

Biology

Technological breakthroughs in areas such as biochemistry, botany, ecology, genetics, microbiology, molecular biology, and physiology are being used to solve problems in agriculture, the environment, and medical oriented industries. Preparing students at all levels in the education system to work in the sciences is important to solving future problems and making new discoveries. The Department of Biology focuses on areas of modern biology and biotechnology offering a degree in two specializations: B.S. General Biology and B.A. Biology Teaching. The specializations include a series of seven core courses fundamental to all areas of biology.

Graduates with the B.S. General Biology degree are prepared to gain employment in industry, government, health professions, and research laboratories, or to pursue advanced degrees in the biological sciences. Graduates with the B.A. Biology Teaching degree are certified to teach in the public high school system in Florida. Prospective students need to be aware that some biology lab courses involve the use of live animals. Students may wish to seek details from course instructors before enrolling.

Program Requirements

In addition to the university's general requirements, students seeking the B.S. or B.A. in Biology must meet the requirements listed below.

A grade of "C-" or better is required in each of the seven biology core courses. Consult with your academic advisor for courses that may satisfy both the General Education requirements and common prerequisites.

A minimum grade of "C-" or better is required in all courses in the program including all Major-Related, Electives and Common Prerequisites.

General Biology Specialization

The General Biology Specialization includes a grounding in the basic areas of biology from molecular to ecological processes. Electives allow students to concentrate in areas of interest, such as microbiology, ecology, etc., at a more advanced level. Directed study hours may be included as electives to increase "hands-on" learning in an area of interest.

Minimum grade of "C-" or better required in all courses in the program to include all Core, Specialization, Subcore, Major-Related, and Common Prerequisites. Some Biology Program courses require prerequisite biology course grades of "C" or better. Biology Program minimum GPA of 2.0 is required for graduation.

General Education

Biology majors should satisfy the mathematics (6 sh) and science (6 sh) components of General Education with coursework taken from the common prerequisites shown below.

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the Gordon Rule, multicultural, and foreign language requirements. With appropriate planning and coordination with an academic advisor, students may satisfy some of the general University requirements through the General Education curriculum. For a complete listing of general degree requirements, refer to the "[University Requirements](#)" section of this catalog.

General Education Curriculum: Communication

ENC 1101	English Composition I	3
ENC 1102	English Composition II	3

Mathematics

Choose one course from Group A and one Additional course from either Group A or Group B 6

Group A		
MAC 1105	College Algebra	
MAC 1105C	College Algebra with Lab	
MAC 2311	Analytic Geometry and Calculus I	
MGF 1106	Mathematics for Liberal Arts I	
MGF 1107	Mathematics for Liberal Arts II	
STA 2023	Elements of Statistics	
Group B		
MAC 1114	Trigonometry	
MAC 1140	Precalculus Algebra	
MAC 1147	Precalculus with Trigonometry	
MAC 2233	Calculus with Business Applications	
MAC 2312	Analytic Geometry and Calculus II	
STA 2360	Introduction to Data Science	

Social Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A		
AMH 2020	United States since 1877	
ANT 2000	Introduction to Anthropology	
ECO 2013	Principles of Economics Macro	
POS 2041	American Politics	
PSY 2012	General Psychology	
SYG 2000	Introduction to Sociology	
Group B		
AMH 2010	United States to 1877	
ANT 2100	Introduction to Archaeology	
ANT 2400	Current Cultural Issues	
CCJ 2002	Survey of Crime and Justice	
COM 2023	Death and Communication	
CPO 2002	Comparative Politics	
DEP 2004	Human Development Across the Lifespan	
EUH 1000	Western Perspectives I	
EUH 1001	Western Perspectives II	
FIN 2104	Personal Financial Planning	
GEA 2000	Nations and Regions of the World	
GEB 1011	Introduction to Business	
HIS 2050	Explore Gender and Diversity	
IDH 1041	Honors Core: Social Sciences	
INR 2002	International Politics	
MMC 2000	Principles of Mass Communication	
PLA 2013	Survey of American Law	
SOW 2192	Understanding Relationships in the 21st Century	

SPM 2010	Sport in Global Society
SYG 2010	Current Social Problems

Humanities

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A	
ARH 1000	Art Appreciation
LIT 2000	Introduction to Literature
MUL 2010	Music Appreciation
PHI 2010	Introduction to Philosophy
THE 2000	Theatre Appreciation
Group B	
AML 2010	American Literature I
AML 2020	American Literature II
AML 2072	Sex, Money, and Power in American Literature
ARH 2050	Western Survey I: Prehistory to the Medieval Period
ARH 2051	Western Survey II: Renaissance to Contemporary
ART 1015C	Exploring Artistic Vision
ART 2821	The Self, Creativity, Your Career and Visual Culture
CRW 2001	Introduction to Creative Writing
ENL 2010	History of English Literature I
ENL 2020	History of English Literature II
IDH 1040	Honors Core: Humanities
LIT 2030	Introduction to Poetry
MUH 2930	The Music Experience: Special Topics
PHI 2103	Critical Thinking
PHI 2603	Ethics in Contemporary Society
REL 1300	World Religions
SPC 2608	Public Speaking
THE 2300	Survey of Dramatic Literature

Natural Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A	
AST 1002	Descriptive Astronomy
BSC 1005	General Biology for Non-Majors *
BSC 1085	Anatomy and Physiology I *
BSC 2010	Biology I
CHM 1020	Concepts in Chemistry *
CHM 2045	General Chemistry I *
ESC 2000	Introduction to Earth Science *
EVR 2001	Introduction to Environmental Science
PHY 1020	Conceptual Physics
PHY 2048	Calculus-Based Physics I *,**
PHY 2048C	Calculus-Based Physics I Studio ***
PHY 2053	Algebra-Based Physics I *,**
Group B	
ANT 2511	Biological Anthropology *

AST 2037	Life in the Universe
BOT 2010	General Botany
BSC 1050	Fundamentals of Ecology
BSC 1086	Anatomy and Physiology II *
BSC 2011	Biology II
BSC 2311	Introduction to Oceanography and Marine Biology *
CGS 2020	Introduction to Machine Learning
CHM 2046	General Chemistry II *
CIS 2530	Introduction to Cybersecurity
GLY 2010	Physical Geology *
MCB 1000	Fundamentals of Microbiology *
PHC 2082	Informatics and Your Health
PHY 2049	Calculus-Based Physics II *,**
PHY 2054	Algebra-Based Physics II *,**

* May be taken with or without lab.

** Algebra-Based Physics is usually recommended for non-science majors, while Calculus-Based Physics is recommended for science majors

*** Although students receive 5 semester hours credit for PHY 2048C, an additional 3 semester science course will be needed to meet General Education requirements.

General Education Electives

Choose an additional course from two of the three areas of Humanities, Social Sciences, and Natural Sciences

Multicultural Requirement

Multicultural Courses

An important component of a liberal education is the study of cultures other than one's own. As such, multiculturalism encompasses the appreciation of the values, expressions, and modes of organization of diverse cultural communities. To further such study, the University of West Florida requires all students pursuing a bachelor's degree to complete at least one course that explores one or more of the dimensions of another culture (language, religion, socio-economic structures, etc.). Students are exempt from this requirement if they have completed an A.A. degree, the general education program at a Florida public institution, or a baccalaureate degree.

The requirement is satisfied by the successful completion of a multicultural course designated on the following list. Several of the selections are General Education courses, and students may enroll in these to meet both the General Education and the multicultural requirements.

**Passed by UWF Faculty Senate on 11/08/2002

This list is continually updated and students are encouraged to check with their advisors for alternative options.

AML 2010	American Literature I	3
AML 2020	American Literature II	3
AML 3604	African American Literature	3
AML 3624	Black Women Writers	3
AML 4015	Topics in Nineteenth-Century American Literature	3
AML 4640	Topics in Native American Literature	3

ANT 1001	Anthropology as a Profession	1	LAH 4131	'Atlantic Indians': How Indigenous and African Peoples Shaped Europe & the Americas	3
ANT 2000	Introduction to Anthropology	3	LAH 4451	Greater Mexico: Central America from Conquest to the 20th Century	3
ANT 2301	Human Sexuality and Culture	3	LAH 4728	Gender and Sexuality in Latin America from Colonization to Today	3
ANT 3212	Peoples and Cultures of the World	3	LIT 2000	Introduction to Literature	3
ANT 3312	North American Indians	3	LIT 2030	Introduction to Poetry	3
ANT 3363	Japanese Culture	3	LIT 3233	Postcolonial Literature	3
ANT 3403	Cultural Ecology	3	LIT 4036	Topics in Poetry and Poetics	3
ANT 4006	Anthropology of Human Rights	3	LIT 4385	Feminist Theory	3
ANT 4025	Ritual Use of Human Remains	3	MAN 4102	Management of Diversity	3
ANT 4516	Modern Human Physical Variation	3	MAR 4156	Seminar in International Marketing	3
ARH 1000	Art Appreciation	3	MMC 3743	Communicating Fear: Horror Films and Popular Culture	3
ARH 2050	Western Survey I: Prehistory to the Medieval Period	3	MMC 3745	Communicating Fear Abroad: International Horror Films & Popular Culture	3
ARH 3201	Art and Culture in The Global Middle Ages	3	MMC 4601	Minorities and the Mass Media	3
ARH 2051	Western Survey II: Renaissance to Contemporary	3	MUH 2930	The Music Experience: Special Topics	3
ARH 3590	Non-Western Art	3	MUL 2010	Music Appreciation	3
ARH 3607	Native American Art	3	NUR 4615	Community and Public Health Nursing	3
ARH 4302	Late Renaissance Art in Italy	3	NUR 4636	Population-based Public Health Nursing	3
ARH 4412	The Age of Revolution to Romanticism in Europe: 1750-1850	3	PHI 3790	African Philosophy	3
ARH 4450	Modern Art: 1850-1980	3	PUR 3404	International Public Relations	3
ARH 4470	Contemporary Art	3	PSY 3860	Positive Psychology	3
ARH 4563	Art of Japan	3	SOP 3730	Psychology, Culture, and Society	3
CCJ 3678	Race, Gender, Ethnicity, and Crime	3	SOW 4233	Human Diversity and Social Justice	3
COM 3014	Gender Communication	3	SPN 3400	Advanced Stylistics	3
COM 3461	Intercultural Communication	3	SPN 4520	Latin American Culture and Civilization	3
COM 4242	Communication and Christianity	3	SYO 4421	Sociology of Health, Illness and Health Care	3
CPO 2002	Comparative Politics	3	SYO 4530	Inequality in America	3
CRW 2001	Introduction to Creative Writing	3			
EDF 2085	Teaching Diverse Populations	3			
ENG 4013	Introduction to Literary Theory	3			
ENL 2020	History of English Literature II	3			
EUH 1000	Western Perspectives I	3			
EUH 1001	Western Perspectives II	3			
EUH 3203	Modern Europe	3			
EUH 3334	Emperors, Sultans, Dictators, and Democrats: The Balkans	3			
EUH 3411	Rome and the Mediterranean World	3			
EUH 3576	Soviet Union since 1917	3			
FRE 4955	Supervised Foreign Language Field Experience Abroad	1-3			
GEA 2000	Nations and Regions of the World	3			
GEB 4361	International Business	3			
GEO 3421	Cultural Geography	3			
GEO 3471	Geography of World Affairs	3			
HSC 2622	Introduction to Global Health Sciences	3			
HIS 2050	Explore Gender and Diversity	3			
HIS 4262	Rise and Fall of the Portuguese Empire	3			
IDH 1040	Honors Core: Humanities	3			
IDH 1041	Honors Core: Social Sciences	3			
INR 2002	International Politics	3			
LAH 4135	Spanish Conquest of the Americas	3			

Civic Literacy Requirement

The 2017 Florida Legislature amended [Section 1007.25, Florida Statutes](#), to require students **initially entering a State University System (SUS) and/or Florida College System (FCS) institution in 2018-2019** and thereafter to demonstrate competency in civic literacy. The 2021 Legislature further amended Florida Statutes, requiring students to complete both a civic literacy course and an exam. As a result, there are three cohorts of students currently matriculating at Florida public institutions subject to varying requirements. As demonstrated in the table below, the exact civic literacy requirements are based on the academic term in which a student first enrolled in a Florida public institution.

Students Included in Cohort	Civic Literacy Competency Requirement
Cohort 1: Students first entering the SUS or FCS prior to fall 2018	None
Cohort 2: Students first entering the SUS or FCS in fall 2018 – summer A 2021	Complete a course or exam

Cohort 3: Students first entering the SUS or FCS in summer B 2021 (on or after July 1, 2021) and thereafter	Complete both a course and exam
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Additionally, the 2021 Legislature made two additional exceptions: approving the use of accelerated mechanisms for meeting the course competency requirement and exempting high school students who pass the Florida Civic Literacy Exam in high school from the postsecondary exam requirement. These two changes are in effect for Cohort 3.

There are multiple ways to satisfy this requirement. Students should work with their academic advisor to determine which option is best for their degree requirements/degree plan.

Additional information can be found on our [Civic Literacy](#) website.

*BOG 8.006; s.1007.25(4,a-b)

Common Prerequisites

State-mandated common prerequisites must be completed prior to graduation, but are not required for admission to the program. See the [Common Prerequisite Manual](#) for course substitutions from Florida colleges and universities.

Graduation requirements for the B.S. or B.A. degree in Biology include the successful completion of the common prerequisites. Because it will be difficult to incorporate all prerequisites into the 60 sh Lower Division Curriculum, students are advised to complete the following common prerequisites.

BSC 2010+L	Biology I (+Lab) *	4
BSC 2011+L	Biology II (+Lab) *	4
CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
STA 2023	Elements of Statistics *	3
CHM 2210+L	Organic Chemistry I (+Lab)	4
PHY 2053+L	Algebra-Based Physics I (+Lab) *	4
Choose one option from the following:		4
Option 1		
CHM 2211+L	Organic Chemistry II (+Lab)	
Option 2		
PHY 2054+L	Algebra-Based Physics II (+Lab) *	
Total Hours		35

* Indicates common prerequisites which can be used to satisfy General Education requirements.

Lower Division Electives

Students must complete sufficient 1000/2000 level electives to satisfy at least 60 sh in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement.

Total Hours **2-8**

Major Required Courses

BSC 2844	Biology Skills	1
BCH 3033	Biochemistry I	3

MCB 3020+L	Microbiology (+Lab)	4
PCB 3043+L	Ecology (+Lab)	4
PCB 3063	Genetics	3
PCB 3103	Cell Biology	3
Choose one of the following:		3
PCB 4098	Concepts in Human Physiology	
PCB 4723	Comparative Animal Physiology	
BOT 4503	Plant Physiology	
PCB 4524	Molecular Biology	3
or BOT 4734	Plant Biotechnology	
PCB 4673	Principles of Evolution	3
STA 4173	Biostatistics	3

Total Hours **30**

Major GPA Calculation

The upper-division courses (3000-4000 level) with the following prefixes will be used in calculating the major grade point average: BCH, BOT, BSC, HSA, HSC, MLS, PCB, and ZOO.

Upper Division Electives (26 hours)

Elective hours must include 2 laboratory courses.

ANT 4836	Scientific and Research Diving	3
APK 3110	Exercise Physiology	3
APK 3110L	Exercise Physiology Laboratory	1
APK 3220C	Biomechanical Basis of Movement with Laboratory	4
APK 4125	Exercise Testing and Prescription	3
APK 4125L	Exercise Testing and Prescription Laboratory	1
APK 4163	Sports Nutrition	3
ATR 3132	Functional Kinesiology	3
BCH 3033L	Biochemistry I Laboratory *	1
BCH 3034	Biochemistry II	3
BOT 4374	Plant Developmental Biology	3
BOT 4374L	Plant Developmental Biology Laboratory *	1
BOT 4503	Plant Physiology (If not taken as part of required hours)	3
BOT 4503L	Plant Physiology Laboratory *	1
BOT 4734	Plant Biotechnology (If not taken as part of required hours)	3
BOT 4734L	Plant Biotechnology Lab *	1
BOT 4850	Medicinal Botany	3
BSC 4434	Bioinformatics and Data Science	3
BSC 4854	Bioterrorism	3
BSC 4860	Conservation Biology	3
CAP 4755	Tools for Data Science	3
CAP 4774	Databases for Data Science	3
CHM 3120	Analytical Chemistry	3
CHM 3120L	Analytical Chemistry Lab	1
CHM 3230	Organic Chemistry III	3
CHM 3400C	Basic Physical Chemistry	4
CHM 3410	Physical Chemistry I	5
CHM 4455	Introduction to Polymer Science	2
CHM 4455L	Introduction to Polymer Science Laboratory	1

ENC 3455	Writing for Science, Technology, Engineering and Math Majors	3	PCB 4098	Concepts in Human Physiology (If not taken as part of required hours) ⁺	3
EVR 3894	Environmental Writing	3	PCB 4098L	Concepts in Human Physiology Laboratory [*]	1
EVR 4035	Environmental Law	3	PCB 4125	Advanced Molecular Biology and Bioinformatics for Biologists (counts toward lab requirement) ⁺	3
EVR 4823	Environmental Impact Assessment	3	PCB 4233	Immunology ⁺	3
GEO 4004	Environmental Science, Politics and Policy	3	PCB 4233L	Immunology Laboratory ⁺ ⁺	1
GEY 4001	Gerontology ⁺	3	PCB 4253	Developmental Biology ⁺	3
GIS 4043	Geographic Information Systems	3	PCB 4253L	Developmental Biology Lab ⁺ ⁺	1
GIS 4043L	GIS Laboratory	1	PCB 4364	Marine Ecological Physiology ⁺	3
GIS 4048	Applications in Geographic Information Systems	3	PCB 4364L	Marine Ecological Physiology Laboratory [*]	1
HSC 3147	Pharmacology for Health Professionals	3	PCB 4524	Molecular Biology (If not taken as part of required hours)	3
HSC 3535	Medical Terminology ⁺	3	PCB 4524L	Molecular Biology Lab ⁺ ⁺	1
HSC 3555	Pathophysiology ⁺	3	PCB 4703	Human Physiology	3
HSC 4143	Drugs in Society	3	PCB 4723	Comparative Animal Physiology (If not taken as part of required hours) ⁺	3
HSC 4502	Principles of Human Disease	3	PCB 4723L	Comparative Animal Physiology Laboratory ⁺ ⁺	1
HSC 4551	Communicable and Degenerative Diseases	3	PCB 4870	Sensory Biology ⁺	3
HSC 4572	Nutrition and Health	3	PCB 4922	Biology Seminar ⁺	1
MCB 4276	Epidemiology of Infectious Disease ⁺	3	PSB 4002	Brain, Behavior, and Experience	3
MCB 4631	Molecular Aquatic Microbial Ecology	3	STA 4051	Nonparametric Statistics	3
MLS 3194	Clinical Genetics	3	STA 4121	Statistics for Data Science I	3
MLS 3621	Clinical Biochemistry	3	STA 4231	Statistics for Data Science II	3
MLS 4191	Molecular Diagnostics	3	STA 4222	Sampling Theory	3
MLS 4191L	Molecular Diagnostics Laboratory [*]	1	STA 4234	Regression Analysis	3
MLS 4220	Urinalysis/Body Fluids I	1	ZOO 4254C	Marine Invertebrate Zoology	4
MLS 4220L	Urinalysis/Body Fluids I Lab [*]	1	ZOO 4304C	Marine Vertebrate Zoology	4
MLS 4305	Hematology I	3	ZOO 4454	Elasmobranch Biology	3
MLS 4305L	Hematology I Lab [*]	1	ZOO 4457	Ichthyology	3
MLS 4334	Hemostasis and Thrombosis	1	ZOO 4472	Avian Science	3
MLS 4334L	Hemostasis and Thrombosis Lab [*]	1	ZOO 4485	Marine Mammalogy	3
MLS 4460	Diagnostic Microbiology I [*]	3	ZOO 4513	Animal Behavior	3
MLS 4460L	Diagnostic Microbiology I Laboratory [*]	1			
MLS 4462	Medical Microbiology	3			
MLS 4462L	Medical Microbiology Lab [*]	1			
MLS 4505	Clinical Immunology	3			
MLS 4505L	Clinical Immunology Lab [*]	1			
MLS 4550	Immunohematology I	3			
MLS 4550L	Immunohematology I Lab [*]	1			
MLS 4625	Clinical Chemistry I	2			
MLS 4625L	Clinical Chemistry I Lab [*]	1			
MLS 4630	Clinical Chemistry II	2			
MLS 4630L	Clinical Chemistry II Lab [*]	1			
MLS 4820L	Clinical Chemistry III	4			
MLS 4821L	Diagnostic Microbiology II	4			
MLS 4822L	Hematology II	4			
MLS 4823L	Immunohematology II	4			
MLS 4825L	Urinalysis/Body Fluids II	2			
OCE 3007	Concepts of Oceanography and Marine Biology ⁺	3			
PCB 3063L	Genetics Lab [*]	1			
PCB 3097L	Introduction to Human Anatomy Laboratory	3			
PCB 3103L	Cell Biology Laboratory [*]	1			

* Indicates the lecture is a concurrent prerequisite.

Up to 3 sh of directed study credit may be applied to electives. Students must confer with an advisor when selecting electives.

Accelerated Bachelor's (BS)/Master's (MS) in Biology Option

Minimum Requirements For Admission:

- Overall undergraduate GPA of 3.25 or better
- Undergraduate Major GPA of 3.25 or better
- A grade of B (3.0) or better in each Bachelor of Sciences in Biology core courses
- Two letters of recommendation

Process:

A prospective student who meets the minimum requirements for admission to the Accelerated Bachelor's to Master's (BS/MS) program must schedule a meeting with their undergraduate advisor and the

Biology graduate coordinator to discuss and develop a degree plan for the student's Accelerated BS/MS program. The student must then submit an application for the Accelerated BS/MS Biology Program and two letters of recommendation to the Biology graduate coordinator.

Program Requirements:

Students must have completed 75 undergraduate credit hours, including credits earned from advanced placement, prior to applying to the Accelerated BS/MS program in Biology. Transfer students must have completed a minimum of two semesters and at least 24 credit hours at the University of West Florida prior to application to the Accelerated BS/MS program. Admission into the Accelerated BS/MS program does not guarantee admission into the Biology MS program upon completion of the Biology BS undergraduate degree. Students must still submit an Express Admission application for the Biology MS program. Students who are a part of the BS/MS program cannot be provisionally or conditionally admitted into the Biology MS program.

Upon admission into the Master's In Biology program, 12 graduate credit hours completed as an undergraduate student will count for 12 semester hours of coursework for the Master's program. Students in the Accelerated Bachelor's/Master's Program in Biology must earn a grade of B (3.0/4.0) or better in each of the graduate-level courses that are being applied to both degrees. Courses completed with a grade of B- or below cannot be applied to the Master's degree. Any dual-listed 4000/5000 level Biology courses are permitted. The student must take the class at the 5000 level to count for accelerated credit.

If a student in the program completes the Bachelor's degree requirements with an overall GPA of less than 3.25/4.0, the student is no longer eligible to apply the graduate credit hours to both degrees. A student who becomes ineligible to continue participating in or withdraws from the Accelerated BS/MS program cannot apply any graduate credit hours toward both degrees (i.e., the student can only apply the credit hours towards completion of the BS degree or toward a future Master's degree).

Students who are enrolled in the program are eligible for graduate assistantship positions only after completing the Bachelor's degree.

Application Deadlines:

All application materials must be submitted by the dates listed below for admission into the following semesters.

Summer: March 1

Fall: June 1

Spring: October 1

General Biology Specialization

The General Biology Specialization includes a grounding in the basic areas of biology from molecular to ecological processes. Electives allow students to concentrate in areas of interest, such as microbiology, ecology, etc., at a more advanced level. Directed study hours may be included as electives to increase hands-on learning in an area of interest.

A minimum grade of C- or better is required in all courses in the program including Core, Specialization, Subcore, Major-Related, and Common Prerequisites. Some biology program courses require prerequisite biology course grades of C or better. A minimum program GPA of 2.0 is required for graduation.

General Education

Biology majors should satisfy the mathematics (6 sh) and science (6 sh) components of General Education with coursework taken from the common prerequisites shown below.

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the Gordon Rule, multicultural, and foreign language requirements. With appropriate planning and coordination with an academic advisor, students may satisfy some of the general University requirements through the General Education curriculum. For a complete listing of general degree requirements, refer to the "[University Requirements](#)" section of this catalog.

General Education Curriculum:

Communication

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ENC 1102	English Composition II	3

Mathematics

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Group A

MAC 1105	College Algebra
MAC 1105C	College Algebra with Lab
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MGF 1106	Mathematics for Liberal Arts I
MGF 1107	Mathematics for Liberal Arts II
STA 2023	Elements of Statistics

Group B

MAC 1114	Trigonometry
MAC 1140	Precalculus Algebra
MAC 1147	Precalculus with Trigonometry
MAC 2233	Calculus with Business Applications
MAC 2312	Analytic Geometry and Calculus II
STA 2360	Introduction to Data Science

Social Sciences

Choose one course from Group A and one additional course from either Group A or Group B

Group A

AMH 2020	United States since 1877
ANT 2000	Introduction to Anthropology
ECO 2013	Principles of Economics Macro
POS 2041	American Politics
PSY 2012	General Psychology
SYG 2000	Introduction to Sociology

Group B

AMH 2010	United States to 1877
ANT 2100	Introduction to Archaeology
ANT 2400	Current Cultural Issues
CCJ 2002	Survey of Crime and Justice
COM 2023	Death and Communication
CPO 2002	Comparative Politics
DEP 2004	Human Development Across the Lifespan
EUH 1000	Western Perspectives I

EUH 1001	Western Perspectives II
FIN 2104	Personal Financial Planning
GEA 2000	Nations and Regions of the World
GEB 1011	Introduction to Business
HIS 2050	Explore Gender and Diversity
IDH 1041	Honors Core: Social Sciences
INR 2002	International Politics
MMC 2000	Principles of Mass Communication
PLA 2013	Survey of American Law
SOW 2192	Understanding Relationships in the 21st Century
SPM 2010	Sport in Global Society
SYG 2010	Current Social Problems

Humanities

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Group A	
ARH 1000	Art Appreciation
LIT 2000	Introduction to Literature
MUL 2010	Music Appreciation
PHI 2010	Introduction to Philosophy
THE 2000	Theatre Appreciation
Group B	
AML 2010	American Literature I
AML 2020	American Literature II
AML 2072	Sex, Money, and Power in American Literature
ARH 2050	Western Survey I: Prehistory to the Medieval Period
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ART 1015C	Exploring Artistic Vision
ART 2821	The Self, Creativity, Your Career and Visual Culture
CRW 2001	Introduction to Creative Writing
ENL 2010	History of English Literature I
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LIT 2030	Introduction to Poetry
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PHI 2603	Ethics in Contemporary Society
REL 1300	World Religions
SPC 2608	Public Speaking
THE 2300	Survey of Dramatic Literature

Natural Sciences

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Group A	
AST 1002	Descriptive Astronomy
BSC 1005	General Biology for Non-Majors *
BSC 1085	Anatomy and Physiology I *

BSC 2010	Biology I
CHM 1020	Concepts in Chemistry *
CHM 2045	General Chemistry I *
ESC 2000	Introduction to Earth Science *
EVR 2001	Introduction to Environmental Science
PHY 1020	Conceptual Physics
PHY 2048	Calculus-Based Physics I **, **
PHY 2048C	Calculus-Based Physics I Studio ***
PHY 2053	Algebra-Based Physics I **, **
Group B	
ANT 2511	Biological Anthropology *
AST 2037	Life in the Universe
BOT 2010	General Botany
BSC 1050	Fundamentals of Ecology
BSC 1086	Anatomy and Physiology II *
BSC 2011	Biology II
BSC 2311	Introduction to Oceanography and Marine Biology *
CGS 2020	Introduction to Machine Learning
CHM 2046	General Chemistry II *
CIS 2530	Introduction to Cybersecurity
GLY 2010	Physical Geology *
MCB 1000	Fundamentals of Microbiology *
PHC 2082	Informatics and Your Health
PHY 2049	Calculus-Based Physics II **, **
PHY 2054	Algebra-Based Physics II **, **

* May be taken with or without lab.

** Algebra-Based Physics is usually recommended for non-science majors, while Calculus-Based Physics is recommended for science majors

*** Although students receive 5 semester hours credit for PHY 2048C, an additional 3 semester science course will be needed to meet General Education requirements.

General Education Electives

Choose an additional course from two of the three areas of Humanities, Social Sciences, and Natural Sciences

Multicultural Requirement

Multicultural Courses

An important component of a liberal education is the study of cultures other than one's own. As such, multiculturalism encompasses the appreciation of the values, expressions, and modes of organization of diverse cultural communities. To further such study, the University of West Florida requires all students pursuing a bachelor's degree to complete at least one course that explores one or more of the dimensions of another culture (language, religion, socio-economic structures, etc.). Students are exempt from this requirement if they have completed an A.A. degree, the general education program at a Florida public institution, or a baccalaureate degree.

The requirement is satisfied by the successful completion of a multicultural course designated on the following list. Several of the selections are General Education courses, and students may enroll

in these to meet both the General Education and the multicultural requirements.

***Passed by UWF Faculty Senate on 11/08/2002*

This list is continually updated and students are encouraged to check with their advisors for alternative options.

AML 2010	American Literature I	3
AML 2020	American Literature II	3
AML 3604	African American Literature	3
AML 3624	Black Women Writers	3
AML 4015	Topics in Nineteenth-Century American Literature	3
AML 4640	Topics in Native American Literature	3
ANT 1001	Anthropology as a Profession	1
ANT 2000	Introduction to Anthropology	3
ANT 2301	Human Sexuality and Culture	3
ANT 3212	Peoples and Cultures of the World	3
ANT 3312	North American Indians	3
ANT 3363	Japanese Culture	3
ANT 3403	Cultural Ecology	3
ANT 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4516	Modern Human Physical Variation	3
ARH 1000	Art Appreciation	3
ARH 2050	Western Survey I: Prehistory to the Medieval Period	3
ARH 3201	Art and Culture in The Global Middle Ages	3
ARH 2051	Western Survey II: Renaissance to Contemporary	3
ARH 3590	Non-Western Art	3
ARH 3607	Native American Art	3
ARH 4302	Late Renaissance Art in Italy	3
ARH 4412	The Age of Revolution to Romanticism in Europe: 1750-1850	3
ARH 4450	Modern Art: 1850-1980	3
ARH 4470	Contemporary Art	3
ARH 4563	Art of Japan	3
CCJ 3678	Race, Gender, Ethnicity, and Crime	3
COM 3014	Gender Communication	3
COM 3461	Intercultural Communication	3
COM 4242	Communication and Christianity	3
CPO 2002	Comparative Politics	3
CRW 2001	Introduction to Creative Writing	3
EDF 2085	Teaching Diverse Populations	3
ENG 4013	Introduction to Literary Theory	3
ENL 2020	History of English Literature II	3
EUH 1000	Western Perspectives I	3
EUH 1001	Western Perspectives II	3
EUH 3203	Modern Europe	3
EUH 3334	Emperors, Sultans, Dictators, and Democrats: The Balkans	3
EUH 3411	Rome and the Mediterranean World	3
EUH 3576	Soviet Union since 1917	3

FRE 4955	Supervised Foreign Language Field Experience Abroad	1-3
GEA 2000	Nations and Regions of the World	3
GEB 4361	International Business	3
GEO 3421	Cultural Geography	3
GEO 3471	Geography of World Affairs	3
HSC 2622	Introduction to Global Health Sciences	3
HIS 2050	Explore Gender and Diversity	3
HIS 4262	Rise and Fall of the Portuguese Empire	3
IDH 1040	Honors Core: Humanities	3
IDH 1041	Honors Core: Social Sciences	3
INR 2002	International Politics	3
LAH 4135	Spanish Conquest of the Americas	3
LAH 4131	'Atlantic Indians': How Indigenous and African Peoples Shaped Europe & the Americas	3
LAH 4451	Greater Mexico: Central America from Conquest to the 20th Century	3
LAH 4728	Gender and Sexuality in Latin America from Colonization to Today	3
LIT 2000	Introduction to Literature	3
LIT 2030	Introduction to Poetry	3
LIT 3233	Postcolonial Literature	3
LIT 4036	Topics in Poetry and Poetics	3
LIT 4385	Feminist Theory	3
MAN 4102	Management of Diversity	3
MAR 4156	Seminar in International Marketing	3
MMC 3743	Communicating Fear: Horror Films and Popular Culture	3
MMC 3745	Communicating Fear Abroad: International Horror Films & Popular Culture	3
MMC 4601	Minorities and the Mass Media	3
MUH 2930	The Music Experience: Special Topics	3
MUL 2010	Music Appreciation	3
NUR 4615	Community and Public Health Nursing	3
NUR 4636	Population-based Public Health Nursing	3
PHI 3790	African Philosophy	3
PUR 3404	International Public Relations	3
PSY 3860	Positive Psychology	3
SOP 3730	Psychology, Culture, and Society	3
SOW 4233	Human Diversity and Social Justice	3
SPN 3400	Advanced Stylistics	3
SPN 4520	Latin American Culture and Civilization	3
SYO 4421	Sociology of Health, Illness and Health Care	3
SYO 4530	Inequality in America	3

Civic Literacy Requirement

The 2017 Florida Legislature amended [Section 1007.25, Florida Statutes](#), to require students **initially entering a State University System (SUS) and/or Florida College System (FCS) institution in 2018-2019** and thereafter to demonstrate competency in civic literacy.

The 2021 Legislature further amended Florida Statutes, requiring students to complete both a civic literacy course and an exam. As a result, there are three cohorts of students currently matriculating at Florida public institutions subject to varying requirements. As

demonstrated in the table below, the exact civic literacy requirements are based on the academic term in which a student first enrolled in a Florida public institution.

Students Included in Cohort	Civic Literacy Competency Requirement
Cohort 1: Students first entering the SUS or FCS prior to fall 2018	None
Cohort 2: Students first entering the SUS or FCS in fall 2018 – summer A 2021	Complete a course or exam
Cohort 3: Students first entering the SUS or FCS in summer B 2021 (on or after July 1, 2021) and thereafter	Complete both a course and exam

Additionally, the 2021 Legislature made two additional exceptions: approving the use of accelerated mechanisms for meeting the course competency requirement and exempting high school students who pass the Florida Civic Literacy Exam in high school from the postsecondary exam requirement. These two changes are in effect for Cohort 3.

There are multiple ways to satisfy this requirement. Students should work with their academic advisor to determine which option is best for their degree requirements/degree plan.

Additional information can be found on our [Civic Literacy](#) website.

*BOG 8.006; s.1007.25(4,a-b)

Common Prerequisites

State-mandated common prerequisites must be completed prior to graduation, but are not required for admission to the program. See the [Common Prerequisite Manual](#) for course substitutions from Florida colleges and universities.

Graduation requirements for the B.S. or B.A. degree in Biology include the successful completion of the common prerequisites. Because it will be difficult to incorporate all prerequisites into the 60 sh Lower Division Curriculum, students are advised to complete the following common prerequisites.

BSC 2010+L	Biology I (+Lab) *	4
BSC 2011+L	Biology II (+Lab) *	4
CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
STA 2023	Elements of Statistics *	3
CHM 2210+L	Organic Chemistry I (+Lab)	4
PHY 2053+L	Algebra-Based Physics I (+Lab) *	4
Choose one option from the following:		4
Option 1		
CHM 2211+L	Organic Chemistry II (+Lab)	
Option 2		
PHY 2054+L	Algebra-Based Physics II (+Lab) *	
Total Hours		35

* Indicates common prerequisites which can be used to satisfy General Education requirements.

Lower Division Electives

Students must complete sufficient 1000/2000 level electives to satisfy at least 60 sh in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement.

Total Hours 2-8

Major Required Courses

BSC 2844	Biology Skills	1
BCH 3033	Biochemistry I	3
MCB 3020+L	Microbiology (+Lab)	4
PCB 3043+L	Ecology (+Lab)	4
PCB 3063	Genetics	3
PCB 3103	Cell Biology	3
Choose one of the following:		3
PCB 4098	Concepts in Human Physiology	
PCB 4723	Comparative Animal Physiology	
BOT 4503	Plant Physiology	
PCB 4524	Molecular Biology	3
or BOT 4734	Plant Biotechnology	
PCB 4673	Principles of Evolution	3
STA 4173	Biostatistics	3

Total Hours 30

Major GPA Calculation

The upper-division courses (3000-4000 level) with the following prefixes will be used in calculating the major grade point average: BCH, BOT, BSC, HSA, HSC, MLS, PCB, and ZOO.

Upper Division Electives (26 hours)

Elective hours must include 2 laboratory courses

ANT 4836	Scientific and Research Diving	3
APK 3110+L	Exercise Physiology (+Lab)	4
APK 3220C	Biomechanical Basis of Movement with Laboratory	4
APK 4125+L	Exercise Testing and Prescription (+Lab)	4
APK 4163	Sports Nutrition	3
ATR 3132	Functional Kinesiology	3
BCH 3033L	Biochemistry I Laboratory *	1
BCH 3034	Biochemistry II	3
BOT 4374	Plant Developmental Biology	3
BOT 4374L	Plant Developmental Biology Laboratory *	1
BOT 4503	Plant Physiology	3
BOT 4503L	Plant Physiology Laboratory *	1
BOT 4734	Plant Biotechnology	3
BOT 4734L	Plant Biotechnology Lab *	1
BOT 4850	Medicinal Botany	3
BSC 4434	Bioinformatics and Data Science	3
BSC 4854	Bioterrorism	3
BSC 4860	Conservation Biology	3
CAP 4755	Tools for Data Science	3
CAP 4774	Databases for Data Science	3
CHM 3120+L	Analytical Chemistry (+Lab)	4

CHM 3230	Organic Chemistry III	3	PCB 3097L	Introduction to Human Anatomy Laboratory	3
CHM 3400C	Basic Physical Chemistry	4	PCB 3103L	Cell Biology Laboratory *	1
CHM 3410	Physical Chemistry I	5	PCB 4098	Concepts in Human Physiology (If not taken as part of required hours)	3
CHM 4455+L	Introduction to Polymer Science (+Lab)	3	PCB 4098L	Concepts in Human Physiology Laboratory *	1
ENC 3455	Writing for Science, Technology, Engineering and Math Majors	3	PCB 4125	Advanced Molecular Biology and Bioinformatics for Biologists (counts towards lab requirement)	3
EVR 3894	Environmental Writing	3	PCB 4233	Immunology	3
EVR 4035	Environmental Law	3	PCB 4233L	Immunology Laboratory *	1
EVR 4823	Environmental Impact Assessment	3	PCB 4253	Developmental Biology	3
GEO 4004	Environmental Science, Politics and Policy	3	PCB 4253L	Developmental Biology Lab *	1
GEY 4001	Gerontology	3	PCB 4364	Marine Ecological Physiology	3
GIS 4043+L	Geographic Information Systems (+Lab)	4	PCB 4364L	Marine Ecological Physiology Laboratory *	1
GIS 4048	Applications in Geographic Information Systems	3	PCB 4524	Molecular Biology (if not taken as part of required hours)	3
HSC 3147	Pharmacology for Health Professionals	3	PCB 4524L	Molecular Biology Lab *	1
HSC 3535	Medical Terminology	3	PCB 4703	Human Physiology	3
HSC 3555	Pathophysiology	3	PCB 4723	Comparative Animal Physiology (if not taken as part of required hours)	3
HSC 4143	Drugs in Society	3	PCB 4723L	Comparative Animal Physiology Laboratory *	1
HSC 4502	Principles of Human Disease	3	PCB 4870	Sensory Biology	3
HSC 4551	Communicable and Degenerative Diseases	3	PCB 4922	Biology Seminar	1
HSC 4572	Nutrition and Health	3	PSB 4002	Brain, Behavior, and Experience	3
MCB 4276	Epidemiology of Infectious Disease	3	STA 4051	Nonparametric Statistics	3
MCB 4631	Molecular Aquatic Microbial Ecology	3	STA 4121	Statistics for Data Science I	3
MLS 3194	Clinical Genetics	3	STA 4231	Statistics for Data Science II	3
MLS 3621	Clinical Biochemistry	3	STA 4222	Sampling Theory	3
MLS 4191	Molecular Diagnostics	3	STA 4234	Regression Analysis	3
MLS 4191L	Molecular Diagnostics Laboratory *	1	ZOO 4254C	Marine Invertebrate Zoology	4
MLS 4220	Urinalysis/Body Fluids I	1	ZOO 4304C	Marine Vertebrate Zoology	4
MLS 4220L	Urinalysis/Body Fluids I Lab *	1	ZOO 4454	Elasmobranch Biology	3
MLS 4305	Hematology I	3	ZOO 4457	Ichthyology	3
MLS 4305L	Hematology I Lab *	1	ZOO 4472	Avian Science	3
MLS 4334	Hemostasis and Thrombosis	1	ZOO 4485	Marine Mammalogy	3
MLS 4334L	Hemostasis and Thrombosis Lab *	1	ZOO 4513	Animal Behavior	3
MLS 4460+L	Diagnostic Microbiology I (+Lab) *	4			
MLS 4460L	Diagnostic Microbiology I Laboratory *	1			
MLS 4462+L	Medical Microbiology (+Lab)	4			
MLS 4462L	Medical Microbiology Lab *	1			
MLS 4505	Clinical Immunology	3			
MLS 4505L	Clinical Immunology Lab *	1			
MLS 4550	Immunohematology I	3			
MLS 4550L	Immunohematology I Lab *	1			
MLS 4625	Clinical Chemistry I	2			
MLS 4625L	Clinical Chemistry I Lab *	1			
MLS 4630	Clinical Chemistry II	2			
MLS 4630L	Clinical Chemistry II Lab *	1			
MLS 4820L	Clinical Chemistry III	4			
MLS 4821L	Diagnostic Microbiology II	4			
MLS 4822L	Hematology II	4			
MLS 4823L	Immunohematology II	4			
MLS 4825L	Urinalysis/Body Fluids II	2			
OCE 3007	Concepts of Oceanography and Marine Biology	3			
PCB 3063L	Genetics Lab *	1			

* Indicates the lecture is a concurrent pre-requisite.

Up to 3 sh of directed study credit may be applied to electives and count towards lab requirement. Students should confer with an advisor when selecting electives.

Graduate Level Courses

Up to 12 credit hours of advisor approved 5000 level courses listed below will be allowed to substitute for the undergraduate degree requirements. Other 5000 level courses may be allowed to substitute with advisor approval.

Approved Substitutions for Major Required Courses

PCB 5727 Comparative Animal Physiology

PCB 5675 Principles of Evolution

Approved Substitutions for Elective Courses *

BOT 5376 Plant Developmental Biology

BOT 5376L Plant Developmental Biology Laboratory *

BOT 5852	Medicinal Botany
BSC 5305	Biogeography
BSC 5459	Bioinformatics and Data Science
BSC 5865	Conservation Biology
CAP 5756	Tools for Data Science
CAP 5775	Databases for Data Science
GIS 5050+L	Geographic Information Systems (+Lab)
MCB 5273	Epidemiology of Infectious Disease
MCB 5633	Molecular Aquatic Microbial Ecology
OCB 5203	Biology of Coral Reefs
PCB 5235	Immunology
PCB 5235L	Immunology Laboratory *
PCB 5256	Developmental Biology
PCB 5319	Marine Ecological Physiology
PCB 5319L	Marine Ecological Physiology Laboratory *
PCB 5445C	Coastal Marine Ecology
PCB 5464	Molecular Ecology
PCB 5525	Advanced Molecular Biology and Bioinformatics for Biologists
PCB 5727	Comparative Animal Physiology (if not taken as part of the major requirement)
PCB 5872	Sensory Biology
PCB 5924	Biology Seminar
STA 5126	Statistics for Data Science I
STA 5232	Statistics for Data Science II
ZOO 5305C	Marine Vertebrate Zoology
ZOO 5452	Elasmobranch Biology
ZOO 5458	Ichthyology
ZOO 5475	Avian Science
ZOO 5486	Marine Mammology
ZOO 5514	Animal Behavior

Total Hours **1-12**

* Indicates the lecture is a concurrent pre-requisite.

+ 1-3 credit hours of directed independent study at the 5000 level may be applied to electives. Students should confer with an advisor when selecting electives.

Biology Teaching

Students entering UWF or declaring a major in the Biology Teaching degree program will automatically be placed in a pending status until they are fully admitted to the program. While in the pending status, students may not take 3000/4000 level education coursework, but should work closely with their advisor to plan an appropriate course of study in preparation for application to the program.

To be admitted, students must meet the following requirements:

- A cumulative GPA of 2.50 in all previously attempted college work;
- A passing score on the General Knowledge Test of the Florida Teacher Certification Exam;
- Completion of EDG 2041 Exploring Inquiry Teaching or equivalent with a grade of "C-" or higher.

The admission process requires students to complete the Application for Admission to Teacher Education (which includes a self-rating

on dispositions toward teaching) and complete the orientation requirement.

General Education

Biology majors should satisfy the mathematics (6 sh) and science (6 sh) components of General Education with course work taken from the common prerequisites shown below.

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the Gordon Rule, multicultural, and foreign language requirements. With appropriate planning and coordination with an academic advisor, students may satisfy some of the general University requirements through the General Education curriculum. For a complete listing of general degree requirements, refer to the "[University Requirements](#)" section of this catalog.

General Education Curriculum:

Communication

ENC 1101	English Composition I	3
ENC 1102	English Composition II	3

Mathematics

Choose one course from Group A and one Additional course from either Group A or Group B 6

Group A

MAC 1105	College Algebra
MAC 1105C	College Algebra with Lab
MAC 2311	Analytic Geometry and Calculus I
MGF 1106	Mathematics for Liberal Arts I
MGF 1107	Mathematics for Liberal Arts II
STA 2023	Elements of Statistics

Group B

MAC 1114	Trigonometry
MAC 1140	Precalculus Algebra
MAC 1147	Precalculus with Trigonometry
MAC 2233	Calculus with Business Applications
MAC 2312	Analytic Geometry and Calculus II
STA 2360	Introduction to Data Science

Social Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A

AMH 2020	United States since 1877
ANT 2000	Introduction to Anthropology
ECO 2013	Principles of Economics Macro
POS 2041	American Politics
PSY 2012	General Psychology
SYG 2000	Introduction to Sociology

Group B

AMH 2010	United States to 1877
ANT 2100	Introduction to Archaeology
ANT 2400	Current Cultural Issues
CCJ 2002	Survey of Crime and Justice
COM 2023	Death and Communication
CPO 2002	Comparative Politics

DEP 2004	Human Development Across the Lifespan
EUH 1000	Western Perspectives I
EUH 1001	Western Perspectives II
FIN 2104	Personal Financial Planning
GEA 2000	Nations and Regions of the World
GEB 1011	Introduction to Business
HIS 2050	Explore Gender and Diversity
IDH 1041	Honors Core: Social Sciences
INR 2002	International Politics
MMC 2000	Principles of Mass Communication
PLA 2013	Survey of American Law
SOW 2192	Understanding Relationships in the 21st Century
SPM 2010	Sport in Global Society
SYG 2010	Current Social Problems

Humanities

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A	
ARH 1000	Art Appreciation
LIT 2000	Introduction to Literature
MUL 2010	Music Appreciation
PHI 2010	Introduction to Philosophy
THE 2000	Theatre Appreciation
Group B	
AML 2010	American Literature I
AML 2020	American Literature II
AML 2072	Sex, Money, and Power in American Literature
ARH 2050	Western Survey I: Prehistory to the Medieval Period
ARH 2051	Western Survey II: Renaissance to Contemporary
ART 1015C	Exploring Artistic Vision
ART 2821	The Self, Creativity, Your Career and Visual Culture
CRW 2001	Introduction to Creative Writing
ENL 2010	History of English Literature I
ENL 2020	History of English Literature II
IDH 1040	Honors Core: Humanities
LIT 2030	Introduction to Poetry
MUH 2930	The Music Experience: Special Topics
PHI 2103	Critical Thinking
PHI 2603	Ethics in Contemporary Society
REL 1300	World Religions
SPC 2608	Public Speaking
THE 2300	Survey of Dramatic Literature

Natural Sciences

Choose one course from Group A and one additional course from either Group A or Group B 6

Group A	
AST 1002	Descriptive Astronomy

BSC 1005	General Biology for Non-Majors *
BSC 1085	Anatomy and Physiology I *
BSC 2010	Biology I
CHM 1020	Concepts in Chemistry *
CHM 2045	General Chemistry I *
ESC 2000	Introduction to Earth Science *
EVR 2001	Introduction to Environmental Science
PHY 1020	Conceptual Physics
PHY 2048	Calculus-Based Physics I *, **
PHY 2048C	Calculus-Based Physics I Studio ***
PHY 2053	Algebra-Based Physics I *, **
Group B	
ANT 2511	Biological Anthropology *
AST 2037	Life in the Universe
BOT 2010	General Botany
BSC 1050	Fundamentals of Ecology
BSC 1086	Anatomy and Physiology II *
BSC 2011	Biology II
BSC 2311	Introduction to Oceanography and Marine Biology *
CGS 2020	Introduction to Machine Learning
CHM 2046	General Chemistry II *
CIS 2530	Introduction to Cybersecurity
GLY 2010	Physical Geology *
MCB 1000	Fundamentals of Microbiology *
PHC 2082	Informatics and Your Health
PHY 2049	Calculus-Based Physics II *, **
PHY 2054	Algebra-Based Physics II *, **

* May be taken with or without lab.

** Algebra-Based Physics is usually recommended for non-science majors, while Calculus-Based Physics is recommended for science majors

*** Although students receive 5 semester hours credit for PHY 2048C, an additional 3 semester science course will be needed to meet General Education requirements.

General Education Electives

Choose an additional course from two of the three areas of Humanities, Social Sciences, and Natural Sciences

Multicultural Requirement

Multicultural Courses

An important component of a liberal education is the study of cultures other than one's own. As such, multiculturalism encompasses the appreciation of the values, expressions, and modes of organization of diverse cultural communities. To further such study, the University of West Florida requires all students pursuing a bachelor's degree to complete at least one course that explores one or more of the dimensions of another culture (language, religion, socio-economic structures, etc.). Students are exempt from this requirement if they have completed an A.A. degree, the general education program at a Florida public institution, or a baccalaureate degree.

The requirement is satisfied by the successful completion of a multicultural course designated on the following list. Several of the

selections are General Education courses, and students may enroll in these to meet both the General Education and the multicultural requirements.

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AML 3624	Black Women Writers	3
AML 4015	Topics in Nineteenth-Century American Literature	3
AML 4640	Topics in Native American Literature	3
ANT 1001	Anthropology as a Profession	1
ANT 2000	Introduction to Anthropology	3
ANT 2301	Human Sexuality and Culture	3
ANT 3212	Peoples and Cultures of the World	3
ANT 3312	North American Indians	3
ANT 3363	Japanese Culture	3
ANT 3403	Cultural Ecology	3
ANT 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4516	Modern Human Physical Variation	3
ARH 1000	Art Appreciation	3
ARH 2050	Western Survey I: Prehistory to the Medieval Period	3
ARH 3201	Art and Culture in The Global Middle Ages	3
ARH 2051	Western Survey II: Renaissance to Contemporary	3
ARH 3590	Non-Western Art	3
ARH 3607	Native American Art	3
ARH 4302	Late Renaissance Art in Italy	3
ARH 4412	The Age of Revolution to Romanticism in Europe: 1750-1850	3
ARH 4450	Modern Art: 1850-1980	3
ARH 4470	Contemporary Art	3
ARH 4563	Art of Japan	3
CCJ 3678	Race, Gender, Ethnicity, and Crime	3
COM 3014	Gender Communication	3
COM 3461	Intercultural Communication	3
COM 4242	Communication and Christianity	3
CPO 2002	Comparative Politics	3
CRW 2001	Introduction to Creative Writing	3
EDF 2085	Teaching Diverse Populations	3
ENG 4013	Introduction to Literary Theory	3
ENL 2020	History of English Literature II	3
EUH 1000	Western Perspectives I	3
EUH 1001	Western Perspectives II	3
EUH 3203	Modern Europe	3
EUH 3334	Emperors, Sultans, Dictators, and Democrats: The Balkans	3
EUH 3411	Rome and the Mediterranean World	3
EUH 3576	Soviet Union since 1917	3

FRE 4955	Supervised Foreign Language Field Experience Abroad	1-3
GEA 2000	Nations and Regions of the World	3
GEB 4361	International Business	3
GEO 3421	Cultural Geography	3
GEO 3471	Geography of World Affairs	3
HSC 2622	Introduction to Global Health Sciences	3
HIS 2050	Explore Gender and Diversity	3
HIS 4262	Rise and Fall of the Portuguese Empire	3
IDH 1040	Honors Core: Humanities	3
IDH 1041	Honors Core: Social Sciences	3
INR 2002	International Politics	3
LAH 4135	Spanish Conquest of the Americas	3
LAH 4131	'Atlantic Indians': How Indigenous and African Peoples Shaped Europe & the Americas	3
LAH 4451	Greater Mexico: Central America from Conquest to the 20th Century	3
LAH 4728	Gender and Sexuality in Latin America from Colonization to Today	3
LIT 2000	Introduction to Literature	3
LIT 2030	Introduction to Poetry	3
LIT 3233	Postcolonial Literature	3
LIT 4036	Topics in Poetry and Poetics	3
LIT 4385	Feminist Theory	3
MAN 4102	Management of Diversity	3
MAR 4156	Seminar in International Marketing	3
MMC 3743	Communicating Fear: Horror Films and Popular Culture	3
MMC 3745	Communicating Fear Abroad: International Horror Films & Popular Culture	3
MMC 4601	Minorities and the Mass Media	3
MUH 2930	The Music Experience: Special Topics	3
MUL 2010	Music Appreciation	3
NUR 4615	Community and Public Health Nursing	3
NUR 4636	Population-based Public Health Nursing	3
PHI 3790	African Philosophy	3
PUR 3404	International Public Relations	3
PSY 3860	Positive Psychology	3
SOP 3730	Psychology, Culture, and Society	3
SOW 4233	Human Diversity and Social Justice	3
SPN 3400	Advanced Stylistics	3
SPN 4520	Latin American Culture and Civilization	3
SYO 4421	Sociology of Health, Illness and Health Care	3
SYO 4530	Inequality in America	3

Civic Literacy Requirement

The 2017 Florida Legislature amended [Section 1007.25, Florida Statutes](#), to require students **initially entering a State University System (SUS) and/or Florida College System (FCS) institution in 2018-2019** and thereafter to demonstrate competency in civic literacy. The 2021 Legislature further amended Florida Statutes, requiring students to complete both a civic literacy course and an exam. As a result, there are three cohorts of students currently matriculating at Florida public institutions subject to varying requirements. As

demonstrated in the table below, the exact civic literacy requirements are based on the academic term in which a student first enrolled in a Florida public institution.

Students Included in Cohort	Civic Literacy Competency Requirement
Cohort 1: Students first entering the SUS or FCS prior to fall 2018	None
Cohort 2: Students first entering the SUS or FCS in fall 2018 – summer A 2021	Complete a course or exam
Cohort 3: Students first entering the SUS or FCS in summer B 2021 (on or after July 1, 2021) and thereafter	Complete both a course and exam

Additionally, the 2021 Legislature made two additional exceptions: approving the use of accelerated mechanisms for meeting the course competency requirement and exempting high school students who pass the Florida Civic Literacy Exam in high school from the postsecondary exam requirement. These two changes are in effect for Cohort 3.

There are multiple ways to satisfy this requirement. Students should work with their academic advisor to determine which option is best for their degree requirements/degree plan.

Additional information can be found on our [Civic Literacy](#) website.

*BOG 8.006; s.1007.25(4.a-b)

Common Prerequisites

State-mandated common prerequisites must be completed prior to graduation, but are not required for admission to the program. See the [Common Prerequisite Manual](#) for course substitutions from Florida colleges and universities.

Minimum grade of "C" or better required in all courses in the program to include all Core, Elective, Education, Major-Related, and Common Prerequisites.

Graduation requirements for the B.S. or B.A. degree in Biology include the successful completion of the common prerequisites. Because it will be difficult to incorporate all prerequisites into the 60 sh Lower Division Curriculum, students are advised to complete the following common prerequisites.

Lower Division Common Prerequisite Science and Math Courses

BSC 2010+L	Biology I (+Lab)	4
BSC 2011+L	Biology II (+Lab)	4
CHM 2045+L	General Chemistry I (+Lab)	4
CHM 2046+L	General Chemistry II (+Lab)	4
CHM 2210+L	Organic Chemistry I (+Lab)	4
PHY 2053+L	Algebra-Based Physics I (+Lab)	4
PHY 2054+L	Algebra-Based Physics II (+Lab)	4
MAC 2311	Analytic Geometry and Calculus I	4
or STA 2023	Elements of Statistics	

Biology Core Courses (24 hours)

BSC 2844	Biology Skills	1
BCH 3033+L	Biochemistry I (+Lab)	4

MCB 3020+L	Microbiology (+Lab)	4
PCB 3103+L	Cell Biology (+Lab)	4
PCB 3063+L	Genetics (+Lab)	4
PCB 3043+L	Ecology (+Lab)	4
PCB 4673	Principles of Evolution	3

Total Hours **24**

Biology Elective Courses (9 hours)

(Advisor approved 9 hours at the 3000-4000 level)

The following is a suggested, but not inclusive, list of possible electives:

PCB 4253+L	Developmental Biology (+Lab)	4
PCB 4048C	Coastal Marine Ecology	4
PCB 4723+L	Comparative Animal Physiology (+Lab)	4
PCB 4524+L	Molecular Biology (+Lab)	4
BSC 4303	Biogeography	3
BOT 4374+L	Plant Developmental Biology (+Lab)	4
BOT 4503+L	Plant Physiology (+Lab)	4
BOT 4850	Medicinal Botany	3
ZOO 4472	Avian Science	3
ZOO 4485	Marine Mammalogy	3
ZOO 4513	Animal Behavior	3

Teacher Education Courses (27 hours)

EDF 3234	Applied Foundations of Education	3
EDG 2041	Exploring Inquiry Teaching	3
EDG 4323	Methods of K-12 Literacy Instruction	3
SCE 4320	Teaching Science in Middle and Secondary Schools	3
ESE 4322	Instruction, Management, and Assessment: Secondary Education	3
TSL 4080	ESOL Principles and Practices	3
ESE 4940	Secondary Practicum	3
EDG 4948	Apprenticeship Teaching	6

Total Hours **27**

The upper-division courses (3000-4000 level) with the following prefixes will be used in calculating the major grade point average: BCH, BOT, BSC, PCB, MCB, ZOO, EDF, EDG, ESE, SCE, and TSL.

Biology

A 20 sh Minor in Biology is available for students in a wide variety of majors. It provides the opportunity to add value to the major degree and to expand their opportunities for employment. It is especially appropriate for students who plan to work in administrative or other nonresearch-related areas of the biomedical, environmental, pharmaceutical, and other biological science-related industries.

A minimum of 14 sh must be taken at UWF, including at least 9 sh of 3000/4000 course work taken in residence at UWF. A minimum grade of "C" is required in all courses used to satisfy the minor. Neither directed study nor credit by exam (AP, CLEP, etc.) may be applied toward the minor. Contact the Department of Biology Academic Advisor for assistance in choosing courses to meet specific needs. Biology, Marine Biology, and Zoo Science majors may not earn this minor.

BSC 2010+L	Biology I (+Lab)	4
BSC 2011+L	Biology II (+Lab)	4
Students should assess the prerequisites for upper division courses they wish to take to complete the minor.		
3000/4000 level Biology (BCH, BOT, BSC, MCB, MLS, OCE, PCB, and ZOO) courses which includes at least one 4 sh lecture-lab courses		12
Total Hours		20