COMPUTER SCIENCE, WESTERN - UNIVERSITY OF COLORADO BOULDER PARTNERSHIP

The Bachelor of Science Degree in Computer Science obtained through the Western-CU Boulder Engineering Partnership Program is conferred by the University of Colorado Boulder. Lower-division coursework is completed through Western Colorado University before applying for admission to the University of Colorado Boulder. The entire program is completed on the campus of Western Colorado University.

The Bachelor of Science Degree in Computer Science requires:

- The official transfer of all coursework listed on the plan of study to the University of Colorado Boulder. https://www.colorado.edu/engineering-advising/get-your-degree/transfer-students/transfer-credit-policy (https://www.colorado.edu/engineering-advising/get-your-degree/transfer-students/transfer-credit-policy/)
- At least 45 credits earned from the University of Colorado Boulder (residency requirement): https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies (https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies/)
- A minimum of 128 cumulative credits earned to degree program
- Student knowledge and adherence to course prerequisites as listed in the course catalog
- A cumulative and major GPA of at least 2 (from entirely CU Boulder coursework as a student's Western GPA will not continue in the CU portion of the program): https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies (https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies/)
- Satisfactory completion of all HEAR requirement deficiencies related to high school coursework

Students can learn more about the Western-CU Partnership Honors Program Certificate HERE (https://catalog.western.edu/undergraduate/programs/certificates/honors-certificate-partnership/).

Program Goals

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

The Computer Science program requires a minimum of 128 cumulative credits applied to the degree, which includes courses from Western Colorado University and the University of Colorado Boulder.

This program provides a seamless transfer of coursework from the Gunnison residential campus for a Bachelor of Science Degree in Computer Science awarded by CU Boulder. A student must meet the admission requirements for the CU Boulder College of Engineering & Applied Science and may apply for admission when they have established a successful collegiate record as a Western student. This is demonstrated through academic requirements outlined at https://western.edu/program/computer-science-university-colorado-partnership/transition-to-cu-boulder/ (https://western.edu/program/computer-science-university-colorado-partnership/transition-to-cu-boulder/)

Students are expected to follow the Academic Policies of the respective University/Universities in at which they are registered.

- Western: https://catalog.western.edu/undergraduate/policies/
- CU Boulder College of Engineering & Applied Science: https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies

Planned Western coursework is outlined below in red font and course numbers are all three digits, while CU Boulder coursework is outlined below in black font and course numbers are all four digits. Students must complete 45 credits of CU Boulder coursework.

Degree Requirements - Courses

Code	Title	Credits
College Writing Requirement (total of 3 credit hours)		
ENG 302	Technical Writing	3
Mathematics (total of 17 credits)		
MATH 151	Calculus I (GT-MA1)	4
MATH 200	Discrete Mathematics	3
MATH 251	Calculus II	4
MATH 314	Applied Probability I	3
CSCI 2820: Linear Algebra with CS Applications		3
Computer Science (minimum 58 credit hours)		
Computer Science Foundation		
HWTR 100	First Year Seminar (complete 1 approved section)	1
CS 191	Computer Science II	3
CS 280	Data Structures	3
CS 330	Operating Systems and Architecture	3
CS 370	Systems Programming in C	3
CS 412	Software Engineering	3
CSCI 3155: Principles of Programming Languages		4
CSCI 3104: Algorithms		4
Computer Science Core		
Select five CU Boulder classes from approved list		
Computer Science Electives		
Additional upper-division CSCI courses to bring total computer science hours to 58 or higher.		
Senior Capstone		
CSCI 4308: Software Engineering Project I		
CSCI 4318: Software Engineering Project II		

A two-semester Senior Capstone (beginning fall, ending spring) is required for 8 credit hours. This sequence must be taken contiguously and may not be taken before the senior year. Prerequisites for a senior capstone include the successful completion of the college writing requirement, as well as the Computer Science Foundation (24 credit hours) plus Computer Science Core and Elective courses to reach a minimum of 36 Computer Science credit hours.

Natural Science (total of 17 credit hours)

PHYS 190 & PHYS 185	General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	4
One additional Natural Science sequence from the following:		
PHYS 191 & PHYS 186	General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	4
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	3-4
CHEM 111 & CHEM 112	General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1)	4
CHEM 121	General Chemistry for Engineers	3
Additional Natural Science hours to reach 17 total credit hours:		
ANTH 218	Biological Anthropology (with laboratory)	4
BIOL 130	Environmental Biology (GT-SC2)	3
BIOL 135	Environmental Biology Laboratory (GT-SC1)	1
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	3-4
CHEM 111 & CHEM 112	General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1)	4
CHEM 113 & CHEM 114	General Chemistry II and General Chemistry Laboratory II	4
CHEM 121	General Chemistry for Engineers	3
ENGR 224	Materials Science	3
ENGR 363	Mechanics of Solids	3
GEOL 101	Physical Geology (GT-SC2)	3
GEOL 105	Physical Geology Laboratory (GT-SC1)	1
GEOL 201	Historical Geology (with laboratory)	4
MCEN 3012	Thermodynamics	3
PHYS 110	Introductory Astronomy (GT-SC2)	3
PHYS 191 & PHYS 186	General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	4
PHYS 250	Statics	3
PHYS/ENGR 251	Dynamics	3
PHYS 320	Modern Physics	3

Numerous other courses available through CU Boulder

Logic and Ethics (total of 6 credit hours)

PHIL 135	Introduction to Ethics	3
PHIL 100 or PHIL 200	Critical Thinking or Symbolic Logic	3

Humanities & Social Sciences

Complete 15 credits of approved humanities and social science coursework, 6 credits of which must be upper-division.

Free Electives

Complete enough electives to bring the total credit hours toward the degree to 128. Normally this is 12 credit hours but could vary (for example due to transfer credits). Please consult with your academic advisor or Partnership Program Director with questions.

The following plan lists all the specific course requirements for the Bachelor of Science Degree in Computer Science from the University of Colorado Boulder in partnership with Western Colorado University. 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.

Planned Western coursework is outlined below in red font and course numbers are all three digits, while CU Boulder coursework is outlined below in black font and course numbers are all four digits. Students must complete 45 credits at CU Boulder.

Course	Title	Credits
Year One		
Fall		
CS 190	Computer Science I	3
ENG 102	Writing and Rhetoric I (GT-CO1)	3
H&SS lower-division		3
HWTR 100	First Year Seminar	1
MATH 151	Calculus I (GT-MA1)	4
PHYS 190 & PHYS 185	General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	4
	Credits	**18**
Spring		
CS 191	Computer Science II	3
MATH 251	Calculus II	4
Natural Science Sequence (PHYS 191 & 186 preferred)		4
PHIL 100 or PHIL 200	Critical Thinking or Symbolic Logic	3
H&SS lower-division		3
	Credits	**17**
Year Two		
Fall		
CS 280	Data Structures	3
CS 330	Operating Systems and Architecture	3
MATH 314	Applied Probability I	3
Natural Science		3
H&SS lower-division		3
	Credits	**15**
Spring		
CS 370	Systems Programming in C	3
CS 412	Software Engineering	3
MATH 200	Discrete Mathematics	3
PHIL 135	Introduction to Ethics	3
Free Elective		3
	Credits	**15**
Year Three		
Fall		
CSCI 3104 Algorithms		4
CSCI 2820 Linear Algebra with CS Applications		3
CSCI Core/Elective		3
CSCI Core/Elective		3
Natural Science		3
	Credits	**16**
Spring		
CSCI Core/Elective		4
CSCI 3155 Principles of Programming Languages		4
CSCI Core/Elective		3
ENG 302	Technical Writing	3
	Credits	**14**

Year Four

Fall

CSCI 4308	Software Engineering Project I	4
CSCI Core/Elective		4
CSCI Core/Elective		3
Natural Science		3
H&SS upper-division		3
	Credits	**17**

Spring

CSCI Core/Elective		3
CSCI 4318	Software Engineering Project II	4
CSCI Core/Elective		3
H&SS upper-division		3
Free Elective		3
	Credits	**16**
	Total Credits	**128**