

Biology (B.S.) – Science 7-12 Cert. Chemistry Minor

2025-2026 Academic Catalog, Bachelor of Science – Biology, Science 7-12 Certification with a Chemistry Minor

Academic Core for B.S.

49 Hours

CHRISTIAN STUDIES		6
CSBS 1311	Engaging the Old Testament	3
CSBS 1312	Engaging the New Testament	3

ENGLISH		9
ENGL 1321	Rhetoric & Composition I	3
ENGL 1322	Rhetoric & Composition II	3
ENGL	Literature	3

A grade of a "C" or higher is required in ENGL 1321 and ENGL 1322.

EXERCISE & SPORT SCIENCE – SELECT TWO DIFFERENT COURSES		2
EXAC	Activity Course	1
EXAC	Activity Course	1

FINE ARTS – SELECT ONE		3
ARTS 1310	Drawing I	3
ARTS 1320	Design	3
ARTS 1350	Art Appreciation	3
ARTS 2360	Ceramics I	3
COMM 2335	Film Appreciation	3
FINA 2330	Exploring the Fine Arts	3
MUSI 1340	Music Appreciation	3
THEA 2350	Theatre Appreciation	3

WORLD CULTURES – SELECT ONE		3
ARTS 2354	World Art	3
EXSS 2353	Lifespan Nutrition	3
GLBL 2310	Cultural Immersion	3
HIST 1311	History of World Civilizations to 1500	3
HIST 1312	History of World Civilizations since 1500	3
HIST 2350	An Introduction to the Politics and Culture of Ancient Greece and Rome	3
HUMA 2355	Foundations of the Humanities	3
MUSI 2358	World Music	3
PHIL 2315	Introduction to Philosophy	3

LAB SCIENCE		8
GEOL 1402	Historical Geology	4
PHYS 2411	General Physics I	4

PUBLIC SPEAKING		3
COMM 1320	Public Speaking	3

MATHEMATICS		3
MATH 2303	Statistics	3

RESEARCH METHODS OR INTERNSHIP		2
BIOL 2170	Research Methods	1
BIOL 2171	Research Methods	1

SOCIAL SCIENCE – SELECT ONE		3
PSYC 1301	General Psychology	3
EDUC 2399	Child and Adolescent Development	3

US HISTORY OR US GOVERNMENT – SELECT ONE		3
HIST 2311	American History to 1877	3
HIST 2312	American History since 1877	3
POLS 2305	United States Government	3
POLS 2306	Texas State and Local Government	3

CLASSROOM TECHNOLOGY		3
EDUC 2311	Classroom Technology	3

FRESHMAN SEMINAR		1
UMHB 1101	Freshman Seminar	1

CHAPEL – 1 to 4 credits		
UMHB 1002	Chapel	

Fine Arts Experience – 2 to 8 credits

UMHB 1005	Fine Arts Experience
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Biology – Science 7-12 Cert.

B.S. BIOLOGY MAJOR REQUIRED COURSES 34-35

BIOL 1350	Biology for Science Majors I	3
BIOL 1150	Biology for Science Majors I Lab	1
BIOL 1360	Biology for Science Majors II	3
BIOL 1160	Biology for Science Majors II Lab	1
BIOL 3310	Genetics	3
BIOL 3110	Genetics Lab	1
BIOL 4090	Senior Evaluation	0
BIOL 4194	Capstone Writing	1
BIOL 4195	Capstone Seminar	1

Integrative Biology - Select one: 3-4

BIOL 4370	Applied Ecology	
BIOL 4170	Applied Ecology Lab	
	or	
BIOL 3340	Immunology	
	or	
BIOL 4355	Adaptation & Phylogeny	
BIOL 4155	Adaptation and Phylogeny Lab	

Biology Electives		
BIOL	Upper-level Elective with Lab	4
BIOL	Any Biology with Lab	4
BIOL	Biology Electives	5-6

Physiology Elective – Select one

BIOL 2330	Foundations of Comparative Physiology	3
	or	
BIOL 2140	Human Anatomy & Physiology I Lab	1
BIOL 2340	Human Anatomy & Physiology I	3
	or	
BIOL 2180	Microbiology Lab	1
BIOL 2380	Microbiology	3

No grade lower than a "C" will count toward fulfillment of Biology major requirements.

Biology Required Support Courses 7

GEOL 1401	Physical Geology	4
MATH 1306	College Algebra	3

MINOR IN CHEMISTRY 24

CHEM 1410	General Chemistry I	4
CHEM 1420	General Chemistry II	4
CHEM 3001	Lab Assistantship	0
CHEM 3400	Quantitative Analysis	4
CHEM 3410	Organic Chemistry I	4
CHEM 3420	Organic Chemistry II	4
CHEM 4191	Seminar	1
CHEM 4300	Safety in the Academic Laboratory	3

MINOR IN PEDAGOGY (SECONDARY LEVEL CERTIFICATION) 27

EDUC 3315	Students and Learning	3
EDUC 4324	Classroom Management	3
EDUC 4328	Curriculum Design	3
EDUC 4385	Educational Internship	3
READ 4326	Disciplinary Literacy	3
EDUC 4250	Certification Preparation Seminar	2
EDUC 4501	Student Teaching I	5
EDUC 4502	Student Teaching II	5

Total Hours

Academic Core for B.S.	49
B.S. Biology Major Required Courses	34-35
Biology Required Support Courses	7
Minor in Chemistry	24
Minor in Pedagogy (Secondary Level Certification)	27

Total hours required for graduation 141-142

Additional Graduation Requirements

Minimum cumulative GPA	2.75
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Biology (B.S.) –Science 7-12 Cert. with Chemistry Minor

2025-2026 Academic Catalog, Bachelor of Science – Biology, Science 7-12 Cert. with Chem Minor– DEGREE SEQUENCE

FRESHMAN FALL 15 Hours

BIOL 1350/1150	Biology for Science Majors I	4
ENGL 1321	Rhetoric & Composition I	3
CHEM 1410	General Chemistry I	4
MATH 1306	College Algebra (<i>or higher</i>)*	3
UMHB 1101	Freshman Seminar	1
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

FRESHMAN SPRING 15 Hours

BIOL 1360/1160	Biology for Science Majors II	4
ENGL 1322	Rhetoric & Composition II	3
CHEM 1420	General Chemistry II	4
	Social Science	3
EXAC	Activity Course	1
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

SOPHOMORE FALL 15-16 Hours

BIOL 2170/2171	Research Methods	2
CHEM 3410	Organic Chemistry I	4
EDUC 2311	Classroom Technology	3
BIOL	Physiology Elective	3-4
ENGL	Literature	3
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

SOPHOMORE SPRING 17 Hours

MATH 2303	Statistics	3
CHEM 3420	Organic Chemistry II	4
EDUC 3315	Students and Learning	3
BIOL 3310/3110	Genetics	4
COMM 1320	Public Speaking	3
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

JUNIOR FALL 19 Hours

GEOL 1401	Physical Geology	4
BIOL	Biology Upper Level Elective with Lab	4
EXAC	Activity Course	1
CHEM 4300	Safety in the Academic Laboratory	3
EDUC 4324	Classroom Management	3
PHYS2411	General Physics I	4
UMHB 1005	Fine Arts Experience	0

JUNIOR SPRING 16 Hours

	Biology Elective with Lab	4
	Biology Elective	3
CHEM 3001	Lab Assistantship	0
EDUC 4328	Curriculum Design	3
READ 4326	Disciplinary Literacy	3
	World Cultures	3
UMHB 1005	Fine Arts Experience	0

SENIOR FALL 17 Hours

	Integrative Biology	4
BIOL 4194	Capstone Writing	1
BIOL	Biology Elective	2
CHEM 4191	Seminar	1
EDUC 4385	Educational Internship	3
	US History or Government	3
CSBS 1311	Engaging the Old Testament	3
UMHB 1005	Fine Arts Experience	0

SENIOR SPRING 15 Hours

BIOL 4090	Senior Evaluation	0
BIOL 4195	Capstone Seminar	1
	Fine Arts	3
CHEM 3400	Quantitative Analysis	4
GEOL 1402	Historical Geology	4
CSBS 1312	Engaging the New Testament	3
UMHB 1005	Fine Arts Experience	0

FALL - STUDENT TEACHING (5th Year) 12 Hours

EDUC 4250	Certification Preparation Seminar**	2
EDUC 4501	Student Teaching I**	5
EDUC 4502	Student Teaching II**	5

Total Credit Hours: 142

*Students can be placed in MATH 1306 (Algebra) with an ACT of 21 or SAT of 550. A grade of “C” or better must be made in all Biology courses applying to the major. Cumulative GPA must be a minimum of 2.75. A minimum 3.0 GPA and no grade lower than a “C” is required in academic support and education courses.