

Chemistry, Bachelor of Arts

The B.A. in Chemistry is available in two specializations: Chemistry and Chemistry/Biochemistry. Both specializations are designed for students who need a strong background in chemistry for application in other fields such as business, education, forensic science, pre-medical, pre-dental, pre-law, and some environmental fields.

The program is designed for students who need a strong background in chemistry for application in other fields. The tracks within this program are business, pre-law, and education, and chemical hygiene. Each track has the same core of chemistry courses and a set of required courses which depends on the area of concentration. The education track meets the American Chemical Society (ACS) recommendations for a Chemistry/Education degree.

Students may also complete an advisor approved minor or its 15-18 sh equivalent in a field related to the student's career objectives.

Program Requirements

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

Students should consult with their academic advisor for courses which may satisfy both the General Education requirements and common prerequisites.

A grade of "C-" or better is required in all common prerequisites. No grade below a "C-" in a major course may be applied toward graduation.

B.A. Chemistry Specialization

The program is designed for students who need a strong background in chemistry for application in other fields. The tracks within this program are business, pre-law, and education, and chemical hygiene. Each track has the same core of chemistry courses and a set of required courses which depends on the area of concentration. The education track meets the American Chemical Society (ACS) recommendations for a Chemistry/Education degree.

General Education

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
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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
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	MAR 4156	Seminar in International Marketing	3
ARH 3201	Art and Culture in The Global Middle Ages	3	MMC 3743	Communicating Fear: Horror Films and Popular Culture	3
ARH 2051	Western Survey II: Renaissance to Contemporary	3	MMC 3745	Communicating Fear Abroad: International Horror Films & Popular Culture	3
ARH 3590	Non-Western Art	3	MMC 4601	Minorities and the Mass Media	3
ARH 3607	Native American Art	3	MUH 2930	The Music Experience: Special Topics	3
ARH 4302	Late Renaissance Art in Italy	3	MUL 2010	Music Appreciation	3
ARH 4412	The Age of Revolution to Romanticism in Europe: 1750-1850	3	NUR 4615	Community and Public Health Nursing	3
ARH 4450	Modern Art: 1850-1980	3	NUR 4636	Population-based Public Health Nursing	3
ARH 4470	Contemporary Art	3	PHI 3790	African Philosophy	3
ARH 4563	Art of Japan	3	PUR 3404	International Public Relations	3
CCJ 3678	Race, Gender, Ethnicity, and Crime	3	PSY 3860	Positive Psychology	3
COM 3014	Gender Communication	3	SOP 3730	Psychology, Culture, and Society	3
COM 3461	Intercultural Communication	3	SOW 4233	Human Diversity and Social Justice	3
COM 4242	Communication and Christianity	3	SPN 3400	Advanced Stylistics	3
CPO 2002	Comparative Politics	3	SPN 4520	Latin American Culture and Civilization	3
CRW 2001	Introduction to Creative Writing	3	SYO 4421	Sociology of Health, Illness and Health Care	3
EDF 2085	Teaching Diverse Populations	3	SYO 4530	Inequality in America	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			
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			

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.

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
CHM 2210+L	Organic Chemistry I (+Lab)	4
CHM 2211+L	Organic Chemistry II (+Lab)	4
Choose one option from the following:		8
Option 1		
PHY 2048+L	Calculus-Based Physics I (+Lab) *	
PHY 2049+L	Calculus-Based Physics II (+Lab) *	
Option 2		
PHY 2053+L	Algebra-Based Physics I (+Lab) *	
PHY 2054+L	Algebra-Based Physics II (+Lab) *	
Total Hours		32

* 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 0-13

Major

CHM 3120+L	Analytical Chemistry (+Lab) +	4
CHM 3400C	Basic Physical Chemistry +	4
CHM 4611	Inorganic Chemistry +	4
CHM 4931	Seminars in Chemistry +	3
Choose 12 semester hours (with approval from department advisor):		12
CHM 3230	Organic Chemistry III +	
CHM 3740L	Advanced Laboratory Techniques +	
CHM 3940	Chemistry Internship +	
CHM 4130+L	Instrumental Analysis (+Lab) +	
CHM 4455+L	Introduction to Polymer Science (+Lab) +	
CHM 4610L	Inorganic Synthesis +	
CHM 4912	Undergraduate Chemistry Research +	
CHM 4930	Seminar: Special Topics in Advanced Chemistry +	
Total Hours		27

+ Courses included in the major GPA

Major-Related

Students must choose one of the following tracks:

Business Track*

GEB 3032	Business Foundations for Non-Business Majors	3
MAR 4403	Sales Management	3
MAR 4412	Professional Selling Methods	3
Choose one of the following:		3
STA 2023	Elements of Statistics	
STA 3162C	Applied Statistics	
Choose two of the following:		6
ACG 3082	Accounting for Non-Majors	
ECO 3003	Principles of Economic Theory and Public Policy	
MAN 3025	Management Fundamentals	
Total Hours		18

* No more than 24% of the program requirements for this degree may be in traditional business subjects.

Pre-Law Track

CJL 3510	Courts	3
PLA 4263	Evidence	3
PLA 4309	Criminal Procedure	3
Choose two of the following:		6
EVR 4035	Environmental Law	
PLA 3106	Legal Research and Writing	
PLA 4277	Tort Law	
PLA 4306	Criminal Law	
Total Hours		15

Education Track

EDF 3234	Applied Foundations of Education	3
EDG 4323	Methods of K-12 Literacy Instruction	3
ESE 4322	Instruction, Management, and Assessment: Secondary Education	3
ESE 4940	Secondary Practicum	3
SCE 4320	Teaching Science in Middle and Secondary Schools	3
Total Hours		15

Chemical Hygiene Track

Advisor Approved Elective		3
PHC 4341	Fundamentals of Occupational Safety and Health	3
PHC 4340	Fundamentals of Industrial Hygiene	3
HSC 4404	Medical Disaster Management	3
EVR 4035	Environmental Law	3
One additional advisor elective course		3-4
Total Hours		18-19

Minor Track

Students must complete an advisor approved minor or its 15-18 sh equivalent in a field related to the student's career objectives and additional approved 3000/4000 level electives outside chemistry.

Total Hours 15-18

Upper Division Electives

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

Total Hours 8-20

B.A. Chemistry/Biochemistry Specialization

The program is designed for students who need a strong background in chemistry/biochemistry for application in other fields. The tracks within this program are: Environmental, Forensics, Pre-medical, and Medicinal Chemistry. Each track has the same core of chemistry courses and a set of required courses which depends on the area of concentration. The pre-medical track prepares students for admission to medical, dental, and pharmacy schools while providing the broad-based education preferred by these institutions.

General Education

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

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

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

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
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
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.

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
CHM 2210+L	Organic Chemistry I (+Lab)	4
CHM 2211+L	Organic Chemistry II (+Lab)	4
Choose one option from the following:		8
Option 1		
PHY 2048+L	Calculus-Based Physics I (+Lab) *	
PHY 2049+L	Calculus-Based Physics II (+Lab) *	
Option 2		
PHY 2053+L	Algebra-Based Physics I (+Lab) *	
PHY 2054+L	Algebra-Based Physics II (+Lab) *	
Total Hours		32

* 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 1-5

Major

CHM 3120+L	Analytical Chemistry (+Lab) +	4
CHM 3400C	Basic Physical Chemistry +	4
CHM 4611	Inorganic Chemistry +	4
CHM 4931	Seminars in Chemistry +	3
Choose 12 semester hours (with approval from departmental advisor):		12
CHM 3230	Organic Chemistry III +	
CHM 3740L	Advanced Laboratory Techniques +	
CHM 3940	Chemistry Internship +	
CHM 4130+L	Instrumental Analysis (+Lab) +	
CHM 4455+L	Introduction to Polymer Science (+Lab) +	
CHM 4610L	Inorganic Synthesis +	
CHM 4912	Undergraduate Chemistry Research +	
CHM 4930	Seminar: Special Topics in Advanced Chemistry +	
Total Hours		27

+ Courses included in the major GPA

Major-Related

BSC 2010	Biology I	3
BSC 2010L	Biology I Laboratory	1
BSC 2011	Biology II	3
BSC 2011L	Biology II Laboratory	1
Total Hours		8

Students must choose one of the following tracks:

Environmental Track

GLY 2010+L	Physical Geology (+Lab)	4
GEO 4260+L	Geography of Soils (+Lab)	4
GEO 4280+L	Basic Hydrology (+Lab)	4
Choose one of the following:		3
GLY 4244	Biogeochemistry	
GLY 4240	Geochemistry	
Choose one of the following:		3
GEO 3372	Conservation of Natural Resources	
EVR 4823	Environmental Impact Assessment	

Total Hours 18

Pre-Medical Track

PHI 4633	Biomedical Ethics	3
Advisor approved elective		3
Choose three of the following:		11-12
PCB 3063+L	Genetics (+Lab)	
PCB 4703	Human Physiology	
MCB 3020+L	Microbiology (+Lab)	
BCH 3033+L	Biochemistry I (+Lab)	

Total Hours 17-18

Forensic Sciences Track

CCJ 3024	Criminal Justice System	3
CJE 3674	Introduction to the Forensic Sciences	3
CCJ 3651	Drugs, Crime, and Criminal Justice	3
Advisor Approved Elective		3
Choose two of the following:		6
CJE 4610	Criminal Investigation	
PLA 4263	Evidence	
ANT 3520	Forensic Anthropology	
PLA 4309	Criminal Procedure	
CCJ 3014	Criminology	

Total Hours 18

Medicinal Chemistry Track

PCB 3063+L	Genetics (+Lab)	4
BCH 3033	Biochemistry I	3
BCH 3033L	Biochemistry I Laboratory	1
BCH 3034	Biochemistry II	3
PCB 4233+L	Immunology (+Lab)	4
Advisor-approved electives courses		3-4

Total Hours 18-19

Minor Track

Students complete an advisor approved minor or its 15-18 sh equivalent in a field related to the student's career objectives and additional approved 3000/4000 level electives outside chemistry.

Total Hours 15-18

Upper Division Electives

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

Total Hours 13-17

B.A. Chemistry Teaching Specialization

Admission to Chemistry Teaching

Students declaring a major in the Chemistry Teaching degree programs 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 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

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

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

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
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
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.

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
CHM 2210+L	Organic Chemistry I (+Lab)	4
CHM 2211+L	Organic Chemistry II (+Lab)	4
Choose one option from the following:		8
PHY 2048+L	Calculus-Based Physics I (+Lab) *	
PHY 2049+L	Calculus-Based Physics II (+Lab) *	
Option 2		
PHY 2053+L	Algebra-Based Physics I (+Lab) *	
PHY 2054+L	Algebra-Based Physics II (+Lab) *	
Total Hours		32

* 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 0 to 10 credit hours of elective courses at any level (1000-4000) to meet this elective requirement.

Total Hours **0-10**

Chemistry Teach Upper Division Chemistry Requirement

CHM 3120+L	Analytical Chemistry (+Lab)	4
CHM 3400C	Basic Physical Chemistry	4
CHM 4611	Inorganic Chemistry	4
CHM 4931	Seminars in Chemistry	3
Choose 12 semester hours (with approval)		12
CHM 3230	Organic Chemistry III	
CHM 3740L	Advanced Laboratory Techniques	
CHM 3940	Chemistry Internship	
CHM 4130+L	Instrumental Analysis (+Lab)	
CHM 4455+L	Introduction to Polymer Science (+Lab)	
CHM 4610L	Inorganic Synthesis	
CHM 4912	Undergraduate Chemistry Research	
CHM 4930	Seminar: Special Topics in Advanced Chemistry	
Total Hours		27

Chemistry Teaching Education Core

EDG 2041	Exploring Inquiry Teaching	3
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
SCE 4320	Teaching Science in Middle and Secondary Schools	3

TSL 4080	ESOL Principles and Practices	3
Total Hours		27

Upper Division Electives

Student must complete sufficient 3000/4000 level electives to meet UWF's requirement of 48 semester hours in the upper division or complete all departmental requirements at the 3000/4000 level, whichever is greater. This program as shown will meet the required 48 hours of upper division classes

Total Hours **11**

Chemistry

The Minor in Chemistry is designed for students majoring in other science disciplines. Chemistry majors may not earn this minor. The following requirements must be completed.

CHM 2045+L	General Chemistry I (+Lab)	4
CHM 2046+L	General Chemistry II (+Lab)	4
CHM 2210+L	Organic Chemistry I (+Lab)	4
CHM 2211+L	Organic Chemistry II (+Lab)	4
CHM 3120+L	Analytical Chemistry (+Lab)	4
CHM 3400C	Basic Physical Chemistry	4
CHM 4611	Inorganic Chemistry	4
MAC 2311	Analytic Geometry and Calculus I	4
MAC 2312	Analytic Geometry and Calculus II	4
Advisor-approved 3000/4000 level course		3-4
Choose one option from the following:		8
Option 1		
PHY 2048+L	Calculus-Based Physics I (+Lab)	
PHY 2049+L	Calculus-Based Physics II (+Lab)	
Option 2		
PHY 2053+L	Algebra-Based Physics I (+Lab)	
PHY 2054+L	Algebra-Based Physics II (+Lab)	
Total Hours		47-48

Chemistry for Laboratory Health Sciences Certificate

This certificate program focuses on elements of introductory general chemistry courses and organic chemistry. In this certificate, students will develop knowledge and problem-solving skills to prepare them for advanced studies in Laboratory Health Sciences. Students must complete prerequisites in mathematics for the courses in this program.

CHM 2030	General Chemistry 1 for Laboratory Health Sciences	3
CHM 2031	General Chemistry 2 for Laboratory Health Sciences	3
CHM 2202	Organic Chemistry for Laboratory Health Sciences	3
Total Hours		9