

# Cybersecurity

## Cybersecurity

The B.S. in Cybersecurity prepares graduates to be leaders in the protection of data assets and analysis of potential threats to system and networks. The curriculum focuses on the techniques, policies, operational procedures, and technologies that secure and defend the availability, integrity, authentication, confidentiality, and non-repudiation of information and information systems, in local as well as more broadly based domains. The major helps prepare students for careers as information systems security professionals, senior system managers, and system administrators responsible for information systems and the security of those systems.

## Program Requirements

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

A minimum grade of "C-" is required for all major and major-related courses with a cumulative major GPA of 2.5 or higher. Students should consult with their academic advisor for courses which may satisfy both the General Studies requirements and common prerequisites.

## Cybersecurity

### 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

<a href="#">ENC 1101</a>	English Composition I	3
<a href="#">ENC 1102</a>	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

<a href="#">MAC 1105</a>	College Algebra
<a href="#">MAC 1105C</a>	College Algebra with Lab
<a href="#">MAC 2311</a>	Analytic Geometry and Calculus I
<a href="#">MGF 1106</a>	Mathematics for Liberal Arts I
<a href="#">MGF 1107</a>	Mathematics for Liberal Arts II
<a href="#">STA 2023</a>	Elements of Statistics

##### Group B

<a href="#">MAC 1114</a>	Trigonometry
<a href="#">MAC 1140</a>	Precalculus Algebra
<a href="#">MAC 1147</a>	Precalculus with Trigonometry
<a href="#">MAC 2233</a>	Calculus with Business Applications
<a href="#">MAC 2312</a>	Analytic Geometry and Calculus II
<a href="#">STA 2360</a>	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

<a href="#">AMH 2020</a>	United States since 1877
<a href="#">ANT 2000</a>	Introduction to Anthropology
<a href="#">ECO 2013</a>	Principles of Economics Macro
<a href="#">POS 2041</a>	American Politics
<a href="#">PSY 2012</a>	General Psychology
<a href="#">SYG 2000</a>	Introduction to Sociology

##### Group B

<a href="#">AMH 2010</a>	United States to 1877
<a href="#">ANT 2100</a>	Introduction to Archaeology
<a href="#">ANT 2400</a>	Current Cultural Issues
<a href="#">CCJ 2002</a>	Survey of Crime and Justice
<a href="#">COM 2023</a>	Death and Communication
<a href="#">CPO 2002</a>	Comparative Politics
<a href="#">DEP 2004</a>	Human Development Across the Lifespan
<a href="#">EUH 1000</a>	Western Perspectives I
<a href="#">EUH 1001</a>	Western Perspectives II
<a href="#">FIN 2104</a>	Personal Financial Planning
<a href="#">GEA 2000</a>	Nations and Regions of the World
<a href="#">GEB 1011</a>	Introduction to Business
<a href="#">HIS 2050</a>	Explore! History
<a href="#">IDH 1041</a>	Honors Core 2
<a href="#">INR 2002</a>	International Politics
<a href="#">MMC 2000</a>	Principles of Mass Communication
<a href="#">PLA 2013</a>	Survey of American Law
<a href="#">SOW 2192</a>	Understanding Relationships in the 21st Century
<a href="#">SPM 2010</a>	Sport in Global Society
<a href="#">SYG 2010</a>	Current Social Problems

## Humanities

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

##### Group A

<a href="#">ARH 1000</a>	Art Appreciation
<a href="#">LIT 2000</a>	Introduction to Literature
<a href="#">MUL 2010</a>	Music Appreciation
<a href="#">PHI 2010</a>	Introduction to Philosophy
<a href="#">THE 2000</a>	Theatre Appreciation

##### Group B

<a href="#">AML 2010</a>	American Literature I
<a href="#">AML 2020</a>	American Literature II
<a href="#">AML 2072</a>	Sex, Money, and Power in American Literature
<a href="#">ARH 2050</a>	Western Survey I: Prehistory to the Medieval Period
<a href="#">ARH 2051</a>	Western Survey II: Renaissance to Contemporary
<a href="#">ART 1015C</a>	Exploring Artistic Vision

<a href="#">ART 2821</a>	The Self, Creativity, Your Career and Visual Culture
<a href="#">CRW 2001</a>	Introduction to Creative Writing
<a href="#">ENL 2010</a>	History of English Literature I
<a href="#">ENL 2020</a>	History of English Literature II
<a href="#">IDH 1040</a>	Honors Core 1
<a href="#">LIT 2030</a>	Introduction to Poetry
<a href="#">MUH 2930</a>	The Music Experience: Special Topics
<a href="#">PHI 2103</a>	Critical Thinking
<a href="#">PHI 2603</a>	Ethics in Contemporary Society
<a href="#">REL 1300</a>	World Religions
<a href="#">SPC 2608</a>	Basic Communication Skills
<a href="#">THE 2300</a>	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	
<a href="#">AST 1002</a>	Descriptive Astronomy
<a href="#">BSC 1005</a>	General Biology for Non-Majors
<a href="#">BSC 1085</a>	Anatomy and Physiology I
<a href="#">BSC 2010</a>	Biology I
<a href="#">CHM 1020</a>	Concepts in Chemistry *
<a href="#">CHM 2045</a>	General Chemistry I *
<a href="#">ESC 2000</a>	Introduction to Earth Science
<a href="#">EVR 2001</a>	Introduction to Environmental Science
<a href="#">PHY 1020</a>	Conceptual Physics
<a href="#">PHY 2048</a>	Calculus-Based Physics I **
<a href="#">PHY 2048C</a>	Calculus-Based Physics I Studio ***
<a href="#">PHY 2053</a>	Algebra-Based Physics I **
Group B	
<a href="#">ANT 2511</a>	Biological Anthropology
<a href="#">AST 2037</a>	Life in the Universe
<a href="#">BOT 2010</a>	General Botany
<a href="#">BSC 1050</a>	Fundamentals of Ecology
<a href="#">BSC 1086</a>	Anatomy and Physiology II *
<a href="#">BSC 2011</a>	Biology II
<a href="#">BSC 2311</a>	Introduction to Oceanography and Marine Biology *
<a href="#">CGS 2020</a>	Introduction to Machine Learning
<a href="#">CHM 2046</a>	General Chemistry II *
<a href="#">CIS 2530</a>	Introduction to Cybersecurity
<a href="#">GLY 2010</a>	Physical Geology *
<a href="#">MCB 1000</a>	Fundamentals of Microbiology *
<a href="#">PHC 2082</a>	Informatics and Your Health
<a href="#">PHY 2049</a>	Calculus-Based Physics II **
<a href="#">PHY 2054</a>	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

The following courses are recommended to complete general education requirements:

Humanities/Contemporary Values

PHI 2603	Ethics in Contemporary Society	3
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Mathematics

MAC 2311	Analytic Geometry and Calculus I	4
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MAC 2312	Analytic Geometry and Calculus II	4
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Natural Science

PHY 2048+L	Calculus-Based Physics I (+Lab)	4
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CIS 2530	Introduction to Cybersecurity	3
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Social Science: Socio-political

ECO 2013	Principles of Economics Macro	3
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## 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.

<a href="#">AML 2010</a>	American Literature I	3
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<a href="#">AML 2020</a>	American Literature II	3
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<a href="#">AML 3604</a>	African American Literature	3
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<a href="#">AML 3624</a>	Black Women Writers	3
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<a href="#">AML 4015</a>	Topics in Nineteenth-Century American Literature	3
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<a href="#">AML 4640</a>	Topics in Native American Literature	3
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<a href="#">ANT 1001</a>	Anthropology as a Profession	1
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<a href="#">ANT 2000</a>	Introduction to Anthropology	3
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<a href="#">ANT 2301</a>	Human Sexuality and Culture	3
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<a href="#">ANT 3212</a>	Peoples and Cultures of the World	3
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<a href="#">ANT 3312</a>	North American Indians	3
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<a href="#">ANT 3363</a>	Japanese Culture	3
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<a href="#">ANT 3403</a>	Cultural Ecology	3
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<a href="#">ANT 4006</a>	Anthropology of Human Rights	3
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<a href="#">ANT 4025</a>	Ritual Use of Human Remains	3
<a href="#">ANT 4516</a>	Modern Human Physical Variation	3
<a href="#">ARH 1000</a>	Art Appreciation	3
<a href="#">ARH 2050</a>	Western Survey I: Prehistory to the Medieval Period	3
<a href="#">ARH 2051</a>	Western Survey II: Renaissance to Contemporary	3
<a href="#">ARH 3590</a>	Non-Western Art	3
<a href="#">ARH 3607</a>	Native American Art	3
<a href="#">ARH 4302</a>	Late Renaissance Art in Italy	3
<a href="#">ARH 4412</a>	The Age of Revolution to Romanticism in Europe: 1750-1850	3
<a href="#">ARH 4450</a>	Modern Art: 1850-1980	3
<a href="#">ARH 4470</a>	Contemporary Art	3
<a href="#">ARH 4563</a>	Art of Japan	3
<a href="#">CCJ 3678</a>	Race, Gender, Ethnicity, and Crime	3
<a href="#">COM 3014</a>	Gender Communication	3
<a href="#">COM 3461</a>	Intercultural Communication	3
<a href="#">COM 4242</a>	Communication and Christianity	3
<a href="#">CPO 2002</a>	Comparative Politics	3
<a href="#">CPO 4792</a>	Geopolitics	3
<a href="#">CRW 2001</a>	Introduction to Creative Writing	3
<a href="#">EDF 2085</a>	Teaching Diverse Populations	3
<a href="#">ENG 4013</a>	Introduction to Literary Theory	3
<a href="#">ENL 2020</a>	History of English Literature II	3
<a href="#">EUH 1000</a>	Western Perspectives I	3
<a href="#">EUH 1001</a>	Western Perspectives II	3
<a href="#">EUH 3203</a>	Modern Europe	3
<a href="#">EUH 3334</a>	Emperors, Sultans, Dictators, and Democrats: The Balkans	3
<a href="#">EUH 3411</a>	Rome and the Mediterranean World	3
<a href="#">EUH 3576</a>	Soviet Union since 1917	3
<a href="#">EUH 4563</a>	The Other Germany: The Lands of the Austrian Monarchy, 1526-1918	3
<a href="#">FRE 4955</a>	Supervised Foreign Language Field Experience Abroad	1-3
<a href="#">GEA 2000</a>	Nations and Regions of the World	3
<a href="#">GEB 4361</a>	International Business	3
<a href="#">GEO 3421</a>	Cultural Geography	3
<a href="#">GEO 3471</a>	Geography of World Affairs	3
<a href="#">HIS 2050</a>	Explore! History	3
<a href="#">HIS 4262</a>	Rise and Fall of the Portuguese Empire	3
<a href="#">IDH 1040</a>	Honors Core 1	3
<a href="#">IDH 1041</a>	Honors Core 2	3
<a href="#">INR 2002</a>	International Politics	3
<a href="#">LAH 4135</a>	Spanish Conquest of the Americas	3
<a href="#">LAH 4131</a>	'Atlantic Indians': How Indigenous and African Peoples Shaped Europe & the Americas	3
<a href="#">LAH 4451</a>	Greater Mexico: Central America from Conquest to the 20th Century	3
<a href="#">LAH 4728</a>	Gender and Sexuality in Latin America from Colonization to Today	3
<a href="#">LIT 2000</a>	Introduction to Literature	3

<a href="#">LIT 2030</a>	Introduction to Poetry	3
<a href="#">LIT 3233</a>	Postcolonial Literature	3
<a href="#">LIT 4036</a>	Topics in Poetry and Poetics	3
<a href="#">LIT 4385</a>	Feminist Theory	3
<a href="#">MAN 4102</a>	Management of Diversity	3
<a href="#">MAR 4156</a>	Seminar in International Marketing	3
<a href="#">MMC 3743</a>	Communicating Fear: Horror Films and Popular Culture	3
<a href="#">MMC 3745</a>	Communicating Fear Abroad: International Horror Films & Popular Culture	3
<a href="#">MUH 2930</a>	The Music Experience: Special Topics	3
<a href="#">MUL 2010</a>	Music Appreciation	3
<a href="#">NUR 4615</a>	Community and Public Health Nursing	3
<a href="#">NUR 4636</a>	Population-based Public Health Nursing	3
<a href="#">PHI 3790</a>	African Philosophy	3
<a href="#">PUR 3404</a>	International Public Relations	3
<a href="#">PSY 3860</a>	Positive Psychology	3
<a href="#">SOP 3730</a>	Psychology, Culture, and Society	3
<a href="#">SOW 4233</a>	Human Diversity and Social Justice	3
<a href="#">SPN 3400</a>	Advanced Stylistics	3
<a href="#">SPN 4520</a>	Latin American Culture and Civilization	3
<a href="#">SYO 4421</a>	Sociology of Health, Illness and Health Care	3
<a href="#">SYO 4530</a>	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 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 <b>or</b> 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 <b>and</b> 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.

COP XXXX	Introductory programming in C, C++, Java, or equivalent language †	3
MAC 2311	Analytic Geometry and Calculus I *†	4
MAC 2312	Analytic Geometry and Calculus II *†	4
PHY 2048+L	Calculus-Based Physics I (+Lab) *†	4
STA 2023	Elements of Statistics †	3
One science course for science majors †		3
<b>Total Hours</b>		<b>21</b>

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

† Minimum grade of C- is required for COP XXXX, MAC 2311, MAC 2312, PHY2048/L, STA 2023, and the science course for science majors.

## 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.

If not taken as a general education course, the following courses are recommended as lower division electives:

ACG 2021	Principles of Financial Accounting	3
CGS 2060	Excursions in Computing	3
ECO 2023	Principles of Economics Micro	3
SPC 2608	Public Speaking	3

## Major

CAP 4136	Malware Analysis †	3
CDA 3101	Introduction to Computer Organization †	3
CEN 3031	Software Engineering I †	3
CEN 4078	Secure Software Development †	3
CIS 4368	Introduction to Database Security †	3
CIS 4221	Ethical Hacking and Penetration Testing †	3
CIS 4595	Capstone Project †	3
CNT 4007	Theory and Fundamentals of Networks †	3
CNT 4403	Computer and Network Security †	3
CNT 4416	Cyber War Gaming †	3
COP 3014	Algorithm and Program Design †	3
COP 3022	Intermediate Computer Programming †	3
COP 3530	Data Structures and Algorithms I †	3
COP 4610	Theory and Fundamentals of Operating Systems †	3
COP 4710	Database Systems †	3

COT 3100	Discrete Structures †	3
CTS 4348	Linux System Administration †	3
Required Course Not Completed in Common Prerequisites		
CIS 2530	Introduction to Cybersecurity †	
<b>Total Hours</b>		<b>51</b>

+ Courses included in the major GPA

## Major-Related

Three 3000/4000 level advisor-approved electives including courses in computer science, electrical and computer engineering, management information systems, and criminal justice. A list of approved major-related courses is available in the department.

<b>Total Hours</b>		<b>9</b>
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## Cybersecurity Certificate

Department: [Computer Science](#)

Method of Instruction: [Classroom](#)

Semester Hours: [15](#)

This certificate program is focused on networking and security, prepares professionals to become Cybersecurity Specialists. In this certificate, students develop technical and problem-solving skills to help organizations defend their network systems. Students must complete prerequisites in computing and mathematics to prepare for the core technical courses in the program.

Prospective students for this certificate must contact the departmental advisor for completing the certificate declaration before the drop/add period of the semester of completion. All courses must have been completed within 5 years of receipt of application with a grade of "C-" or higher. Cybersecurity majors may not earn this certificate.

### Prerequisites:

CDA 3101	Introduction to Computer Organization	3
COT 3100	Discrete Structures	3
CEN 3031	Software Engineering I	3
COP 2334	Programming Using C++	3
COP 3014	Algorithm and Program Design	3
COP 3530	Data Structures and Algorithms I	3

<b>Total Hours</b>		<b>18</b>
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### Core Courses:

COP 4610	Theory and Fundamentals of Operating Systems	3
or COP 4634	Systems & Networks I	
CNT 4007	Theory and Fundamentals of Networks	3
or COP 4635	Systems & Networks II	
COP 3022	Intermediate Computer Programming	3
CEN 4078	Secure Software Development	3
Choose one:		3
CAP 4136	Malware Analysis	
CNT 4403	Computer and Network Security	
CIS 4368	Introduction to Database Security	

<b>Total Hours</b>		<b>15</b>
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