*	2			
PHYS 231A/B	Physics I (General or University)*	4	CHEM 432	Biochemistry II*	4	CHEM 485	Biochemistry Topics	4			
PHYS 231L	General Physics I Lab*	1	CHEM 481L	Experimental Biochemistry Lab I*	1	PHYS 233A/B	Physics III (General or University)*	4			
SSCI 20X-SL	SSCI Theme Course (with Service Learning)	4	PHYS 232A/B	Physics II (General or University)*	4	PHYS 233L	General Physics III Lab*	1			
			PHYS 232L	General Physics II Lab*	1	RLGN 304	Adventism in Global Perspective*	4			
a Year 4	Fall Quarter (16 units)			Year 4	Winter Quarter (16 units)			Year 4	Spring Quarter (17 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units			
CHEM 351	Physical Chemistry: Thermodynamics*	4	CHEM 352	Physical Chemistry: Dynamics*	4	CHEM 380	Advanced Organic Chemistry*†	3			
CHEM 3/400	Chemistry Upper Division Elective*	4	CHEM 421	Writing for Molecular Science Research*	1	CHEM 380L	Advanced Organic Chemistry Lab*†	1			
NSCI 40X-SL	NSCI Theme Course (with Service Learning)*	4	RELB X00	Theme IIIBiii - Scripture Elective	4	CHEM 422	Molecular Science Research Presentation*	1			
THM2 X00	Theme II Elective	4	elct X00	Elective	7	THM1 X00	Theme I Elective	4			
						THM3 3/400	Theme III Elective Upper Division*	4			
						UNST 404D-SL	Senior Seminar: Religion, Values & Social Responsibility in Chemistry (with Service Learning)*‡	4			