Information Technology

The BS in Information Technology provides a firm foundation of coursework, including programming principles, database concepts, end-user support, security, networks and operating systems. The program emphasizes applied skills, including internship, co-op, research, and capstone experiences that will prepare graduates to enter the Information Technology workforce.

Information Technology Program Educational Objectives

Graduates of the UWF B.S. in Information Technology degree program will be known for their accomplishments in the early stages of their careers and they should:

1. Develop information technology solutions to important problems either individually or through interdisciplinary teams within a global and societal context.
2. Professionally and ethically, engage in technical or business activity through information technology abilities, communication skills, and knowledge.
3. Engage in continuing professional growth through post-graduate education, continuing education, or professional activity.

B.S. in Information Technology Student Learning Outcomes

Graduates of the UWF B.S. in Information Technology program will have an ability to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Use systemic approaches to select, develop, apply, integrate, and administer secure computing technologies to accomplish user goals.

Program Requirements

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

General Education

Information Technology majors should satisfy the mathematics and science components of General Education with coursework taken from the recommendations shown below.

In addition to the General Education requirements listed on this page, students must satisfy all additional University requirements, including the College-Level Communication and Computation, Multicultural, and Foreign Language requirements. With appropriate planning and coordination with an academic advisor, students may satisfy some of the general University requirements through the General Education

curriculum. For a complete listing of general degree requirements, refer to the State University Requirements section of this catalog.

General Education Curriculum:

Communication

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

Humanities

Choose one course from Group A (Core) and one additional course from either Group A or Group B (Breadth)		6
Group A (Core)		
ARH 1000	Art Appreciation	
LIT 2000	Introduction to Literature	
MUL 2010	Music Appreciation	
PHI 2010	Introduction to Philosophy	
THE 2000	Theatre Appreciation	
Group B (Breadth)		
AML 2010	American Literature I	
AML 2020	American Literature II	
ARH 2050	Western Survey I: Prehistory to the Medieval Period	
ARH 2051	Western Survey II: Renaissance to Contemporary	
ART 1015C	Exploring Artistic Vision	
ART 2821	The Self, Creativity, Your Career and Visual Culture	
CRW 2001	Introduction to Creative Writing	
ENL 2010	History of English Literature I	
ENL 2020	History of English Literature II	
IDH 1040	Honors Core: Humanities	
LIT 2030	Introduction to Poetry	
MUH 2930	The Music Experience: Special Topics	
PHI 2103	Critical Thinking	
PHI 2603	Ethics in Contemporary Society	
REL 1300	World Religions	
SPC 2608	Public Speaking	
THE 2300	Survey of Dramatic Literature	

Mathematics

Choose one course from Group A (Core) and one Additional course from either Group A or Group B (Breadth)		6
Group A (Core)		
MAC 1105	College Algebra	
MAC 1105C	College Algebra with Lab	
MAC 2311	Analytic Geometry and Calculus I	
MGF 1130	Mathematical Thinking	
STA 2023	Elements of Statistics	
Group B (Breadth)		
MAC 1114	Trigonometry	
MAC 1140	Precalculus Algebra	
MAC 1147	Precalculus with Trigonometry	
MAC 2233	Calculus with Business Applications	
MAC 2312	Analytic Geometry and Calculus II	

MGF 1131	Mathematics in Context	
STA 2360	Introduction to Data Science	

Natural Sciences

Choose one course from Group A (Core) and one additional course from either Group A or Group B (Breadth)		6
Group A (Core)		
AST 1002	Descriptive Astronomy	
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.

Statistical Reasoning		
STA 2023	Elements of Statistics	3
MAC 2233	Calculus with Business Applications	3

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.

CGS 2570	Personal Computer Applications	3
COP 2830	Script Programming	3
COP 2253	Programming Using Java	3
or COP 2334	Programming Using C++	
ECO 2013	Principles of Economics Macro *	3
MAC 2233	Calculus with Business Applications *	3
PHI 2603	Ethics in Contemporary Society *	3
PSY 2012	General Psychology *	3
STA 2023	Elements of Statistics *	3
Total Hours		**24**

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

Recommended Lower Division Electives

The following General Education courses are recommended to satisfy the requirements for lower-division electives.

CGS 2020	Introduction to Machine Learning	3
PHI 2103	Critical Thinking	3
AMH 4375	Inventing the Future: The History of American Technology	3

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.	15

Information Technology Core

The following courses are required of all students pursuing the B.S. in Information Technology.

CGS 2920	Foundations in Information Technology	1
ENC 3213	Professional and Technical Writing	3
MAN 3583	Project Management	3
COP 3826	User Interface Programming	3
CGS 3763	Operating Systems Concepts	3
CNT 3004	Introduction to Networks	3
CNT 3112	Switching, Routing and Wireless Essentials	3
CNT 4526	Wireless and Mobile Communications	3
CNT 4701	Enterprise Networking, Security, and Automation	3
CIS 4361	Information Technology Security	3
CET 4772	Cloud Computing Operations and Security	3
CTS 4348	Linux System Administration	3
CTS 4323	Server Administration	3
COP 4710	Database Systems	3
COP 4723	Database Administration	3
Experiential Learning (Choose 1) †		3
CIS 4947	Internship/Practicum in Information Technology ‡	
CGS 4912	Undergraduate Research in Information Technology ‡	
CIS 3949	Cooperative Education ‡	
CTS 4911	Information Technology Capstone	
CTS 4950	Innovative Solutions for Industry	
CGS 4935	Senior Seminar in Information Technology	2
Total Hours		**48**

† May use other option(s) as advisor-approved elective(s).
‡ With departmental approval, more than three credit hours may be applied toward the degree as advisor-approved electives.

Program Electives

Students may take advisor-approved upper-division (3000- or 4000-level) courses in the following areas to attain the required 120 hours: CAP, CDA, CEN, CET, CGS, CIS, CNT, COP, COT, CTS, and ISM. Courses in other areas may be applied toward the B.S. in Information Technology program only by approval of the Department of Cybersecurity and Information Technology chairperson.	12

Data Processing and Management Minor

This minor in Data Processing and Management will allow students to attain the knowledge and skills needed to effectively organize, store, analyze, visualize and secure data. All majors except Information Technology majors may earn this minor.

Choose 1		3
COP 2253	Programming Using Java	
COP 2334	Programming Using C++	
COP 2830	Script Programming	
Choose 4. Other courses at the 3000 or 4000 level that are not shown here may be taken with advisor and department chair approval.		12
COP 4710	Database Systems	
COP 4723	Database Administration	
CAP 4770	Data Mining	
CTS 4457	Data Visualization	
CTS 4910	Trends in Data Analytics	
HIM 4218	Healthcare Data Analysis Using Python	
HSC 3510	Data Analysis in the Health Sciences	
Total Hours		**15**

Information Systems Administration Minor

This minor in Information System Administration will allow students to attain the skills needed to effectively create, secure, monitor and maintain a variety of information systems. All majors except Information Technology majors may earn this minor. The prerequisite for CGS 3763 (CGS 2920 Foundations in Information Technology) can be waived for students pursuing this minor.

Choose 1		3
COP 2253	Programming Using Java	
COP 2334	Programming Using C++	
COP 2830	Script Programming	
Choose 1		3
CGS 3763	Operating Systems Concepts	
COP 4610	Theory and Fundamentals of Operating Systems	
COP 4634	Systems & Networks I	
Choose 4 (Students should assess the prerequisites for upper division courses they wish to take to complete the minor.)		12
CET 4772	Cloud Computing Operations and Security	
CIS 4361	Information Technology Security	
COP 4723	Database Administration	
CTS 4323	Server Administration	
CTS 4348	Linux System Administration	
CTS 4360	Advanced Server Administration	
CTS 4362	Active Directory	
Total Hours		**18**

Network Administration Minor

This minor in Network Administration will allow students across campus to attain the skills needed to effectively create, secure, monitor and maintain a computer network. All majors except Information Technology majors may earn this minor.

CNT 3004	Introduction to Networks	3
CNT 3112	Switching, Routing and Wireless Essentials	3
CNT 4701	Enterprise Networking, Security, and Automation	3
CNT 4526	Wireless and Mobile Communications	3
Total Hours		**12**