

Interdisciplinary Sciences

The Interdisciplinary Science program is designed for students who want a broadly based education in Science, Technology, Engineering, and Math rather than an in-depth study of one field. Because some professional and graduate schools prefer their applicants to demonstrate excellence in a specific discipline, the Interdisciplinary Science major considering graduate or professional (dentistry, medicine, optometry, or veterinary medicine) studies should consult a faculty advisor.

Interdisciplinary Sciences Specialization

The BS in Interdisciplinary Sciences is a multidisciplinary program that provides a strong foundation in one area of the sciences and flexibility to add content and skills from other HMCSE STEM programs. The academic goal of this program is to afford students the opportunity to make connections between ideas and concepts across disciplinary boundaries and to be capable of defining and examining scientific problems from an interdisciplinary perspective.

The BS in Interdisciplinary Sciences is built upon a foundation within the UWF HMCSE STEM disciplines (Biology, Earth & Environmental Sciences, and Computer Science) and allows for additional coursework from Chemistry, Electrical & Computer Engineering, Information Technology, Mathematics, Mechanical Engineering, and Physics.

Program Requirements

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

A grade of "C-" or better is required in all courses applied to this academic program. Consult with your academic advisor for courses that may satisfy both the General Education requirements and program course prerequisites.

General Education

Interdisciplinary Science majors should satisfy the mathematics (6 semester hours) and natural science (6 semester hours) components of General Education with coursework taken from the recommendations shown below.

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the [College-Level Communication and Computation](#), [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 [State University Requirements](#) section of this catalog.

General Education Curriculum:

Communication

ENC 1101	English Composition I (Core)	3
ENC 1102	English Composition II (Breadth)	3

Humanities

Choose one course from Group A (Core) and one additional course from either Group A or Group B (Breadth) 6

Group A (Core)

ARH 1000	Art Appreciation
LIT 2000	Introduction to Literature
MUL 2010	Music Appreciation
PHI 2010	Introduction to Philosophy
THE 2000	Theatre Appreciation

Group B (Breadth)

AML 2010	American Literature I
AML 2020	American Literature II
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

Mathematics

Choose one course from Group A (Core) and one Additional course from either Group A or Group B (Breadth) 6

Group A (Core)

MAC 1105	College Algebra
MAC 1105C	College Algebra with Lab
MAC 2311	Analytic Geometry and Calculus I
MGF 1130	Mathematical Thinking
STA 2023	Elements of Statistics

Group B (Breadth)

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
MGF 1131	Mathematics in Context
STA 2360	Introduction to Data Science

Natural Sciences

Choose one course from Group A (Core) and one additional course from either Group A or Group B (Breadth) 6

Group A (Core)

AST 1002	Descriptive Astronomy
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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
GLY 2010	Physical Geology
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 (Breadth)	
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
IDH 1043	Honors Core: Natural Sciences
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.

Social Sciences

Choose one course from Group A (Core) and one additional course from either Group A or Group B (Breadth) 6

Group A (Core)	
AMH 2010	United States to 1877
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
Group B (Breadth)	
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 History: Special Topics
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 2000	Introduction to Sociology
SYG 2010	Current Social Problems

General Education Electives

Choose an additional course from two of the five areas of Communication, Mathematics, Social Sciences, Humanities, 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	LIT 2030	Introduction to Poetry	3
ANT 4006	Anthropology of Human Rights	3	LIT 4036	Topics in Poetry and Poetics	3
ANT 4025	Ritual Use of Human Remains	3	LIT 4385	Feminist Theory	3
ANT 4403	Environmental Anthropology	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	Patient Centered Population Health	3
ARH 4412	The Age of Revolution to Romanticism in Europe: 1750-1850	3	NUR 4636	Population-based Public Health Nursing	3
ARH 4450	Modern Art: 1850-1980	3	PHI 3790	African Philosophy	3
ARH 4470	Contemporary Art	3	PUR 3404	International Public Relations	3
ARH 4563	Art of Japan	3	PSY 3860	Positive Psychology	3
CCJ 3678	Race, Gender, Ethnicity, and Crime	3	SOP 3730	Psychology, Culture, and Society	3
COM 3014	Gender Communication	3	SOW 4233	Human Diversity and Social Justice	3
COM 3461	Intercultural Communication	3	SPN 3400	Advanced Stylistics	3
COM 4242	Communication and Christianity	3	SPN 4520	Latin American Culture and Civilization	3
CPO 2002	Comparative Politics	3	SYO 4421	Sociology of Health, Illness and Health Care	3
CRW 2001	Introduction to Creative Writing	3	SYO 4530	Inequality in America	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 3334	Emperors, Sultans, Dictators, and Democrats: The Balkans	3			
EUH 3411	Rome and the Mediterranean World	3			
EUH 3576	Soviet Union since 1917	3			
FOL 3501	Global Cinema	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 History: Special Topics	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			

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 (course options AMH 2020, POS 2041)
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 (course options AMH 2020, POS 2041)

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, SUS regulation [BOG 8.006](#) and Florida Statute [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.

Biology and Computer Science Track Common Prerequisites

Biology and Computer Science Common Prerequisites	23
BSC 2010+L Biology I (+Lab)	
BSC 2011+L Biology II (+Lab)	
CHM 2045+L General Chemistry I (+Lab)	
CHM 2046+L General Chemistry II (+Lab)	
CHM 2210+L Organic Chemistry I (+Lab)	
COP XXXX Intro to Programming in ADA, C, C++, Pascal or equivalent language	
Choose one:	3-4
MAC 2311 Analytic Geometry and Calculus I or STA 2023 Elements of Statistics	
Choose one of the following groups:	8
PHY 2053+L Algebra-Based Physics I (+Lab)	
PHY 2054+L Algebra-Based Physics II (+Lab)	
or	
PHY 2048+L Calculus-Based Physics I (+Lab)	
PHY 2049+L Calculus-Based Physics II (+Lab)	
Total Hours	34-35

Biology and Earth & Environmental Sciences Track Common Prerequisites

Biology and Earth & Environmental Sciences Common Prerequisites	19-20
BSC 2010+L Biology I (+Lab)	
CHM 2045+L General Chemistry I (+Lab)	
CHM 2046+L General Chemistry II (+Lab)	
MAC 2311 Analytic Geometry and Calculus I or STA 2023 Elements of Statistics	
GLY 2010+L Physical Geology (+Lab)	
Choose one:	4
BSC 2011+L Biology II (+Lab)	
or	
BOT 2010+L General Botany (+Lab)	
Choose one of the following groups:	8
PHY 2053+L Algebra-Based Physics I (+Lab)	
PHY 2054+L Algebra-Based Physics II (+Lab)	
or	
PHY 2048+L Calculus-Based Physics I (+Lab)	
PHY 2049+L Calculus-Based Physics II (+Lab)	
Total Hours	31-32

Computer Science and Earth & Environmental Sciences Track Common Prerequisites

Computer Science and Earth & Environmental Sciences Common Prerequisites	30
BSC 2010+L Biology I (+Lab)	
BSC 2011+L Biology II (+Lab)	
CHM 2045+L General Chemistry I (+Lab)	
CHM 2046+L General Chemistry II (+Lab)	
MAC 2311 Analytic Geometry and Calculus I	
STA 2023 Elements of Statistics	
COP XXXX Intro to Programming in ADA, C, C++, Pascal or equivalent language	
GLY 2010+L Physical Geology (+Lab)	
Choose one group:	8
PHY 2053+L Algebra-Based Physics I (+Lab)	
PHY 2054+L Algebra-Based Physics II (+Lab)	
or	
PHY 2048+L Calculus-Based Physics I (+Lab)	
PHY 2049+L Calculus-Based Physics II (+Lab)	
Total Hours	38

Lower Division Electives

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

Total Hours 8-12

* The number of electives needed will depend on the track selected. Students are encouraged to check with their Academic Advisors when selecting electives.

† PHI 3400 Philosophy of Science and ENC 3455 Writing for Science, Technology, Engineering and Math Majors are offered through the College of Arts, Social Sciences & Humanities as advisor-approved electives.

Tier 1 Major Courses

Students must complete a minimum of 24 semester hours (sh) of Tier 1 courses for their chosen track. At least six (6) sh must be completed from each discipline in the chosen track.

Biology and Computer Science Track

Biology Course Options		
PCB 3103+L Cell Biology (+Lab)		4
PCB 3063 Genetics		3
MCB 3020+L Microbiology (+Lab)		4
BCH 3033+L Biochemistry I (+Lab)		4
PCB 4233+L Immunology (+Lab)		4
PCB 4524+L Molecular Biology (+Lab)		4
PCB 4673 Principles of Evolution		3
PCB 4922 Biology Seminar		1
PCB 4098+L Concepts in Human Physiology (+Lab)		4
PCB 4723+L Comparative Animal Physiology (+Lab)		4
Computer Science Options		

CEN 3031	Software Engineering I	3
COP 3014	Algorithm and Program Design	3
COP 3022	Intermediate Computer Programming	3
COP 3530	Data Structures and Algorithms I	3
COP 4710	Database Systems	3
COT 3100	Discrete Structures	3
Total Hours		24

Biology and Earth & Environmental Sciences Track

Biology Course Options

PCB 3103+L	Cell Biology (+Lab)	4
PCB 3063+L	Genetics (+Lab)	4
MCB 3020+L	Microbiology (+Lab)	4
BCH 3033+L	Biochemistry I (+Lab)	4
PCB 3097L	Introduction to Human Anatomy Laboratory	3
PCB 4233+L	Immunology (+Lab)	4
PCB 4524+L	Molecular Biology (+Lab)	4
PCB 4673	Principles of Evolution	3
PCB 4922	Biology Seminar	1
PCB 4098+L	Concepts in Human Physiology (+Lab)	4
PCB 4723+L	Comparative Animal Physiology (+Lab)	4

Earth & Environmental Sciences Options

GEO 3210	Geomorphology	3
GEO 4221+L	Coastal Morphology and Processes (+Lab)	4
GEO 4250+L	Weather and Climate (+Lab)	4
GEO 4260+L	Geography of Soils (+Lab)	4
GEO 4280+L	Basic Hydrology (+Lab)	4
GEO 4357	Environment and Economy	3
GIS 4043+L	Geographic Information Systems (+Lab)	4
Total Hours		24

Computer Science and Earth & Environmental Sciences Track

Computer Science Options

CEN 3031	Software Engineering I	3
COP 3014	Algorithm and Program Design	3
COP 3022	Intermediate Computer Programming	3
COP 3530	Data Structures and Algorithms I	3
COP 4710	Database Systems	3
COT 3100	Discrete Structures	3

Earth & Environmental Sciences Options

GEO 3210	Geomorphology	3
GEO 4221+L	Coastal Morphology and Processes (+Lab)	4
GEO 4250+L	Weather and Climate (+Lab)	4
GEO 4260+L	Geography of Soils (+Lab)	4
GEO 4280+L	Basic Hydrology (+Lab)	4
GEO 4357	Environment and Economy	3
GIS 4043+L	Geographic Information Systems (+Lab)	4
Total Hours		24

Tier 2 Courses

Students are required to complete a minimum total of 24 sh of which at least 18 sh must be earned at the 3000- or 4000-level within one

contributing HMCSE department (Biology, Computer Sciences, or Earth & Environmental Sciences). The additional six sh of Tier 2 credit must be earned at the 3000- or 4000-level from a contributing HMCSE department (Biology, Chemistry, Mathematics, Physics, or Earth & Environmental Sciences); these hours may be earned in a different department than those in which the 18 sh above were earned.

All Tier 2 courses must have as a prerequisite one of the Tier 1 courses listed below; i.e., the Tier 2 courses must be accomplished at a higher level than the Tier 1 courses.

Upper-division hours in one HMCSE program	18
Upper-division hours in HMCSE programs other than those above	6
Total Hours	24

Minor

Students are strongly encouraged to consider the pursuit of a Minor as part of their academic program. The Minor should improve their career readiness by providing additional marketable skills and content knowledge. With advisor approval, the Minor may be earned outside of HMCSE.

Advisor-approved Minor courses	15-18
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Interdisciplinary Sciences Minor

A 12 semester hour (sh) Minor in Interdisciplinary Sciences (ISC) is available for students in a wide variety of Hal Marcus College of Science and Engineering (HMCSE) and Usha Kundu, MD College of Health (UKMDCOH) majors. The ISC minor provides the opportunity to add value to the major degree and select courses that focus on a particular educational goal or expand their employment opportunities. The ISC minor is especially appropriate for students who require professional school prerequisite courses not included in their current major, for example, Physical Therapy, Occupational Therapy, and Physician Assistant professional schools.

Students should assess the prerequisites for upper-division courses they wish to take to complete the minor.

Choice of prerequisites as required by chosen professional school:	0-60
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BSC 1085+L	Anatomy and Physiology I (+Lab)
BSC 1086+L	Anatomy and Physiology II (+Lab)
BSC 2010+L	Biology I (+Lab)
BSC 2011+L	Biology II (+Lab)
CHM 2045+L	General Chemistry I (+Lab)
CHM 2046+L	General Chemistry II (+Lab)
CHM 2210+L	Organic Chemistry I (+Lab)
CHM 2211+L	Organic Chemistry II (+Lab)
PHY 2048+L	Calculus-Based Physics I (+Lab)
PHY 2049+L	Calculus-Based Physics II (+Lab)
PHY 2053+L	Algebra-Based Physics I (+Lab)
PHY 2054+L	Algebra-Based Physics II (+Lab)
SPC 2608	Public Speaking
SYG 2000	Introduction to Sociology
PSY 2012	General Psychology

Students must complete 12 sh of advisor-approved 3000/4000 level electives in a field related to the student's career objectives from UKMDCOH AND/OR HMCSE	12
Total Hours	12-72