

# Biology (B.S.) – Life Science 7-12 Cert.

2025-2026 Academic Catalog, Bachelor of Science – Biology, Life Science 7-12 Certification

## Academic Core for B.S.

**49 Hours**

<b>CHRISTIAN STUDIES</b>		<b>6</b>
CSBS 1311	Engaging the Old Testament	3
CSBS 1312	Engaging the New Testament	3

<b>ENGLISH</b>		<b>9</b>
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.*

<b>EXERCISE &amp; SPORT SCIENCE – SELECT TWO DIFFERENT COURSES</b>		<b>2</b>
EXAC	Activity Course	1
EXAC	Activity Course	1

<b>FINE ARTS – SELECT ONE</b>		<b>3</b>
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

<b>WORLD CULTURES – SELECT ONE</b>		<b>3</b>
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

<b>LAB SCIENCE</b>		<b>8</b>
CHEM 1410	General Chemistry I	4
CHEM 1420	General Chemistry II	4

<b>PUBLIC SPEAKING</b>		<b>3</b>
COMM 1320	Public Speaking	3

<b>MATHEMATICS</b>		<b>3</b>
MATH 2303	Statistics	3

<b>RESEARCH METHODS OR INTERNSHIP</b>		<b>2</b>
BIOL 2170	Research Methods	1
BIOL 2171	Research Methods	1

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

<b>US HISTORY OR US GOVERNMENT – SELECT ONE</b>		<b>3</b>
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

<b>CLASSROOM TECHNOLOGY</b>		<b>3</b>
EDUC 2311	Classroom Technology	3

<b>FRESHMAN SEMINAR</b>		<b>1</b>
UMHB 1101	Freshman Seminar	1

<b>CHAPEL – 1 to 4 credits</b>		
UMHB 1002	Chapel	

## Fine Arts Experience – 2 to 8 credits

UMHB 1005 Fine Arts Experience

## Biology – Life Science 7-12 Cert

### B.S. BIOLOGY MAJOR REQUIRED COURSES 34-37

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 2170	Research Methods	-
BIOL 2171	Research Methods Lab	-
BIOL 3310	Genetics	3
BIOL 3110	Genetics Lab	1
BIOL 4090	Senior Evaluation	0
BIOL 4194	Capstone Writing	1
BIOL 4295	Capstone Seminar	2

### 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	

*The hours for BIOL 2170 and BIOL 2171 are already accounted for in the Academic Core*

### Biology Electives

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

### Physiology Elective – Select one 3-4

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

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

### Biology Required Support Courses 7

CHEM 3410	Organic Chemistry I	4
MATH 1306	College Algebra	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

### UPPER LEVEL ELECTIVES

As needed to reach your minimum 120 required hrs.

### Total Hours

Academic Core for B.S.	49
B.S. Biology Major Required Courses	34-37
Biology Required Support Courses	7
Minor in Pedagogy (Secondary Level Certification)	27
Electives	
<b>Total hours required for graduation</b>	<b>120</b>

### Additional Graduation Requirements

Minimum Upper Level hours	36
Minimum hours taken at UMHB	30
Minimum Upper Level hours taken at UMHB	24
Minimum cumulative GPA	2.75

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## FRESHMAN FALL 15 Hours

BIOL 1350/1150	Biology for Science Majors I	4
CHEM 1410	General Chemistry I	4
MATH 1306	College Algebra	3
ENGL 1321	Rhetoric & Composition 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
CHEM 1420	General Chemistry II	4
ENGL 1322	Rhetoric & Composition II	3
EXAC	Activity Course	1
COMM 1320	Public Speaking	3
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

## SOPHOMORE FALL 16 Hours

BIOL 2170/2171	Research Methods	2
BIOL	Biology Elective with Lab	4
EDUC 2311	Classroom Technology	3
	US History or Government	3
EXAC	Activity Course	1
	Social Science	3
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

## SOPHOMORE SPRING 16-17 Hours

BIOL	Physiology Elective	3-4
BIOL 3310/3110	Genetics	4
EDUC 3315	Students and Learning	3
ENGL	Literature	3
CSBS 1311	Engaging the Old Testament	3
UMHB 1002	Chapel	0
UMHB 1005	Fine Arts Experience	0

## JUNIOR FALL 16 Hours

CHEM 3410	Organic Chemistry I*	4
READ 4326	Disciplinary Literacy	3
	World Cultures	3
MATH 2303	Statistics*	3
EDUC 4328	Curriculum Design	3
UMHB 1005	Fine Arts Experience	0

## JUNIOR SPRING 14 Hours

BIOL	Biology Upper Level Elective with Lab	4
	Upper Level Elective	1
CSBS 1312	Engaging the New Testament	3
	Fine Arts	3
EDUC 4324	Classroom Management	3
UMHB 1005	Fine Arts Experience	0

## SENIOR FALL 14 Hours

BIOL 4194	Capstone Writing	1
	Integrative Biology	4
BIOL	Biology Elective	3
EDUC 4385	Educational Internship	3
BIOL	Biology Elective	3
UMHB 1005	Fine Arts Experience	0

## SENIOR SPRING 15 Hours

BIOL 4090	Senior Evaluation	0
BIOL 4195	Capstone Seminar	1
EDUC 4250	Certification Preparation Seminar**	2
EDUC 4501	Student Teaching I**	5
EDUC 4502	Student Teaching II**	5
UMHB 1005	Fine Arts Experience	0

*STUDENT TEACHING (2<sup>nd</sup> semester of senior year)*

\*These courses are required support courses for the Biology major.

+Some of these courses should be taken during the summers in order to assure a reasonable course load during the regular semesters. \*\*Taken as a block in the final semester without any other day courses. 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.

**Total Credit Hours: 120**