

College of Engineering & Applied Science – B.S. Computer Science

Contact Information:

Claire Ami
Academic Advisor (A-K)
719-255-3637
cam@uccs.edu

Katie Horner
Academic Advisor (L-Z)
719-255-3659
khorne@uccs.edu

Student Success Center Advising Hours:

Monday: 9am-5pm Walk-in Advising
Tuesday–Friday: 9am-4pm Appointments Only

To schedule an appointment, call 719-255-3260. The Student Success Center is located in Main Hall 208.

General Academic Information

Academic Policies

It is the responsibility of each student to know and follow all Academic policies established by the University and the College of Engineering & Applied Science (EAS) that are set forth in the Catalog (catalog.uccs.edu).

Course Prerequisites

Students are responsible for knowing and completing all course prerequisites. Course prerequisites are strictly enforced for all classes at UCCS.

Restrictions and Limitations

Students must be admitted into the degree major in the College of Engineering and Applied Science at least 30 credit hours prior to graduation. Only three hours of Independent Study may count toward the degree. Work Experience/Military Science/ROTC credit will not apply toward fulfillment of the requirements for a degree from the College of Engineering.

Probation/Suspension

Students whose full-time semester's or cumulative GPA falls below 2.0 will be placed on probation for the next semester in which they are enrolled in the College of Engineering & Applied Science and will be notified by email and mail. If, after that semester, the semester or cumulative GPA is still below 2.0, the student will be suspended from the college. PLEASE NOTE: *While on probation, registration for the subsequent semester will be blocked until final grades are posted for the current semester. This is to verify that the minimum semester GPA for each student has been fulfilled.*

Compass Curriculum

Compass Curriculum is the campus-wide general education program at UCCS. The Compass Curriculum has multiple components many of which will coincide with the degree requirements listed in this guide. Please visit the Compass Curriculum website at www.uccs.edu/compasscurriculum, review your degree audit, or check out the Compass Curriculum advising guide for specific course details. The required components are listed below and referenced in the guide.

REQUIRED COMPASS CURRICULUM COMPONENTS:

Component	Course
Gateway	GPS 1010
Explore ¹ – Arts, Humanities and Cultures	See List
Explore ¹ – Society, Behavior and Health	See List
Explore ¹ – Physical and Natural World	PES 1110
Navigate ²	See List
Summit	CS 4100
Writing Intensive Course (WIC) ³ <i>Two courses with at least one upper-division (3000+ level).</i>	See List
Inclusiveness ³	See List
Sustainability ³	See List

¹ Explore must be outside major and area requirements.

² Navigate must be outside major requirements.

³ Can count towards other requirements within the Compass Curriculum or within a student's degree program.



DEPARTMENT OF COMPUTER SCIENCE

Department website: www.uccs.edu/cs

Degree Requirements	Courses		
Computer Science Core Courses (48 hours) <i>You must be admitted into the College of Engineering in order to take any CS 3000+ course.</i>	CS 1150	Principles of Computer Science	3
	CS 1450	Data Structures & Algorithms (<i>pre-req CS 1150</i>)	3
	CS 2060	Programming in C (<i>pre-req CS 1150</i>)	3
	CS 2080	Programming with UNIX (<i>pre-req CS 1450</i>)	2
	CS 2160	Computer Org. & Assembly Language (<i>pre-req CS 1450, CS 2060</i>)	3
	CS 3050	Computing Ethics (<i>pre-req CS 2080</i>)	1
	CS 3060 or CS 3020	Object Oriented Programming in C++ (<i>pre-req CS 2060, CS 2080</i>) Adv Object Tech Using C#/.NET.C# (<i>pre-req CS 1450</i>)	3
	CS 3160	Concepts of Programming Languages (<i>pre-req CS 2060, CS 2160, CS 3020 or CS 3060</i>)	3
	CS 3300	Software Engineering (<i>pre-req CS 2080, CS 3020 or CS 3060</i>)	3
	CS 4100	Compiler Design (<i>pre-req CS 2160, CS 3160, CS 4700</i>)	3
	CS 4200	Computer Architecture I (<i>pre-req CS 2160</i>)	3
	CS 4500	Operating Systems I (<i>pre-req CS 2060, CS 2080, CS 4200</i>)	3
	CS 4700	Computability, Automata & Formal Lang. (<i>pre-req MATH 2150, MATH 3130</i>)	3
	CS 4720	Design & Analysis of Algorithms (<i>pre-req CS 1450, MATH 2150</i>)	3
	CS Electives	Complete 9 hours of CS courses numbered between 4000-5999 that are NOT being used for the CS core.	9
Technical Electives (9 hours) <i>NOTE: Courses chosen may affect the remaining number of upper-division hours needed to fulfill the degree requirements.</i>	Complete 9 hours of Technical Electives. Technical Electives should be chosen from the following areas: CS courses 3000+ not being used for CS Core or CS Electives; GDD courses 3000+; ECE courses 2000+; MATH courses 3100+, except MATH 4650; Additional courses from the Basic Science list or additional courses with prerequisites from the Basic Science list; Any course from the College of Business 3000+, except BUAD 3010, 3020 or 3030.		
Composition Courses (6 hours)	Complete ENGL 1310, 2090, and the Writing Portfolio.		
	ENGL 1310	Rhetoric & Writing I	3
	ENGL 2090	Technical Writing & Presentation (<i>pre-req ENGL 1310 or ENGL 1410</i>)	3
	PORT 3000	Writing Portfolio Assessment (<i>pre-req ENGL 2090</i>)	0
Mathematics (21 hours) <i>NOTE: Math courses require a grade of C or better to progress through the Math sequence.</i>	Complete all of the following courses.		
	MATH 1350	Calculus I (<i>pre-req MATH 1050</i>)	4
	MATH 1360	Calculus II (<i>pre-req MATH 1350</i>)	4
	MATH 2150	Discrete Mathematics (<i>pre-req MATH 1350</i>)	3
	MATH 2350	Calculus III (<i>pre-req MATH 1360</i>)	4
	CS 1300 or MATH 3130	Computational Linear Algebra (<i>pre-req MATH 90</i>) Intro to Linear Algebra (<i>pre-req MATH 2350</i>)	3
	MATH 3810 or ECE 3610	Intro to Probability & Statistics (<i>pre-req MATH 2350</i>) Engineering Probability & Statistics	3

Basic Science (14 hours)	Complete PES 1110, PES 1120, PES 1160 and 5 more hours from the list below. <i>(Or any other PES course with a prerequisite of PES 1110. CHEM 1301 is recommended.)</i>					
	PES 1110	PES 1120	PES 1160	BIOL 1300	BIOL 1310	BIOL 1350
	BIOL 1360	CHEM 1301	CHEM 1311	GEOL 1010	GEOL 1020	
Humanities/Social Science Requirements (20 hours)	HUMANITIES/SOCIAL SCIENCE – Complete 20 hours of Humanities/Social Science Electives from the following departments: ANTH (except 1030, 2300, 3000, 3200, 3210, 3240, 3320, 3340, 3370, 3410, 4200, 4300), AH, COMM, ECON, ENGL (only courses 1500+, except 2080, 3010 and 3070-3160), FILM, FCS, Languages, HIST, HUM, MUS (except 1310, 1500 & 2250), PHIL, PSC, PSY (except 2100, 2110, 3100, 3110, 4110), SOC, and WEST. Students may also petition to include selected other courses in ID, Theater, or other departments.					
> <i>Select one course from the Explore Arts, Humanities & Cultures list, and one from the Explore Society, Behavior & Health list.</i>						
Compass Curriculum (3 hours not included above)	Complete all Compass Curriculum requirements not already completed as part of the above program. The Gateway Seminar (GPS 1010) must be completed by all students. Explore courses must be completed outside of the major and Area Requirements. All other Compass Curriculum requirements can be completed within the degree requirements above. To see a list of all Compass Curriculum courses, please visit: www.uccs.edu/compasscurriculum .					
Free Electives (7 hours)	Complete 7 hours of free electives to fulfill the total hours and upper-division requirements for the degree program. The chosen course(s) can be selected from any discipline but may not include any math course below MATH 1350. Only 3 credit hours of CS course work numbered below CS 1150 may count towards the Free Electives.					

UCCS Bachelor of Science, Computer Science Major Degree Requirements

- > A minimum of 128 hours must be completed with a cumulative CU grade point average of 2.0; at least 45 of these hours must be at the upper-division level (courses numbered 3000+).
- > The last 30 hours of the degree must be completed while registered in the College of Engineering and Applied Science at UCCS.
- > Courses numbered below 1000 do not count towards degree completion.
- > This guide is provided for student use only. It does not represent an official documentation of a student’s progress towards completion of their degree program. The CS program requires a minimum 2.0 GPA in all CS course work taken in order to graduate. Students must also complete an Exit Interview with the CS Department during their final semester to graduate.



Four-Year Degree Plan – Computer Science

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Computer Science degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

Suggested First Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	ENGL 1310	3		CS 1450	3
	CS 1150	3		CS 2060	3
	GPS 1010	3		MATH 1360	4
	MATH 1350	4		PES 1110/1160	5
	Free Elective	3		Explore – Arts, Humanities & Cultures Course	3
	TOTAL	16		TOTAL	18

Suggested Second Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MATH 2350	4		CS 3060 or CS 3020	3
	ENGL 2090	3		MATH 2150	3
	CS 2080	2		Explore – Society, Behavior & Health Course	3
	CS 2160	3		Basic Science Elective w/ lab (CHEM 1301 rec)	5
	PES 1120	4		Free Elective	2
	TOTAL	16		TOTAL	16

Suggested Third Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	CS 3160	3		CS 3050	1
	CS 4720	3		CS 3300	3
	CS 1300 or MATH 3130	3		CS 4200	3
	Technical Elective	3		MATH 3810 or ECE 3610	3
	Humanities/Social Science Elective	4		Computer Science Elective	3
				Humanities/Social Science Elective	3
	TOTAL	16		TOTAL	16

Suggested Fourth Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	CS 4500	3		CS 4100	3
	CS 4700	3		Computer Science Elective	3
	Computer Science Elective	3		Technical Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	4
	Technical Elective	3		Free Elective	2
	TOTAL	15		TOTAL	15