

COMPUTER SCIENCE, BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Minimum Total Credit Hours: 120-121

Overall GPA - Combined and OU: 2.00

Major GPA - Combined and OU: 2.00

Curriculum GPA - Combined and OU: 2.00

Program Code: B235

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses.

Two college-level courses in a single foreign language are required; this may be satisfied by successful completion of 2 years in a single foreign language in high school. Students who must take foreign language at the University will have an additional 6-10 hours of coursework.

Course	Title	Credit Hours
Freshman		
First Semester		
ENGL 1113	Principles of English Composition (Core I)	3
MATH 1914	Differential and Integral Calculus I (Core I) ¹	4
ENGR 1411	Freshman Engineering Experience ²	1
Choose one of the following:		1-4
C S 1323	Introduction to Computer Programming for Programmers ^{3,4}	
C S 1321	Java for Programmers ^{3,4}	
C S 1324	Introduction to Computer Programming for Non-Programmers ^{3,4}	
Approved Elective, Artistic Forms (Core IV) ⁵		3
Credit Hours		12-15
Second Semester		
ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
MATH 2924	Differential and Integral Calculus II ¹	4
C S 2334	Programming Structures and Abstractions ³	4
Approved Elective, Natural Science (Core II) ⁶		3
Credit Hours		14
Sophomore		
First Semester		
MATH 2934	Differential and Integral Calculus III ¹	4
ENGR 2002	Professional Development	2
C S 2413	Data Structures	3
C S 2813 or MATH 2513	Discrete Structures or Discrete Mathematical Structures	3
Approved Elective, Social Science (Core III) ⁵		3
Credit Hours		15

Second Semester

C S 2614	Computer Organization	4
PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
PHYS 1311	General Physics Lab I ⁷	0-1
Approved Elective, Natural Science (Core II) ⁶		3
Open Elective ⁶		3
Credit Hours		14-15

Junior

First Semester

MATH 3000-level or above and acceptable for credit for MATH Majors, or Complete a Minor		3
Open Elective		3
C S 3113	Introduction to Operating Systems	3
C S 3203	Software Requirements and Specifications	3
C S 3823	Theory of Computation	3
P SC 1113	American Federal Government (Core III)	3
Credit Hours		18

Second Semester

Open Elective ⁴		1-4
MATH 3333	Linear Algebra I	3
C S 3053	Human Computer Interaction	3
C S 3323	Principles of Programming Languages	3
Choose one of the following:		3
MATH 4753	Applied Statistical Methods	
ISE 3293	Applied Engineering Statistics	
MATH 4743	Introduction to Mathematical Statistics	
Credit Hours		13-16

Senior

First Semester

Approved Elective, Western Civ. & Culture (Core IV) ⁵		3
C S 4263	Software Engineering I	3
C S 4413	Algorithm Analysis	3
Choose one of the following:		3
Approved C S Elective (p. 2) ⁸		
MATH 4073	Numerical Analysis I	
C S 4513	Database Management Systems	3
Credit Hours		15

Second Semester

C S 4273	Software Engineering II (Capstone)	3
Approved C S Elective (p. 2) ⁸		3
Approved C S Elective (p. 2) ⁸		3
HIST 1483 or HIST 1493	United States, 1492 to 1865 (Core IV) or United States, 1865 to the Present	3
Approved Elective, Non-Western Culture (Core IV) ⁵		3
Credit Hours		15
Total Credit Hours		120-121

¹ MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934. **Note:** See an advisor in the Arts and Sciences Advising Center (EL 124) about a possible minor in mathematics.

- ² Engineering transfer students may take ENGR 3511 in place of ENGR 1411.
- ³ Students are required to make a B or better in C S 1323/C S 1324/C S 1321 or C S 2334 before they can enroll in any other CS courses.
- ⁴ The credits from C S 1321, C S 1323, and C S 1324 plus the open electives must add up to 5.
- ⁵ To be chosen from the University-Wide General Education Approved Course List. Three of these 12 hours must be upper-division (3000-4000). See list in the Class Schedule.
- ⁶ Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the Natural Science courses must be a non-Physics course. The number of credits in Core II Natural Science and open electives must be 14 credit hours or more. All science courses must be for science or engineering majors. Open electives are not required to be General Education approved. Laboratory Core II requirement must be met.
- ⁷ Another laboratory science Core II course may be substituted for PHYS 1311.
- ⁸ Honors College students may substitute C S 3980 for an approved C S elective.

Courses designated as Core I, II, III, IV or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list.

Students should read the Gallogly College of Engineering Scholastic Regulations posted on the WSSC website.

Approved C S Electives

Code	Title	Credit Hours
C S 4013	Artificial Intelligence	3
C S 4023	Introduction to Intelligent Robotics	3
C S 4033	Machine Learning	3
C S 4053	Computer Graphics	3
C S 4073		3
C S 4113	Operating Systems Theory	3
C S 4133	Data Networks	3
C S 4323	Compiler Construction	3
C S 4433	Computational Methods in Discrete Optimization	3
C S 4613	Computer Architecture	3
C S 4743	Scientific Computing I	3
C S 4823	Cryptography	3
C S 4973	Special Topics	3