

Physics

The B.S. in Physics focuses on the study of matter and its motion. Ultimately, the goal of physics is to understand how nature behaves from the smallest sub-atomic particle to the entire universe, making it the most fundamental natural science. The various topics covered include electricity and magnetism, electronics, fluids, mechanics, optics, quantum phenomena, concepts of relativity, thermodynamics, waves, and several related laboratory activities.

The Physics Department offers the traditional B.S. program in Physics with specializations in Physics or Engineering Physics. In addition to graduate school, a trained physicist may enter the employment market as a research scientist. Those with an engineering physics background are eligible for entry-level jobs as engineers in organizations such as the Department of Defense, NASA, and the various national labs.

Students interested in obtaining certification to teach this subject area in secondary education need to contact an advisor in this department to carefully plan the course work to satisfy degree and some teacher certification requirements. A degree in this major is required for participation in teacher education certification options.

Program Requirements

In addition to the University's general requirements, students seeking the B.S. in Physics must meet the requirements listed below.

Students should consult with their Physics department advisor for courses which may satisfy both the General Education requirements and common prerequisites. A grade of "C-" or better is required for major and major-related courses.

Physics Specialization

General Education

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 [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
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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
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.

Physics majors should take the following courses to satisfy the natural science component of General Education.

CHM 2045+L	General Chemistry I (+Lab)	4
CHM 2046+L	General Chemistry II (+Lab)	4

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 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4403	Environmental Anthropology	3
ANT 4516	Modern Human Physical Variation	3
ARH 1000	Art Appreciation	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			
LIT 2030	Introduction to Poetry	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			

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\(4,a-b\)](#).

Mathematics Pathway

Students are advised to complete the following courses to fulfill the mathematics pathway that aligns with the mathematics skills needed for success in their program and their career goals. Students

should refer to their academic advisor for questions about the math pathway for their program. For information about this requirement, refer to the catalog page for [Mathematics Pathways](#). These courses may also fulfill requirements for General Education and Common Prerequisites.

Algebra through Calculus		
MAC 1105	College Algebra	3
	or MAC 1105C College Algebra with Lab	
	or MAC 1147 Precalculus with Trigonometry	
	or MAC 2311 Analytic Geometry and Calculus I	
MAC 1147	Precalculus with Trigonometry	4
	or MAC 2311 Analytic Geometry and Calculus I	
	or MAC 2312 Analytic Geometry and Calculus II	

Students will be placed on a starting point based on their mathematics placement.

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.

CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
MAC 2312	Analytic Geometry and Calculus II *	4
MAC 2313	Analytic Geometry and Calculus III	4
PHY 2048+L	Calculus-Based Physics I (+Lab) *	4
PHY 2049+L	Calculus-Based Physics II (+Lab) *	4
Total Hours		28

* 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 semester hours (sh) in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement. 0-9

Major

Physics Core:

PHY 3106	Calculus-Based Physics III *	3
PHY 3107	Calculus-Based Physics IV *	3
PHZ 3108L	Physics Skills	1
PHY 3802L	Intermediate Physics Lab	3
PHY 3722C	Electronics	3
PHZ 3151C	Introduction to Scientific Computing	3
PHY 3220	Intermediate Mechanics *	4
PHY 4323	Electricity and Magnetism I *	3
PHY 4325	Electricity and Magnetism II *	3
PHY 4513	Thermal and Statistical Physics *	3
PHY 4604	Quantum Theory I *	3
PHY 4822L	Advanced Physics Lab	3
PHZ 4113	Mathematical Physics I *	3

Physics Electives:

3000/4000 Physics (PHY, PHZ, AST) elective *	9
Total Hours	47

Major-Related

MAP 2302	Differential Equations	3
Total Hours		3

Upper Division Electives

Students must complete sufficient 3000/4000 level electives to meet UWF's requirement of 48 sh in the upper division or complete all departmental requirements at the 3000/4000 level, whichever is greater. + 10

Total Hours	10
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+ Courses included in the major GPA.

B.A. in Physics Specialization

The B.A. in physics program imparts an understanding of fundamental branches of physics, such as classical mechanics, electrodynamics, thermodynamics, optics, and quantum mechanics, and relativity. In addition, the student will be able to minor in any one of several fields. The primary purpose of this program is to prepare students for a career in many different fields, such as secondary education, software engineering, quality control, and business. Graduates of the physics B.A. program are strongly suited for a career in medicine, finance, education, or law, with physics majors having the highest aggregate scores on the MCAT and LSAT exams. The degree program may include a minor in any of the fields of interest, such as pre-professional biology, chemistry, mathematics, physics/science education.

Program Requirements

In addition to the University's general requirements, students seeking the B.A. in Physics must meet the requirements listed below. Students should consult with their Physics department advisor for courses which may satisfy both the General Education requirements and common prerequisites. A grade of "C-" or better is required for major and major-related courses.

General Education

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 [University Requirements](#) section of this catalog.

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
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
ANT 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4403	Environmental Anthropology	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 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 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
LIT 2030	Introduction to Poetry	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	Patient Centered Population Health	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 (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\(4,a-b\)](#).

Mathematics Pathway

Students are advised to complete the following courses to fulfill the mathematics pathway that aligns with the mathematics skills needed for success in their program and their career goals. Students

should refer to their academic advisor for questions about the math pathway for their program. For information about this requirement, refer to the catalog page for [Mathematics Pathways](#). These courses may also fulfill requirements for General Education and Common Prerequisites.

Algebra through Calculus

MAC 1105	College Algebra	3-4
	or MAC 1105C College Algebra with Lab	
	or MAC 1147 Precalculus with Trigonometry	
	or MAC 2311 Analytic Geometry and Calculus I	
MAC 1147	Precalculus with Trigonometry	4
	or MAC 2311 Analytic Geometry and Calculus I	
	or MAC 2312 Analytic Geometry and Calculus II	

Students will be placed on a starting point based on their mathematics placement.

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.

CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
MAC 2312	Analytic Geometry and Calculus II *	4
MAC 2313	Analytic Geometry and Calculus III	4
PHY 2048+L	Calculus-Based Physics I (+Lab) *	4
PHY 2049+L	Calculus-Based Physics II (+Lab) *	4

Total Hours **28**

* 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 60 semester hours (sh) in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement.

Core

PHY 3106	Calculus-Based Physics III +	3
PHY 3107	Calculus-Based Physics IV +	3
PHY 3802L	Intermediate Physics Lab +	3
PHY 3220	Intermediate Mechanics +	4
PHZ 3108L	Physics Skills +	1
PHZ 4113	Mathematical Physics I +	3
	Approved upper division Physics electives +	9

Total Hours **26**

Major-Related

MAP 2302	Differential Equations	3
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Total Hours **3**

Upper Division Electives

Students must complete sufficient 3000/4000 level electives to meet UWF's requirement of 48 sh in the upper division or complete all departmental requirements at the 3000/4000 level, whichever is greater. Of these credits, 15-20 can be used to earn a minor such as Mathematics, Chemistry, Biology, or Teacher Education.

Total Hours 31

+ Courses included in the major GPA.

Engineering Physics Specialization

General Education

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 [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
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.

Physics majors should take the following courses to satisfy the natural science component of General Education.

CHM 2045+L	General Chemistry I (+Lab)	4
CHM 2046+L	General Chemistry II (+Lab)	4

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 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4403	Environmental Anthropology	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 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 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
LIT 2030	Introduction to Poetry	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	Patient Centered Population Health	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 (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\(4,a-b\)](#).

Mathematics Pathway

Students are advised to complete the following courses to fulfill the mathematics pathway that aligns with the mathematics skills needed for success in their program and their career goals. Students should refer to their academic advisor for questions about the math pathway for their program. For information about this requirement, refer to the catalog page for [Mathematics Pathways](#). These courses may also fulfill requirements for General Education and Common Prerequisites.

Algebra through Calculus		
MAC 1105	College Algebra	3-4
	or MAC 1105C College Algebra with Lab	
	or MAC 1147 Precalculus with Trigonometry	
	or MAC 2311 Analytic Geometry and Calculus I	
MAC 1147	Precalculus with Trigonometry	4
	or MAC 2311 Analytic Geometry and Calculus I	
	or MAC 2312 Analytic Geometry and Calculus II	

Students will be placed on a starting point based on their mathematics placement.

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.

CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
MAC 2312	Analytic Geometry and Calculus II *	4
MAC 2313	Analytic Geometry and Calculus III	4
PHY 2048+L	Calculus-Based Physics I (+Lab) *	4
PHY 2049+L	Calculus-Based Physics II (+Lab) *	4
Total Hours		28

* 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 semester hours (sh) in the lower division. Current UWF students may use elective courses at any level (1000-4000) to meet this elective requirement. 0-9

It is recommended that students take a computer programming language course, such as COP 2253 Programming Using Java, COP 2334 Programming Using C++, or equivalent.

Major

Physics Core

PHY 3106	Calculus-Based Physics III *	3
PHY 3107	Calculus-Based Physics IV *	3
PHZ 3108L	Physics Skills	1
PHZ 3151C	Introduction to Scientific Computing	3
PHY 3802L	Intermediate Physics Lab	3
PHY 4323	Electricity and Magnetism I *	3
PHY 4325	Electricity and Magnetism II *	3
PHY 4513	Thermal and Statistical Physics *	3
PHY 4604	Quantum Theory I *	3
PHY 4822L	Advanced Physics Lab	3
PHZ 4113	Mathematical Physics I *	3

Engineering Core

EGN 3204	Engineering Software Tools *	1
EGM 2500	Engineering Mechanics-Statics	3
EEL 3111	Circuits I *	3
EEL 3111L	Electrical Circuits Laboratory *	1

Physics or Engineering Electives

Major or related electives as approved by advisor. + 9

Engineering Electives

3000/4000 Major or related elective as approved by advisor. + 9

Major Related Courses

MAP 2302	Differential Equations	3
Total Hours		60

+ Courses included in the major GPA.

Physics Teaching B.A.

Admission Requirements

Students declaring a major in the Physics 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

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 [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
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
ANT 4006	Anthropology of Human Rights	3
ANT 4025	Ritual Use of Human Remains	3
ANT 4403	Environmental Anthropology	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 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 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
LIT 2030	Introduction to Poetry	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	Patient Centered Population Health	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 (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\(4,a-b\)](#).

Mathematics Pathway

Students are advised to complete the following courses to fulfill the mathematics pathway that aligns with the mathematics skills needed for success in their program and their career goals. Students should refer to their academic advisor for questions about the math pathway for their program. For information about this requirement, refer to the catalog page for [Mathematics Pathways](#). These courses may also fulfill requirements for General Education and Common Prerequisites.

Algebra through Calculus

MAC 1105	College Algebra	3-4
	or MAC 1105C College Algebra with Lab	

	or MAC 1147 Precalculus with Trigonometry	
	or MAC 2311 Analytic Geometry and Calculus I	
MAC 1147	Precalculus with Trigonometry	4
	or MAC 2311 Analytic Geometry and Calculus I	
	or MAC 2312 Analytic Geometry and Calculus II	

Students will be placed on a starting point based on their mathematics placement.

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.

B.A. Physics Teach Common Prerequisites

CHM 2045+L	General Chemistry I (+Lab) *	4
CHM 2046+L	General Chemistry II (+Lab) *	4
MAC 2311	Analytic Geometry and Calculus I *	4
MAC 2312	Analytic Geometry and Calculus II *	4
MAC 2313	Analytic Geometry and Calculus III	4
PHY 2048+L	Calculus-Based Physics I (+Lab) *	4
PHY 2049+L	Calculus-Based Physics II (+Lab) *	4
EDG 2041	Exploring Inquiry Teaching	3

Total Hours **31**

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

Major-Related

MAP 2302	Differential Equations	3
Total Hours		3

Lower Division Electives

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

Physics Teach Core Requirement

PHY 3106	Calculus-Based Physics III ⁺	3
PHY 3107	Calculus-Based Physics IV ⁺	3
PHY 3802L	Intermediate Physics Lab ⁺	3
PHY 3220	Intermediate Mechanics ⁺	4
PHZ 4113	Mathematical Physics I ⁺	3
	Approved upper division Physics electives ⁺	9
Total Hours		25

Physics Teaching Education Core

EDF 3234	Applied Foundations of Education ⁺	3
EDG 4323	Methods of K-12 Literacy Instruction ⁺	3
EDG 4948	Apprenticeship Teaching ⁺	6
ESE 4322	Instruction, Management, and Assessment: Secondary Education ⁺	3
ESE 4940	Secondary Practicum ⁺	3

MAE 4320	Teaching Mathematics in Middle and Secondary Schools ⁺	3
TSL 4080	ESOL Principles and Practices ⁺	3
Total Hours		24

+ Courses included in the major GPA.

Upper Division Electives

Students must complete sufficient 3000/4000 level electives to meet UWF's requirement of 48 sh in the upper division or complete all departmental requirements at the 3000/4000 level, whichever is greater.

Total Hours	11
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Physics Minor

A Minor in Physics requires completion of PHY 2048 Calculus-Based Physics I, PHY 2049 Calculus-Based Physics II, the calculus sequence, MAP 2302 Differential Equations and 15 semester hours (sh) approved by the Physics Department above 3000 level, including PHY 3106 Calculus-Based Physics III and PHY 3107 Calculus-Based Physics IV. A grade of C- or better is required for each of these courses. Physics majors may not earn this minor.