

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

Course Number _____ or Degree Plan(s) See attachment

State the requested change and reason. A memo may be attached if more space is necessary.

Please find the documents titled 'Explanation of Revision of the Major' and 'Proposed Changes to BIOL BS, BIOL BA, and HPCO-BIOL Degrees.' The Department of Biology has performed a curriculum review and seeks to make the following updates to the Biology BS and BA degrees and the Biology track of the Health Professions Cooperative Interdisciplinary Degree.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

		COUNCIL ³								
	Change to a Course	Dept./School	College Academic	Deans	TEC	UGEC	UAC	GRAD	Provost	President
1.	Title (description unchanged)	A	A	A	I				I	I
2.	Description (not affecting content)	A	A	A	I				I	I
3.	Course term(s)	A	I	A	I				I	I
4.	Content (substantive change)	A	A	A	I				A	A
5.	Number of hours (lecture, lab, contact)	A	A	A	A				A	A
6.	Course number within the hundred	A	A	I	I				I	I
7.	Course number beyond the hundred	A	A	A	A				A	A
8.	Prerequisites	A	A	A	I				I	I
9.	Course fee(s)	A	--	A	--				A	I
10.	From U to G or G to U	A	A	A	A				A	A
11.	Cross list with another department: U or G level	A	A	A	A				A	A
12.	Department of record	A	A	A	A				A	A
13.	Open or close a course	A	A	A	A				A	A
14.	New course — See website for application and process. This change includes combining or splitting a course(s).	A	A	A	A				A	A

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

		COUNCIL ³										
	Change to a Degree Plan	Dept./School	College Academic	Deans	TEC	UGEC	UUAC	GRAD	Provost	Faculty	President	Board of Trustees
1.	University Requirements — Change in approved course content ⁶	A	A	A	A				A	--	A	--
2.	University Requirements — Add or drop a required course from the University Requirements chart ⁶	A	A	A	A				A	A	A	--
3.	University Requirements — Add or drop a course from a menu within the University Requirements ⁶	A	--	--	A				A	--	A	--
4.	University Requirements — Change hours within a menu on the University Requirements chart ⁶	A	A	A	A				A	A	A	--
5.	Major — Revision of major ^{4,5}	A	A	A	A				A	--	A	--
6.	Major — Adopt or change admission requirements	A	A	A	A				A	--	A	--
7.	Major — Add ^{4,5}	A	A	A	A				A	A	A	I
8.	Major – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
9.	Major – Discontinue (proposed by the Provost)	See below.										
10.	GPA — Revise major or cumulative requirement	A	A	A	A				A	A	A	--
11.	Minor — Revise course selection	A	A	A	I				I	--	I	--
12.	Minor — Add	A	A	A	A				A	--	A	--
13.	Minor – Discontinue (proposed by the department or college)	A	A	A	A				A	--	A	--
14.	Minor – Discontinue (proposed by the Provost)	See below.										
15.	Degree — Add	A	A	A	A				A	A	A	I
16.	Degree – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
17.	Degree – Discontinue (proposed by the Provost)	See below.										
18.	Any change to a graduate degree program	A	A	A	A				A	--	A	--

COUNCIL ³										
	Provost-Proposed Change	Provost	Department	Dean	TEC	UUAC	Graduate	Faculty	President	Board of Trustees
1.	Major/Graduate Program – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I
2.	Minor – Discontinue (proposed by the Provost)	A	R	R	A			--	A	--
3.	Degree – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I

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A = Approve I= Information Item¹ R= Advise & Respond²

COUNCIL ³										
	Change to the Catalog Information	Dept./School	College Academic	Deans	UGEC	UUAC	GRAD	Provost	Faculty	President
1.	General requirements for graduation including course requirements that are common to all majors for all degrees ⁷	--	--	--	A			A	A	A
2.	Admission requirements	--	--	--	A			A	A	A
3.	Policies governing academic probation and suspension	--	--	--	A			A	A	A
4.	Requirements for graduating with honors	--	--	--	A			A	A	A
5.	Other academic policy changes	--	--	--	A			A	--	A

¹ Councils may request additional information about “Information” items. These items are approved as “Consent Agenda.”

² The Dean and Department should respond to the Provost’s recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

³ All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

⁴ A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

⁵ Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

⁶ Courses that satisfy ACU’s University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and “not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession” (SACS 2.7.3). Departments may request exceptions to the first three criteria.

⁷ The UUAC approved the clarification that “general requirements for graduation” means the enumerated items in the “General Requirements for Bachelor’s Degrees” section of the catalog.

Revised 3-8-17

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)	
<i>Signature</i> <u>Jennifer Huddleston</u> <i>Signature</i>	<i>Approval date</i> <u>2/5/18</u> <i>Approval date</i>

College Academic Council(s)	
<i>Signature</i> <u>[Signature]</u> <i>Signature</i>	<i>Approval date</i> <u>3.2.18</u> <i>Approval date</i>

Dean(s)	
<i>Signature</i> <u>[Signature]</u> <i>Signature</i>	<i>Approval date</i> <u>3/6/18</u> <i>Approval date</i>

Teacher Education Council	
<i>Chair's signature</i> _____	<i>Approval date</i> _____

General Education Council	
<i>Chair's signature</i> _____	<i>Approval date</i> _____

Undergraduate Academic Council	
<i>Chair's signature</i> _____	<i>Approval date</i> _____

Graduate Council	
<i>Chair's signature</i> _____	<i>Approval date</i> _____

Provost	
<i>Signature</i> _____	<i>Approval date</i> _____

Faculty	
<i>Chair of faculty senate</i> _____	<i>Approval date</i> _____

President	
<i>Signature</i> _____	<i>Approval date</i> _____

Explanation of Revision of the Major

The Department of Biology has performed a curriculum review and seeks to make the following updates to the Biology BS and BA degrees and the Biology track of the Health Professions Cooperative Interdisciplinary Degree.

Summary of changes:

1. The most fundamental change to the program is a change to the courses that Biology majors take as sophomores.
 - a. In our former degree plan, sophomores must choose between enrollment in either Animal Biology or Plant Biology in the fall followed by Cell Biology in the spring.
 - b. In the proposed program, most students begin their sophomore year with Cell Biology in the fall followed by Genetics in the spring.
 - c. The proposed plan allows sophomore students to focus on fundamental concepts in biology rather than choosing a specialization in one group of organisms. In the junior and senior years, biology majors will have several courses to choose from that are more narrowly focused on specific groups of organisms.
2. Biology majors will still be required to study the diversity of organisms. Students must choose one (or more) courses from a menu of 400-level courses that require a term paper reviewing a specific aspect of organismal diversity from an evolutionary context. These courses are designed to provide students with valuable writing experience and an opportunity to apply knowledge of biological diversity to address important questions.
3. Biology majors will be required to participate in at least one field-based laboratory course (1 hour credit). The study of biology requires an integrated approach; students must consider the interrelationships between processes that occur at many levels (e.g. molecule, cell, organism, community, ecosystem). Therefore, Biology majors will be required to learn to investigate questions at each of these levels in lab courses, including natural ecosystems beyond the boundaries of urban and suburban communities.
4. Math and statistics requirements have been increased for the BS degree.
5. Minor changes have been made to individual tracks.

The proposed degree plans can be found in the document titled: 'Proposed Changes to BIOL BS, BIOL BA, and HPCO-BIOL Degrees.'

Biology, Cellular/Molecular Biology, BS (BIOL-BICM)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~44~~41 Credit Hours

Cellular/Molecular Biology Track (BICM)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~or~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

BIOL 472 - Biochemistry I: Foundations of Biochemistry Credit Hours: 3

BIOL 475 - Molecular Genetics Credit Hours: 3

BIOL 476 - Biotechnology ~~Laboratory~~ Credit Hours: ~~2~~3

BIOL 364 - Ecology Laboratory Credit Hours: 1

Choose 4 hours from: BIOL 380, 481, 486, 487

Choose 8 hours from: BIOL 313, 330, 355, 357, 399, 454, 498 or CHEM 453, 454, 456, 463
BIOA or BIOL Selections: 13 hours of which 9 are 300-499 Credit Hours: 13

~~Total: 28 Credit Hours~~

~~Supplement for Major Chemistry~~

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1

CHEM 223 - Organic Chemistry I Credit Hours: 3

CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1

CHEM 324 - Organic Chemistry II Credit Hours: 3

~~*Hours may also fulfill university requirements and are not included in total major hours~~

~~Physics~~

PHYS 110 - General Physics I Credit Hours: 3

PHYS 111 - General Physics I Laboratory Credit Hours: 1

PHYS 112 - General Physics II Credit Hours: 3

PHYS 113 - General Physics II Laboratory Credit Hours: 1

~~Mathematics~~

~~MATH 124 - Precalculus II Credit Hours: 3 *~~

~~or~~

MATH 131 - Calculus for Application Credit Hours: 3 *

~~or~~

MATH 185 - Calculus I Credit Hours: 3 *

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

~~Literature~~

~~Literature (not including ENGL 351)~~

Total: ~~24~~49 Credit Hours

Electives

Minimum - 9 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BICM: Cellular/Molecular Biology Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	† BIBL 101 Life and Teachings of Jesus	† ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	† CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	† BIBL 102 Early Christians: Life, Literature & Community	† ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	@ SOCIAL SCIENCE		
SO Fall 16 hrs	• BIBL 211 Message of the Old Testament	• ENGL LITERATURE	BIOL 312 Cell Biology Or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I and Lab 4 hrs	MATH 131 OR MATH 185		
SO Spring 17 hrs	FREE ELECTIVE	CULTURAL AWARENESS	BIOL 312 Cell Biology Or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II and Lab 4 hrs	@ COMM 211 Speech and Rhetoric	PEAC 100 Lifetime Wellness or PEAC Activity 1hr	
JR Fall 17 hrs	ADVANCED BIBLE	PHYS 110/111 General Physics I and Lab 4hrs	BIOL 472 Biochemistry I	BIOL 362/364 Ecology and Lab 4 hrs	HISTORICAL LITERACY		May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120/020 MATW 130/030 ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
JR Spring 14 hrs	PEAC Activity 1 hr	PHYS 112/113 General Physics II and Lab 4hrs	BIOL 475 Molecular Genetics	BIOL 476 Biotechnology Laboratory	Statistics MATH 123 or MATH 377 or BIOL 483		
SR Fall 15 hrs	BIOL 497 Biology Seminar or * BIOL DIVERSITY	300-400 LEVEL BIOLOGY Cell/Molecular SELECTION	ADVANCED BIBLE	ELECTIVE	UNIVERSITY REQUIREMENT SELECTION		
SR Spring 15 hrs	300-400 LEVEL BIOLOGY Cell/Molecular SELECTION	BIOL 497 Biology Seminar or * BIOL DIVERSITY	ELECTIVE	ELECTIVE	300-400 LEVEL BIOLOGY Cell/Molecular SELECTION		
Total Hours = 128							

Symbol Key: † Freshman Requirement. @ Course typically available in a summer term.

• This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

* BIOL DIVERSITY choices include: BIOL 380, 481, 486, 487.

Biology, General Biology, BS (BIOL-BIOG)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~44~~14 Credit Hours

General Biology Track (BIOG)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~or~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

~~or~~

~~BIOL 351 - Genetics Credit Hours: 3~~

BIOL 364 - Ecology Laboratory Credit Hours: 1

Choose 4 hours from: BIOL 380, 481, 486, 487

Choose 17 hours not previously taken from: BIOA or BIOL 300-399 or CHEM 453, 454, 456, 463 21 hours BIOA or BIOL of which 17 hours are 300-499 Credit Hours: 21

Total: 28 Credit Hours

Supplement for Major Chemistry

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1

CHEM 223 - Organic Chemistry I Credit Hours: 3

CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1

CHEM 324 - Organic Chemistry II Credit Hours: 3

~~*Hours may also fulfill university requirements and are not included in total major hours~~

Physics

PHYS 110 - General Physics I Credit Hours: 3

PHYS 111 - General Physics I Laboratory Credit Hours: 1

PHYS 112 - General Physics II Credit Hours: 3

PHYS 113 - General Physics II Laboratory Credit Hours: 1

Mathematics

~~MATH 124 - Precalculus II Credit Hours: 3 *~~

~~or~~

MATH 131 - Calculus for Application Credit Hours: 3 *

~~or~~

MATH 185 - Calculus I Credit Hours: 3 *

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

Literature

~~Literature (not including ENGL 351)~~

Total: 24 49 Credit Hours

Electives

Minimum - 9 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BIOG: General Biology Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	+ BIBL 101 Life and Teachings of Jesus	+ ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	+ CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	+ BIBL 102 Early Christians: Life, Literature & Community	+ ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	@ SOCIAL SCIENCE		
SO Fall 16 hrs	• BIBL 211 Message of the Old Testament	• ENGL LITERATURE	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I and Lab 4 hrs	MATH 131 or MATH 185		
SO Spring 16 hrs	FREE ELECTIVE	CUL.TURAL AWARENESS	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II and Lab 4 hrs	@ COMM 211 Speech and Rhetoric		
JR Fall 15 hrs	ADVANCED BIBLE	PHYS 110/111 General Physics I and Lab 4 hrs	BIOL/BIOA Selection 4 hrs	BIOL 362/364 Ecology and Lab 4 hrs			
JR Spring 17 hrs	ADVANCED BIBLE	PHYS 112/113 General Physics II and Lab 4 hrs	BIOL/BIOA Selection 4 hrs	BIOL/BIOA Selection	Statistics MATH 123 or MATH 377 or BIOL 483		May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120/020 MATW 130/030 ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
SR Fall 17 hrs	BIOL 497 Biology Seminar or * BIOL DIVERSITY	BIOL/BIOA Selection 4 hrs	ELECTIVE	ELECTIVE	UNIVERSITY REQUIREMENT SELECTION	PEAC Activity 1hr	
SR Spring 13 hrs	BIOL/BIOA Selection	BIOL 497 Biology Seminar or * BIOL DIVERSITY	ELECTIVE	HISTORICAL LITERACY	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr		
Total Hours = 128							

Symbol Key: † Freshman Requirement. @ Course typically available in a summer term.

- This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

* BIOL DIVERSITY choices include: BIOL 380, 481, 486, 487.

Biology, Health Professions, BS (BIOL-BIOH)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~11~~14 Credit Hours

Health Professions Track (BIOH)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~or~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

~~BIOL 355 - Microbiology Credit Hours: 3~~

~~BIOL 357 - Microbiology Laboratory Credit Hours: 1~~

~~BIOL 491 - Human Anatomy Credit Hours: 3~~

~~BIOL 493 - Human Anatomy Laboratory Credit Hours: 1~~

~~BIOL 492 - Physiology Credit Hours: 3~~

~~BIOL 495 - Physiology Laboratory Credit Hours: 1~~

BIOL 364 - Ecology Laboratory Credit Hours: 1

Choose 4 hours from: BIOL 380, 481, 486, 487

Choose 17 hours from: BIOL 308, 309, 330, 355, 357, 448, 454, 474, 475, 476, 480, 484, 491, 492, 493, 494, 495, 498 or CHEM 453, 454, 456, 463
BIOL Selections: 9 hours of which 5 are 300-499 Credit Hours: 9

Total: 28 Credit Hours

Supplement for Major Chemistry

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1

CHEM 223 - Organic Chemistry I Credit Hours: 3

CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1

CHEM 324 - Organic Chemistry II Credit Hours: 3

~~*Hours may also fulfill university requirements and are not included in total major hours~~

Physics

PHYS 110 - General Physics I Credit Hours: 3

PHYS 111 - General Physics I Laboratory Credit Hours: 1

PHYS 112 - General Physics II Credit Hours: 3

PHYS 113 - General Physics II Laboratory Credit Hours: 1

Mathematics

~~MATH 124 - Precalculus II Credit Hours: 3 *~~

~~or~~

MATH 131 - Calculus for Application Credit Hours: 3 *

~~or~~

MATH 185 - Calculus I Credit Hours: 3 *

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

Literature

Literature (not including ENGL 351)

Total: ~~24~~49 Credit Hours

Electives

Minimum - 9 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BIOH: Health Professions Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	+ BIBL 101 Life and Teachings of Jesus	+ ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	+ CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	+ BIBL 102 Early Christians: Life, Literature & Community	+ ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	MATH 131 or MATH 185		
SO Fall 15 hrs	+ BIBL 211 Message of the Old Testament	PEAC 100 Lifetime Wellness Or PEAC Activity 1 hr	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I and Lab 4 hrs	PHYS 110/111 General Physics I and Lab 4 hrs		
SO Spring 15 hrs	+ ENGL LITERATURE	PEAC Activity 1hr	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II and Lab 4 hrs	PHYS 112/113 General Physics II and Lab 4 hrs		
JR Fall 17 hrs	ADVANCED BIBLE	300-400 LEVEL BIOLOGY Health Professions SELECTION (usually Bio. Chem. I)	300-400 LEVEL BIOLOGY Health Professions SELECTION (usually Physiol. and Lab.) 4 hrs	BIOL 362/364 Ecology and Lab 4 hrs	HISTORICAL LITERACY		May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120/020 MATW 130/030 ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
JR Spring 16 hrs	ADVANCED BIBLE	300-400 LEVEL BIOLOGY Health Professions SELECTION 4 hrs	FREE ELECTIVE	@ SOCIAL SCIENCE	Statistics MATH 123 or MATH 377 or BIOL 483		
SR Fall 15 hrs	BIOL 497 Biology Seminar or * BIOL DIVERSITY	300-400 LEVEL BIOLOGY Health Professions SELECTION	CULTURAL AWARENESS	ELECTIVE	UNIVERSITY REQUIREMENT SELECTION		
SR Spring 16 hrs	300-400 LEVEL BIOLOGY Health Professions SELECTION 4 hrs	BIOL 497 Biology Seminar or * BIOL DIVERSITY	COMM 211 Speech and Rhetoric	ELECTIVE	ELECTIVE		
Total Hours = 128							

Symbol Key: † Freshman Requirement. @ Course typically available in a summer term.

• This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

* BIOL DIVERSITY choices include: BIOL 380, 481, 486, 487.

Biology, Organismal Biology, BS (BIOL-BIOO)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~44~~14 Credit Hours

Organismal Biology Track (BIOO)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

~~BIOL 351 - Genetics Credit Hours: 3~~

BIOL 364 - Ecology Laboratory Credit Hours: 1

BIOL 486 - Comparative Botany Credit Hours: 4

BIOL 487 - Comparative Zoology Credit Hours: 4

Choose 13 hours from: BIOA 302, 305, 311, 322, 345, 362, 471 or BIOL 345, 355, 357, 370, 380, 399, 403, 481, 492, 495, 330, 355, 357, 454, 498 or CHEM 453, 454, 456, 463
BIOA or BIOL Selections: 300-499 Credit Hours: 6

Total: ~~28~~ Credit Hours

Supplement for Major Chemistry

CHEM 133 - General Chemistry I Credit Hours: 3 *
CHEM 131 - General Chemistry Laboratory I Credit Hours: 1
CHEM 132 - General Chemistry Laboratory I Credit Hours: 1
CHEM 134 - General Chemistry II Credit Hours: 3
CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1
CHEM 223 - Organic Chemistry I Credit Hours: 3
CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1
CHEM 324 - Organic Chemistry II Credit Hours: 3

~~*Hours may also fulfill university requirements and are not included in total major hours~~

Physics

PHYS 110 - General Physics I Credit Hours: 3
PHYS 111 - General Physics I Laboratory Credit Hours: 1
PHYS 112 - General Physics II Credit Hours: 3
PHYS 113 - General Physics II Laboratory Credit Hours: 1

Mathematics

~~MATH 124 - Precalculus II Credit Hours: 3 *~~

~~or~~

MATH 131 - Calculus for Application Credit Hours: 3 *

~~or~~

MATH 185 - Calculus I Credit Hours: 3 *

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

Literature

~~Literature (not including ENGL 351)~~

Total: ~~24~~ 49 Credit Hours

Electives

Minimum - 9 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BIOO: Organismal Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	† BIBL 101 Life and Teachings of Jesus	† ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	† CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	† BIBL 102 Early Christians: Life, Literature & Community	† ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	@ SOCIAL SCIENCE		
SO Fall 16 hrs	• BIBL 211 Message of the Old Testament	• ENGL LITERATURE	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I and Lab 4 hrs	MATH 131 or MATH 185		
SO Spring 16 hrs	FREE ELECTIVE	CULTURAL AWARENESS	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II and Lab 4 hrs	@ COMM 211 Speech and Rhetoric		
JR Fall 15 hrs	ADVANCED BIBLE	UNIVERSITY REQUIREMENT SELECTION	BIOL 362 Ecology	BIOL 364 Ecology Lab 1 hr	PHYS 110/111 General Physics I and Lab 4 hrs	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr	May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120/020 MATW 130/030 ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
JR Spring 17 hrs	ADVANCED BIBLE	BIOL 486 Comparative Botany or 300-400 LEVEL ORGANISMAL BIOLOGY SELECTION 4 hrs	BIOL 483 Biosatistics	HISTORICAL LITERACY	PHYS 112/113 General Physics II and Lab 4 hrs		
SR Fall 14 hrs	300-400 LEVEL ORGANISMAL BIOLOGY SELECTION	BIOL 487 Comparative Zoology 4 hrs	300-400 LEVEL ORGANISMAL BIOLOGY SELECTION	ELECTIVE	PEAC Activity 1 hr		
SR Spring 16 hrs	BIOL 497 Biology Seminar	BIOL 486 Comparative Botany or 300-400 LEVEL ORGANISMAL BIOLOGY SELECTION 4 hrs	300-400 LEVEL ORGANISMAL BIOLOGY SELECTION	ELECTIVE	ELECTIVE		
Total Hours = 128							

Symbol Key: **†** Freshman Requirement. **@** Course typically available in a summer term.

- This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

Biology, Pre-Veterinary, BS (BIOL-BIOV)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~44~~ 14 Credit Hours

Pre-Veterinary Track (BIOV)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

~~BIOL 351 - Genetics Credit Hours: 3~~

BIOL 355 - Microbiology Credit Hours: 3

BIOL 357 - Microbiology Laboratory Credit Hours: 1

BIOL 364 - Ecology Laboratory Credit Hours: 1

BIOL 472 - Biochemistry I: Foundations of Biochemistry Credit Hours: 3

BIOL 487 - Comparative Zoology Credit Hours: 4

BIOL 492 - Physiology Credit Hours: 3

BIOL 495 - Physiology Laboratory Credit Hours: 1

~~Total: 21 Credit Hours~~

~~Supplement for Major~~ ~~Animal Science~~

ANSC 336 - Animal Nutrition Credit Hours: 3

~~Chemistry~~

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1

CHEM 223 - Organic Chemistry I Credit Hours: 3

CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1

CHEM 324 - Organic Chemistry II Credit Hours: 3

~~*Hours may also fulfill university requirements and are not included in total major hours~~

~~Physics~~

PHYS 110 - General Physics I Credit Hours: 3

PHYS 111 - General Physics I Laboratory Credit Hours: 1

PHYS 112 - General Physics II Credit Hours: 3

PHYS 113 - General Physics II Laboratory Credit Hours: 1

~~Mathematics~~

MATH 131 - Calculus for Application Credit Hours: 3 *

or

MATH 185 - Calculus I Credit Hours: 3 *

MATH 377 - Statistical Methods I Credit Hours: 3

~~Psychology~~

PSYC 120 - Introduction to Psychology Credit Hours: 3 *

~~Writing~~

ENGL 326 – Business and Professional Writing Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

~~Total: 30~~ 49 Credit Hours

Electives

Minimum - ~~40~~9 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BIOV: Pre-Veterinarian Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	† BIBL 101 Life and Teachings of Jesus	† ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	† CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	† BIBL 102 Early Christians: Life, Literature & Community	† ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	@ PSYC 120 Introduction to Psychology		
SO Fall 16 hrs	• BIBL 211 Message of the Old Testament	• ENGL Literature	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I and Lab 4 hrs	MATH 131 or MATH 185		
SO Spring 16 hrs	HISTORICAL LITERACY	ENGL 326 Business & Professional Writing	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II and Lab 4 hrs	@ COMS 211 Speech and Rhetoric		
JR Fall 17 hrs	ADVANCED BIBLE	PHYS 110/111 General Physics I and Lab 4 hrs	BIOL 362/364 Ecology and Lab 4 hrs	BIOL 472 Biochem I	CULTURAL AWARENESS		
JR Spring 16 hrs	UNIVERSITY REQUIREMENT SELECTION	PHYS 112/113 General Physics II and Lab 4 hrs	ANSC 336 Animal Nutrition	MATH 377 Statistical Methods I	ELECTIVE		May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120/020 MATW 130/030 ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
SR Fall 15 hrs	BIOL 355/357 Microbiology and Lab 4 hrs	BIOL 487 Comparative Zoology 4 hrs	ADVANCED BIBLE	ELECTIVE	PEAC Activity 1 hr		
SR Spring 14 hrs	BIOL 492/495 Physiology and Lab 4 hrs	BIOL 497 Biology Seminar	ELECTIVE	FREE ELECTIVE	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr		
Total Hours = 128							

Symbol Key: † Freshman Requirement. @ Course typically available in a summer term.

- This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

Biology, Wildlife Biology, BS (BIOL-BIOW)

BS: Biology Degree Plan (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

BIOL 351 - Genetics Credit Hours: 3

BIOL 362 - Ecology Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

*Hours may also fulfill university requirements and are not included in total major hours

Total: ~~44~~41 Credit Hours

Wildlife Biology Track (BIOW)

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

~~BIOA 345 - Wildlife Ecology Credit Hours: 3 *~~

BIOL 345 - Range and Wildland Plants Credit Hours: 3

~~BIOL 351 - Genetics Credit Hours: 3~~

BIOA 362 - Environmental Applications for Geographic Information Systems Credit Hours: 4 *

BIOL 364 - Ecology Laboratory Credit Hours: 1

BIOL 370 - Field Biology Credit Hours: 4

or

BIOA 305 - Field Ecology of Birds Credit Hours: 4*

BIOL 380 - General Mammalogy Credit Hours: 4

BIOL 483 - Biostatistics Credit Hours: 3

BIOL 486 Comparative Botany Credit Hours: 4

or

BIOL 481 - Plant Systematics Credit Hours: 4

BIOL 487 - Comparative Zoology Credit Hours: 4

~~*Course offered at Au Sable Institute. Travel to site required.~~

Total: 38 Credit Hours

Supplement for Major Chemistry

CHEM 133 - General Chemistry I Credit Hours: 3 **

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 114 - Introductory Organic and Biological Chemistry Credit Hours: 3

or

CHEM 134 - General Chemistry II Credit Hours: 3

~~**Hours may also fulfill university requirements and are not included in total major hours~~

Environmental Science

ENVR 233 - Soil Science Credit Hours: 3

ENVR 410 - Environmental Law and Policy Credit Hours: 3

ENVR 420 - Environmental Thought Credit Hours: 3

ENVR 455 - Wildlife Ecology Credit Hours: 3

ENVR 458 - Wildlife Management Techniques Credit Hours: 3

Physics

~~PHYS 110 - General Physics I Credit Hours: 3~~

~~PHYS 111 - General Physics I Laboratory Credit Hours: 1~~

Mathematics

MATH 123 Elementary Statistics Credit Hours: 3

~~MATH 124 - Precalculus II Credit Hours: 3 **~~

~~or~~

MATH 131 - Calculus for Application Credit Hours: 3 **

~~or~~

MATH 185 - Calculus I Credit Hours: 3 **

Writing

ENGL 327 – Scientific and Technical Writing Credit Hours: 3

POLS 225 – National Government Credit Hours: 3 **

*Course offered at Au Sable Institute. Travel to site required.

**Hours may also fulfill university requirements and are not included in total major hours

Total: ~~20~~52 Credit Hours

Electives

Minimum - ~~3~~6 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BS: Biology (BIOW: Wildlife Biology Track)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and some courses have prerequisites. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	+ BIBL 101 Life and Teachings of Jesus	+ ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	+ CORE 110 Cornerstone	Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 16 hrs	+ BIBL 102 Early Christians: Life, Literature & Community	+ ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 114 Introductory Organic and Biological Chemistry	ELECTIVE	
SO Fall 12 hrs	• BIBL 211 Message of the Old Testament	• ENGL Literature	BIOL 351 Genetics	CULTURAL AWARENESS		
SO Spring 12 hrs	UNIVERSITY REQUIREMENT SELECTION	HISTORICAL LITERACY	MATH 131 or MATH 185	ENVR 233 Soil Science		
JR Summer 3-4 hrs	BIOL 370 Field Biology 4 hrs or @ COMS 211 Speech and Rhetoric					May be required based on ACT or SAT scores: MATH: MATW 019 MATW 020 MATW 030 ENGLISH: ENGL 003 ENGL 004 ENGL 106 ENGL 006 ENGL 107 ENGL 007
JR Summer @ Au Sable 7 hrs	BIOA 362 GIS Env. Appl. For GIS @Au Sable 4 hrs	ELECTIVE				
JR Fall 14 hrs	ADVANCED BIBLE	MATH 123 Elementary Statistics	BIOL 487 Comparative Zoology 4 hrs	BIOL 362 Ecology	BIOL 364 Ecology Lab 1 hr	
JR Spring 14 hrs	POLS 225 National Government	BIOL 380 General Mammalogy or BIOL 486 Comparative Botany 4 hrs	BIOL 483 Biostatistics	ENGL 327 Scientific and Technical Writing	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr	
SR Summer 3-4 hrs	BIOL 370 Field Biology 4 hrs or @ COMS 211 Speech and Rhetoric					
SR Fall 15 hrs	BIOL 497 Biology Seminar	ENVR 410 Environmental Law and Policy	ENVR 455 Wildlife Ecology	BIOL 345 Range and Wildland Plants	ADVANCED BIBLE	
SR Spring 14 hrs	ENVR 420 Environmental Thought	BIOL 380 General Mammalogy or BIOL 486 Comparative Botany 4 hrs	ENVR 458 Wildlife Management	FREE ELECTIVE	PEAC Activity 1 hr	Total Hours = 128

Symbol Key: + Freshman Requirement. @ Course typically available in a summer term. • This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. Wildlife Biology majors may be required to do 1 summer session at Au Sable after completion of sophomore science requirements. Please see advisor for more details. Several courses are available during the summer on campus or online. Please talk to your advisor regarding summer options.

Health Professions Cooperative, Biology, BS (HPCO-BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major and Supplement Requirements - Biology Track (BIOL)

Biology

BIOL 112 - General Biology I Credit Hours: 3 *

BIOL 114 - General Biology I Laboratory Credit Hours: 1

BIOL 113 - General Biology II Credit Hours: 3

BIOL 115 - General Biology II Laboratory Credit Hours: 1

~~BIOL 221 - Animal Biology Credit Hours: 3~~

~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~

~~or~~

~~BIOL 222 - Plant Biology Credit Hours: 3~~

~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3

BIOL 351 - Genetics Credit Hours: 3

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

BIOL 300-499 Credit Hours: 87

*Hours may also fulfill university requirements and are not included in total major hours

Chemistry

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1

CHEM 223 - Organic Chemistry I Credit Hours: 3

CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1
CHEM 324 - Organic Chemistry II Credit Hours: 3
CHEM 300-499 Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

Mathematics**

MATH 131 - Calculus for Application Credit Hours: 3 ~~*MATH 124 - Precalculus II Credit Hours: 3*~~

or

MATH 185 - Calculus I Credit Hours: 3 *

~~**Calculus is required for students in pre-medicine and pre-veterinary medicine and is recommended for pre-dentistry students~~

*Hours may also fulfill university requirements and are not included in total major hours

Physics

PHYS 110 - General Physics I Credit Hours: 3
PHYS 111 - General Physics I Laboratory Credit Hours: 1
PHYS 112 - General Physics II Credit Hours: 3
PHYS 113 - General Physics II Laboratory Credit Hours: 1

Statistics

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

Total: ~~47~~ 48 Credit Hours

Electives

Minimum - ~~4~~ 3 Credit Hours

Total Major Hours (Biology Track): 51

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum total hours (Biology Track): 104

Courses numbered 0 do not count in minimum hours required for degree.*

BS: Biology (Health Professions Cooperative Degree Plan – HPCO)

For Students Entering Fall 2018

This is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and **some courses have prerequisites**. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	† BIBL 101 Life and Teachings of Jesus	† ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I and Lab 4 hrs	† CORE 110 Cornerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	† BIBL 102 Early Christians: Life, Literature & Community	† ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 132/134 General Chemistry II and Lab 4 hrs	MATH 131 or MATH 185		
SO Fall 17 hrs	BIBL 211 Message of the Old Testament	ENGL Literature	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 221/223 Organic Chemistry I/Lab 4 hrs	@ SOCIAL SCIENCE	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr	May be required based on ACT or SAT scores:
SO Spring 17 hrs	Statistics MATH 123 or MATH 377 or BIOL 483	COMM 211 Speech and Rhetoric	BIOL 312 Cell Biology or BIOL 351 Genetics	CHEM 322/324 Organic Chemistry II/Lab 4 hrs	FREE ELECTIVE	PEAC Activity 1 hr	MATH: MATW 019 MATW 120 MATW 130
JR Summer 3 hrs	ELECTIVE						
JR Fall 17 hrs	ADVANCED BIBLE	PHYS 110/111 General Physics I/Lab 4 hrs	BIOL/BIOA 300-499 4 hrs	ADVANCED CHEMISTRY (Biochemistry I recommended)	University Requirement Selection		ENGLISH: ENGL 003/004 ENGL 106/006 ENGL 107/007
JR Spring 16 hrs	BIOL/BIOA 300-499	PHYS 112/113 General Physics II/Lab 4 hrs	@ CULTURAL AWARENESS	BIOL 497 Biology Seminar	HISTORICAL LITERACY		
							Total Hours = 104

Symbol Key: † Freshman Requirement @ Course typically available in a summer term.

- This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses.
- Please confer with your advisor or the catalog for additional information. Several courses are available during the summer on campus and online, please talk to your advisor regarding summer options.

Biology, BA (BIOL)

University Requirements

Please see the University Requirements section of this catalog.

Major Requirements

Biology

BIOL 112 - General Biology I Credit Hours: 3 *
BIOL 114 - General Biology I Laboratory Credit Hours: 1
BIOL 113 - General Biology II Credit Hours: 3
BIOL 115 - General Biology II Laboratory Credit Hours: 1

~~BIOL 221 - Animal Biology Credit Hours: 3~~
~~BIOL 223 - Animal Biology Laboratory Credit Hours: 1~~
~~or~~
~~BIOL 222 - Plant Biology Credit Hours: 3~~
~~BIOL 224 - Plant Biology Laboratory Credit Hours: 1~~

BIOL 312 - Cell Biology Credit Hours: 3
BIOL 351 - Genetics Credit Hours: 3
BIOL 362 - Ecology Credit Hours: 3
BIOL 364 - Ecology Laboratory Credit Hours: 1

Choose 4 hours from: BIOL 380, 481, 486, 487

BIOL 497 - Seminar in Biology Credit Hours: 3 (capstone and writing-intensive course)

Choose 7 hours not previously taken from: BIOA or BIOL 300-399 or CHEM 453, 454, 456, 463 Advanced Biology (BIOA or BIOL 300-499) Credit Hours: 17

*Hours may also fulfill university requirements and are not included in total major hours

Total: 29 Credit Hours

Supplement for Major

Chemistry

~~CHEM 113 - Introductory Chemistry Credit Hours: 3 *~~

~~CHEM 111 - Introductory Chemistry Laboratory Credit Hours: 1~~

or

CHEM 133 - General Chemistry I Credit Hours: 3 *

CHEM 131 - General Chemistry Laboratory I Credit Hours: 1

and

CHEM 114 - Introductory Organic and Biological Chemistry Credit Hours: 3

CHEM 112 - Introductory Organic and Biological Chemistry Laboratory Credit Hours: 1

or

CHEM 132 - General Chemistry Laboratory I Credit Hours: 1

CHEM 134 - General Chemistry II Credit Hours: 3

*Hours may also fulfill university requirements and are not included in total major hours

Course Concentration

Courses in another department (required CHEM and University Requirements courses are excluded) Credit Hours: ~~4~~29

Foreign Language

FLLA 221 - Intermediate Latin I Credit Hours: 3

FLLA 222 - Intermediate Latin II Credit Hours: 3

or

FREN 221 - Intermediate French I Credit Hours: 3

FREN 222 - Intermediate French II Credit Hours: 3

or

GER 221 - Intermediate German I Credit Hours: 3

GER 222 - Intermediate German II Credit Hours: 3

or

SPAN 221 - Intermediate Spanish I Credit Hours: 3

SPAN 222 - Intermediate Spanish II Credit Hours: 3

Sophomore (or higher) Literature

Literature (not including ENGL 351)

Statistics

MATH 123 - Elementary Statistics Credit Hours: 3

or

MATH 377 - Statistical Methods I Credit Hours: 3

or

BIOL 483 - Biostatistics Credit Hours: 3

Total: 26 Credit Hours

Electives

Minimum - 17 Credit Hours

Total Major Hours: 72

Other Graduation Requirements

Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0** do not count in minimum hours required for degree.*

BA: Biology

For Students Entering Fall 2018

this is a sample schedule to illustrate how long it will take to complete this degree plan. Additional semesters may be necessary if you are required to complete courses listed in the right-hand column or if you repeat courses. Consult with your academic advisor before changing the sequence of courses. Some courses are not offered every semester and some courses have prerequisites. Check the course description in the current catalog for details. Failure to complete courses in the recommended sequence may delay graduation. Each block represents 3 hours unless otherwise noted.

FR Fall 17 hrs	+ BIBL 101 Life and Teachings of Jesus	+ ENGL 111 Composition & Rhetoric	BIOL 112/114 General Biology I and Lab 4 hrs	CHEM 131/133 General Chemistry I/Lab 4 hrs	+ CORE 110 Comerstone		Required if condition of Admission: UNIV 011 Learning Strategies
FR Spring 17 hrs	+BIBL 102 Early Christians: Life, Literature & Community	+ ENGL 112 Composition & Literature	BIOL 113/115 General Biology II and Lab 4 hrs	CHEM 112/114 or CHEM 132/134 4 hrs	@ SOCIAL SCIENCE		
SO Fall 15 hrs	• BIBL 211 Message of the Old Testament	COURSE CONCENTRATION	BIOL 312 Cell Biology or BIOL 351 Genetics	MATH 109, MATH 124, MATH 131 or MATH 185	SPAN/FREN/GER 111 (if needed to prepare for sophomore language) OR ELECTIVE		
SO Spring 16 hrs	FREE ELECTIVE	COURSE CONCENTRATION	BIOL 312 Cell Biology or BIOL 351 Genetics	@ COMM 211 Speech and Rhetoric	SPAN/FREN/GER 112 (if needed to prepare for sophomore language) or ELECTIVE	PEAC 100 Lifetime Wellness or PEAC Activity 1 hr	May be required based on ACT or SAT scores: MATH: MATW 019 MATW 120 MATW 130 ENGLISH:
JR Fall 17 hrs	@CULTURAL AWARENESS	Statistics MATH 123 or MATH 377 or BIOL 483	BIOL 362/364 Ecology and Lab 4 hrs	• ENGL Literature 200-299	SPAN/FREN/GER 221	PEAC Activity 1 hr	
JR Spring 16 hrs	ADVANCED BIBLE	COURSE CONCENTRATION	BIOL/BIOA 300-499 4 hrs	• ENGL Literature Not including ENGL 351	SPAN/FREN/GER 222		
SR Fall 16 hrs	ADVANCED BIBLE	ELECTIVE	BIOL 497 Biology Seminar or * BIOL DIVERSITY	BIOL/BIOA 300-499 4 hrs	HISTORICAL LITERACY		Total Hours = 128
SR Spring 14 hrs	BIOL 497 Biology Seminar or * BIOL DIVERSITY	ELECTIVE	ELECTIVE 2 hrs	ELECTIVE	UNIVERSITY REQUIREMENT SELECTION		

Symbol Key: + Freshman Requirement. @ Course typically available in a summer term. * This course or its equivalent is offered at one of ACU's semester-long Study Abroad sites. Those planning to study abroad should save these courses. See www.acu.edu/study-abroad for updated courses. • BIOL DIVERSITY choices include: BIOL 380, 481, 486, 487.