University of Colorado Colorado Springs

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

Academic Advising Hours:

Location: Main Hall 208
Hours: Monday: 9am-5pm Walk-in Advising
Tuesday–Friday: 9am-4pm Appointments Only
Call: (719) 255-3260
Website: www.uccs.edu/advising

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.

Residency, Restrictions, and Limitations
Students must be admitted into the College of Engineering and Applied Science as well as complete at least the final 30 credit hours of coursework exclusively at UCCS. Only three hours of Independent Study may count toward the degree. Credit for work experience, Military Science, and ROTC – when granted – is generally not applicable to degree fulfillment.

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.*

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.
> 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.

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 Degree Audit
Explore[1] – Society, Behavior and Health	See Degree Audit
Explore[1] – Physical and Natural World	PES 1110
Navigate[2]	See Degree Audit
Summit	CS 4100
Writing Intensive Course (WIC)[3] *Two courses with at least one upper-division (3000+ level).*	See Degree Audit
Inclusiveness[3]	See Degree Audit
Sustainability[3]	See Degree Audit

[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) *You must be admitted into the College of Engineering in order to take any CS coursework.*	Complete all of the following courses:		
	CS 1150	Principles of Computer Science	3
	CS 1450	Data Structures & Algorithms *(pre-req CS 1150)*	3
	CS 2060	Programming in C *(pre-req CS 1150)*	3
	CS 2080	Programming with UNIX *(pre-req CS 1450)*	2
	CS 2160	Computer Org. & Assembly Language *(pre-req CS 1450, CS 2060)*	3
	CS 3050	Computing Ethics (pre-req CS 2080)	1
	CS 3060 or CS 3020	Object Oriented Programming in C++ *(pre-req CS 2060, CS 2080)* Adv Object Tech Using C#/.NET.C# *(pre-req CS 1450)*	3
	CS 3160	Concepts of Programming Languages *(pre-req CS 2060, CS 2160, and CS 3020 or CS 3060)*	3
	CS 3300	Software Engineering *(pre-req CS 2080, and CS 3020 or CS 3060)*	3
	CS 4100	Compiler Design *(pre-req CS 2160, CS 3160, CS 4700)*	3
	CS 4200	Computer Architecture I *(pre-req CS 2160)*	3
	CS 4500	Operating Systems I *(pre-req CS 2060, CS 2080, CS 4200)*	3
	CS 4700	Computability, Automata & Formal Lang. *(pre-req MATH 2150, MATH 3130)*	3
	CS 4720	Design & Analysis of Algorithms *(pre-req CS 1450, MATH 2150)*	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)	*Complete 9 hours of Technical Electives from the following options that are not being used to fulfill another requirement:* • any 3000+ level Computer Science course • any 3000+ level Game Design & Development course • any 2000+ level Electrical Engineering course (except ECE 2400) • any 3100+ level Mathematics course (except MATH 4650) • additional courses from the Basic Science list or additional courses with prerequisites from the Basic Science list • any 3000+ level College of Business course (except BUAD 3010, 3020, or 3030)		
Composition Courses (6 hours)	Complete all of the following courses:		
	ENGL 1310 OR ENGL 1410	Rhetoric & Writing I Rhetoric & Writing II	3
	ENGL 2090	Technical Writing & Presentation *(pre-req ENGL 1310 or ENGL 1410)*	3
	PORT 3000	Writing Portfolio Assessment *(pre-req ENGL 2090)*	0

Mathematics (21 hours) *NOTE: Math courses require a grade of C or better to progress through the Math sequence.*	Complete all of the following courses:		
	MATH 1350	Calculus I *(pre-req MATH 1050)*	4
	MATH 1360	Calculus II *(pre-req MATH 1350)*	4
	MATH 2150	Discrete Mathematics *(pre-req MATH 1350)*	3
	MATH 2350	Calculus III *(pre-req MATH 1360)*	4
	CS 2300 <u>OR</u> MATH 3130	Computational Linear Algebra *(pre-req CS 1150 or GDD 1200, MATH 99)* Intro to Linear Algebra *(pre-req MATH 2350)*	3
	MATH 3810 or ECE 3610	Intro to Probability & Statistics *(pre-req MATH 2350)* Engineering Probability & Statistics *(pre-req MATH 2350)*	3

Basic Science (14 hours)	Complete PES 1110, PES 1120, PES 1160 and 5 more hours from the list below. *(Or any other PES course with a prerequisite of PES 1110. CHEM 1401/1402 is recommended.)*					
	PES 1110	**PES 1120**	**PES 1160**	BIOL 1300	BIOL 1310	BIOL 1350
	BIOL 1360	CHEM 1401	CHEM 1402	CHEM 1411	CHEM 1412	GEOL 1010
	GEOL 1020					

Compass Curriculum/ Humanities/ Social Science Requirements (23 hours) *> Select one course from the Explore Arts, Humanities & Cultures list, and one from the Explore Society, Behavior & Health list.* *>Complete Compass Curriculum courses from these departments.*	**COMPASS CURRICULUM –** In addition to the courses outlined above, a Gateway Seminar (**GPS 1010**) must be completed by all students to complete the Compass Curriculum. To see a list of all Compass Curriculum courses, please visit: www.uccs.edu/compasscurriculum.					
	GPS 1010					
	HUMANITIES/SOCIAL SCIENCE – Complete 20 hours of Humanities/Social Science Electives from the following departments: • Anthropology (cultural courses only) • Art History • Communication • Economics • English (except Composition courses) • Film • Foreign & Cultural Studies and Foreign Languages • History • Humanities • Music (except performance & practice courses) • Philosophy • Psychology (social science courses only) • Sociology • Women's & Ethnic Studies					

Open Electives (7 hours)	Complete 7 hours of open electives to fulfill the total hours requirement 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 Electives.

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 – Rhetoric & Writing I	3		CS 1450 – Data Structures & Algorithms	3
	CS 1150 – Principles of Computer Science	3		CS 2060 – C Programming	3
	MATH 1350 – Calculus I	4		MATH 1360 – Calculus II	4
	GPS 1010 – Gateway Program Seminar	3		PES 1110 – General Physics I	4
	Compass Explore (Humanities/Social Science) Elective	3		Compass Explore (Humanities/Social Science) Elective	3
	TOTAL	16		**TOTAL**	17

Suggested Second Year

	FALL			**SPRING**	
√	*Course*	*Hours*	√	*Course*	*Hours*
	CS 2080 – UNIX	2		CS 3060 – C++ **OR** CS 3020 – C#/.NET	3
	CS 2160 – Organization & Assembly Language	3		MATH 2150 – Discrete Math	3
	MATH 2350 – Calculus III	4		Basic Science Elective w/ lab (Rec. CHEM 1401 & 1402)	5
	PES 1120 – General Physics II	4		Compass Inclusiveness/Humanities/Social Science Elec.	4
	PES 1160 – General Physics I Lab	1		Open Elective	1
	ENGL 2090 – Technical Writing	3			
	TOTAL	17		**TOTAL**	16

Suggested Third Year

	FALL			**SPRING**	
√	*Course*	*Hours*	√	*Course*	*Hours*
	CS 3160 – Concepts of Programming Languages	3		CS 3050 – Computing Ethics	1
	CS 4720 – Design & Analysis of Algorithms	3		CS 3300 – Software Engineering	3
	CS 2300 (Fall Only) or MATH 3130 – Linear Algebra	3		CS 4200 – Computer Architecture	3
	Technical Elective	3		CS 4000+ Computer Science Elective	3
	Compass 3000+ Writing Intensive/Open Elective	3		MATH 3810 or ECE 3610 – Probability & Statistics	3
				Compass Navigate/Humanities/Social Science Elective	3
	TOTAL	15		**TOTAL**	16

Suggested Fourth Year

	FALL			**SPRING**	
√	*Course*	*Hours*	√	*Course*	*Hours*
	CS 4500 – Operating Systems I	3		CS 4100 (Spring Only) – Compiler Design	3
	CS 4700 - Computability, Automata & Formal Lang.	3		CS 4000+ Computer Science Elective	3
	CS 4000+ Computer Science Elective	3		Technical Elective	3
	Technical Elective	3		Compass Writing Intensive Humanities/Soc. Sci. Elec.	4
	PORT 3000 – Writing Portfolio Assessment	0		Open Elective	3
	Compass Sustainability/Humanities/Social Science Elec.	3			
	TOTAL	15		**TOTAL**	16