

# CHEMISTRY BS PATHWAY

Total Units Required: 190 units

## Required Course Listings

This breakdown shows a Chemistry BS Pathway to be completed in 4 years at La Sierra University starting in Fall 2021. 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. 2023-2034 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 (95 units)			General Education Requirements (95 units)		
Course	Course Title	Units	Course	Course Title	Units
CHEM 111	General Chemistry I	4	UNST 101	First Year Seminar	3
CHEM 111L	General Chemistry I Lab	1	ENGL 111	College Writing I	3
CHEM 112	General Chemistry II*	4	ENGL 112	College Writing II*	3
CHEM 112L	General Chemistry II Lab*	1	ENGL 113	College Writing III*	3
CHEM 113	General Chemistry III*	4	MATH 121	College Algebra	4
CHEM 113L	General Chemistry III Lab*	1	WDLG 151	World Language I	4
CHEM 224	Analytical Chemistry*	5	WDLG 152	World Language II*	4
CHEM 281	Organic Chemistry I*	4	WDLG 153	World Language III*	4
CHEM 281L	Organic Chemistry I Lab*	1	HLSC 120	Lifetime Fitness	2
CHEM 282	Organic Chemistry II*	4	SSCI 20X-SL	SSCI Theme Course (with Service Learning)	4
CHEM 282L	Organic Chemistry II Lab*	1	THM1 X00	Theme I Elective	4
CHEM 316	Advanced Inorganic Chemistry*‡	4	HUMN 10X	HUMN Theme Course	4
CHEM 321	Molecular Science Research Literature Review*	2	THM2 3/400	Theme II Elective Upper Division*	4
CHEM 322	Molecular Science Research Lab*	2	THM2 X00	Theme II Elective	4
CHEM 351	Physical Chemistry: Thermodynamics*	4	RLGN 304	Adventism in Global Perspective*	4
CHEM 352	Physical Chemistry: Dynamics*	4	RELB X00	Theme IIIBiii - Scripture Elective	4
CHEM 353	Physical Chemistry: Quantum Mechanics*†	4	THM3 3/400	Theme III Elective Upper Division*	4
CHEM 380	Advanced Organic Chemistry*†	3	THM3 X00	Theme III Elective	4
CHEM 380L	Advanced Organic Chemistry Lab*†	1	NSCI 40X-SL	NSCI Theme Course (with Service Learning)*	4
CHEM 421	Writing for Molecular Science Research*	1	UNST 404D-SL	Senior Seminar: Religion, Values & Social Responsibility in Chemistry (with Service Learning)*‡	4
CHEM 422	Molecular Science Research Presentation*	1	MATH 122	Trigonometry & Analytical Geometry*	4
CHEM 427	Separation Science & Fluorescence*	4	elct 3/400	Upper Division Elective	2
CHEM 431	Biochemistry I*	4	elct X00	Elective	15
CHEM 3/400	Chemistry Upper Division Elective*	4		Placement in MATH 007 does not prevent pathway completion in 4 years.	
MATH 131	Calculus I*	4			
MATH 132	Calculus II*	4			
MATH 133	Calculus III*	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			

## Sequencing

Chemistry BS Pathway in 4 years at La Sierra University.

Year 1			Year 1			Year 1		
Fall Quarter (15 units)			Winter Quarter (17 units)			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 007	Introductory Algebra	4	MATH 121	College Algebra	4	MATH 122	Trigonometry & Analytical Geometry*	4
ENGL 111	College Writing I	3	ENGL 112	College Writing II*	3	ENGL 113	College Writing III*	3
HLSC 120	Lifetime Fitness	2	UNST 101	First Year Seminar	1	UNST 101	First Year Seminar	1
UNST 101	First Year Seminar	1	HUMN 10X	HUMN Theme Course	4	THM2 X00	Theme II Elective	4
Year 2			Year 2			Year 2		
Fall Quarter (17 units)			Winter Quarter (17 units)			Spring Quarter (15 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	CHEM 380	Advanced Organic Chemistry*†	3
MATH 131	Calculus I*	4	MATH 132	Calculus II*	4	CHEM 380L	Advanced Organic Chemistry Lab*†	1
THM1 X00	Theme I Elective	4	SSCI 20X-SL	SSCI Theme Course (with Service Learning)	4	MATH 133	Calculus III*	4
elct X00	Elective	4	elct X00	Elective	4	elct X00	Elective	2
Year 3			Year 3			Year 3		
Fall Quarter (17 units)			Winter Quarter (15 units)			Spring Quarter (15 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units
CHEM 316	Advanced Inorganic Chemistry*‡	4	CHEM 321	Molecular Science Research Literature Review*	2	CHEM 322	Molecular Science Research Lab*	2
CHEM 431	Biochemistry I*	4	CHEM 427	Separation Science & Fluorescence*	4	PHYS 233A/B	Physics III (General or University)*	4
PHYS 231A/B	Physics I (General or University)*	4	PHYS 232A/B	Physics II (General or University)*	4	PHYS 233L	General Physics III Lab*	1
PHYS 231L	General Physics I Lab*	1	PHYS 232L	General Physics II Lab*	1	UNST 404D-SL	Senior Seminar: Religion, Values & Social Responsibility in Chemistry (with Service Learning)*‡	4
WDLG 151	World Language I	4	WDLG 152	World Language II*	4	WDLG 153	World Language III*	4
Year 4			Year 4			Year 4		
Fall Quarter (16 units)			Winter Quarter (17 units)			Spring Quarter (16 units)		
Course	Course Title	Units	Course	Course Title	Units	Course	Course Title	Units
CHEM 3/400	Chemistry Upper Division Elective*	4	CHEM 352	Physical Chemistry: Dynamics*	4	CHEM 353	Physical Chemistry: Quantum Mechanics*†	4
CHEM 351	Physical Chemistry: Thermodynamics*	4	CHEM 421	Writing for Molecular Science Research*	1	CHEM 422	Molecular Science Research Presentation*	1
NSCI 40X-SL	NSCI Theme Course (with Service Learning)*	4	RELB X00	Theme IIIBiii - Scripture Elective	4	THM3 3/400	Theme III Elective Upper Division*	4
RLGN 304	Adventism in Global Perspective*	4	THM2 3/400	Theme II Elective Upper Division*	4	elct 3/400	Upper Division Elective	2
			THM3 X00	Theme III Elective	4	elct X00	Elective	5