CYBERSECURITY

This program combines the study of computer science with a liberal arts education. It prepares students for employment as computing professionals while offering significant freedom to choose coursework in other areas. The major is especially popular with students who want the technical education in computer science with the flexibility to take other non-technical courses, sometimes in the form of a minor or certificate.

About this Program

- **College:** Liberal Arts and Sciences (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/)
- **Degree:** Bachelor of Science (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/CSC_BS/)
  - **Specialization:** Cybersecurity (p. 1)
- **Credits for Degree:** 120
- **More Info**

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The mission of the Department of Computer & Information Science & Engineering is to educate students, as well as the broader campus community, in the fundamental concepts of the computing discipline; to create and disseminate computing knowledge and technology; and to use expertise in computing to help society solve problems.
Website (https://www.cise.ufl.edu/)

CONTACT

352.392.1090
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P.O. Box 116120
E301 CSE BUILDING
GAINESVILLE FL 32611-6120
Map (http://campusmap.ufl.edu/#/index/0042)

Curriculum

- /UGRD/colleges-schools/UGENG/CPE_BSCO03/
- Combination Degrees
- Computer and Information Science and Engineering Minor
- Computer and Information Science and Engineering Minor UF Online
- Computer Science UF Online
- Computer Science | CLAS
- Computer Science | Herbert Wertheim College of Engineering
- Digital Arts and Sciences | Bachelor of Science
- Industrialized Construction Engineering

Computer science majors in CLAS take a solid foundation of core computer science courses while fulfilling requirements for a liberal arts education, including courses from the humanities, social and behavioral sciences, and the study of a foreign language. Questions about the major should be directed to a department advisor.

Coursework

This major requires a minimum of 29 credits in foundation coursework, 35 credits in core coursework. The cybersecurity specialization requires 9 credits of technical electives enabling students to deepen their knowledge and obtain hands-on experience in cybersecurity, preparing students for a career in this important field. Students must earn minimum grades of C in coursework for the major. An exit interview is required in the student's last semester.

A student can request to transfer in a maximum of four courses toward required core Computer Science or required Computer Science elective coursework, dependent upon courses being deemed equivalent by the Department. Course equivalency requests should begin with the department advising office, followed by the undergraduate coordinator.

Students may opt to take COP 3504C in lieu of COP 3502C and COP 3503C. If elected, students will need to complete an additional 4 credits to complete the degree program.

Combination Degree Program

The computer science combination-degree program is a joint program between the colleges of Engineering and Liberal Arts and Sciences and is coordinated by the Department of Computer and Information Science and Engineering.

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

For degree requirements outside of the major, refer to CLAS Degree Requirements: Structure of a CLAS Degree (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/#degreerequirementstext).

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (https://cpm.flvc.org/advance-search/) may be used for transfer students.

Semester 1

- Complete MAC 1147 or MAC 2311
- 2.0 UF GPA required

Semester 2

- Complete MAC 2311
- 2.0 UF GPA required

Semester 3

- Complete MAC 2312
- 2.0 UF GPA required

Semester 4

- Complete MAC 2313; and PHY 2053/PHY 2053L or PHY 2048/PHY 2048L
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete COP 3502C or COP 3504C; and PHY 2054/PHY 2054L or PHY 2049/PHY 2049L
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 6

- Complete COP 3503C or COP 3504C; and COT 3100
- 2.0 UF GPA required

Semester 7

- Complete COP 3530
- 2.0 UF GPA required

Semester 8

- Complete COP 4600
- 2.0 UF GPA required

Model Semester Plan

Students are expected to complete the Writing Requirement while in the process of taking the courses below. Students are also expected to complete the General Education International (GE-N) requirement concurrently with another General Education requirement (typically, GE-C, H, or S).

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
COP 3502C	Programming Fundamentals 1 (**Critical Tracking**)	4
MAC 2311	Analytic Geometry and Calculus 1 (**Critical Tracking**; Gen Ed Mathematics)	4
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement		3
	Credits	**14**
Semester Two		
COP 3503C	Programming Fundamentals 2	4
COT 3100	Applications of Discrete Structures	3
MAC 2312	Analytic Geometry and Calculus 2 (**Critical Tracking**; Gen Ed Mathematics)	4
Select one:		4-5
PHY 2048 & 2048L	Physics with Calculus 1 and Laboratory for PHY 2048 (**Critical Tracking**; State Core Gen Ed Physical Sciences)	
PHY 2053 & 2053L	Physics 1 and Laboratory for PHY 2053 (**Critical Tracking**; State Core Gen Ed Physical Sciences)	
	Credits	**15-16**
Summer After Semester Two		
State Core Gen Ed Biological Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Gen Ed Humanities		3
	Credits	**9**
Semester Three		
CDA 3101	Introduction to Computer Organization	3
COP 3530	Data Structures and Algorithm	3
MAC 2313	Analytic Geometry and Calculus 3 (**Critical Tracking**; Gen Ed Mathematics)	4
Select one:		4-5
PHY 2049 & 2049L	Physics with Calculus 2 and Laboratory for PHY 2049 (**Critical Tracking**; Gen Ed Physical Sciences)	
PHY 2054 & 2054L	Physics 2 and Laboratory for PHY 2054 (**Critical Tracking**; Gen Ed Physical Sciences)	
	Credits	**14-15**
Semester Four		
Quest 2 (Gen Ed Biological or Social and Behavioral Science)		3
CEN 3031	Introduction to Software Engineering	3
CIS 4301	Information and Database Systems 1	3
ENC 3246	Professional Communication for Engineers (Gen Ed Composition)	3
MAS 3114 or MAS 4105	Computational Linear Algebra or Linear Algebra 1	3-4
	Credits	**15-16**
Semester Five		
COP 4600	Operating Systems	3
STA 3032	Engineering Statistics	3
Foreign language		4-5
Gen Ed Social and Behavioral Sciences		3
	Credits	**13-14**
Semester Six		
CIS 4360	Computer and Information Security	3
COP 4020	Programming Language Concepts	3
COP 4533	Algorithm Abstraction and Design	3
Foreign language		3-5
	Credits	**12-14**
Summer After Semester Six		
Pursue Internship/Co-op (if desired)		0
	Credits	**0**
Semester Seven		
Gen Ed Biological Sciences OR Gen Ed Social and Behavioral Sciences (Area not taken as Quest 2 in Semester 4)		3

Gen Ed Humanities		3
Technical electives (select two:)		6
CDA 4324C	Cyber-physical System Security	
CIS 4204	Penetration Testing: Ethical Hacking	
CIS 4213	Enterprise Security	
CIS 4362	Introduction to Cryptology	
Foreign language course (or elective if 4-3-3 option)		3
	Credits	**15**
Semester Eight		
CIS 4914	Senior Project	3
Technical elective (select one):		3
CDA 4324C	Cyber-physical System Security	
CIS 4204	Penetration Testing: Ethical Hacking	
CIS 4213	Enterprise Security	
CIS 4362	Introduction to Cryptology	
Electives		7
	Credits	**13**
	Total Credits	**120**