COMPUTER SCIENCE, BA

Introduction

Please click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-engineering-design-computing/computer-science-engineering/) to see computer science department information.

The bachelor of arts (BA) in computer science (CS) degree is designed to create transformational relationships among computer science and other fields of their interest across the university. It will allow undergraduate students with interests and passion in myriad fields to complement these with contemporary computer science knowledge, skills, and attitudes that will render them immediately impactful in today's rapidly changing workforce.

Graduates will be able to demonstrate a broad range of understanding in mathematics, computer software, algorithms, programming and a specialization of their choice across the CU Denver curriculum. Graduates will be able to:

- Apply algorithmic reasoning to a variety of computational problems
- Design, implement, and document solutions to needed computational problems
- Implement software systems that meet specific design requirements
- Use current tools or computing techniques to implement and evaluate programs or computer-based solutions.
- Apply computer science techniques and tools to solve problems in a chosen application area.

Program Delivery

- This is an on-campus program.

Declaring This Major

- Click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-engineering-design-computing/#policiestext) to go to information about declaring a major.

General Requirements

To earn a degree, students must satisfy all requirements in each of the areas below, in addition to their individual major requirements.

- CU Denver General Graduation Requirements (http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation/)
- CU Denver Core Curriculum (http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation-undergraduate-core-requirements/)
- College of Engineering, Design and Computing Graduation Requirements (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-engineering-design-computing/#graduationrequirementstext)
- Click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/academic-policies-procedures/) for information about Academic Policies

Program Requirements

1. Students must maintain a minimum 2.0 GPA in all courses applying to major requirements.

2. Students must maintain a minimum 2.0 GPA in all CSCI courses attempted.

3. Undergraduate students in the CSE department are required to have a personal laptop before starting 3000-level classes that satisfies the requirements listed on the CSE Laptop Requirement Website (https://engineering.ucdenver.edu/laptops/#ac-computer-science-bachelor-of-arts-cs-2).

The BA in computer science requires 120 credits including: 24 credits of CU Denver core curriculum, 7 credits of mathematics, 8 credits of physical science, 43 credits of computer science, and 38 credits of free electives.

Take 43 credits of computer science courses including:

Code	Title	Hours
CU Denver Core Curriculum		
Select 24 credits		24
Computer Science Core		
CSCI 1410	Fundamentals of Computing [2]	3
CSCI 1411	Fundamentals of Computing Laboratory [2]	1
CSCI 2312	Object Oriented Programming [2]	3
CSCI 2421	Data Structures and Program Design [2]	3
CSCI 2511	Discrete Structures [2]	3
CSCI 3287	Database System Concepts	3
CSCI 3412	Algorithms [2]	3
CSCI 3508	Introduction to Software Engineering	3
Computer Science (CSCI)		
Select seven 3000-level courses (21 credits) not applied to the above 22 credits [1]		21
Mathematics		
MATH 1401	Calculus I [2]	4
Select additional 2000+ level math course		3
Science		
Students will need to complete 8 credits (2 courses with associated labs) of natural and physical sciences with labs. A minimum of 4 credits will need to come from the CU Denver core natural and physical courses w/labs intended for science majors.		
Complete a minimum of 4 credits (one set):		4
BIOL 2010 & BIOL 2011	Organisms to Ecosystems (Gen Bio) and Organisms to Ecosystems Lab (Gen Bio)	
CHEM 2031 & CHEM 2038	General Chemistry I and General Chemistry Laboratory I	
PHYS 2010 & PHYS 2321	College Physics I and Intro Experimental Phys Lab I	
PHYS 2311 & PHYS 2351	General Physics I: Calculus-Based and Applied Physics Lab I	
PHYS 2311 & PHYS 2321	General Physics I: Calculus-Based and Intro Experimental Phys Lab I	
Additional courses with associated labs that can be counted toward the science requirement to achieve 8 credits:		4
ANTH 1303	Introduction to Biological Anthropology	
BIOL 1550	Basic Biology: Ecology and the Diversity of Life	
BIOL 1560	Basic Biology: From Cells to Organisms	
CHEM 1474	Core Chemistry: Chemistry for Everyday	
CHEM 1494	Forensic Chemistry	

ENVS 1044 & ENVS 1045	Introduction to Environmental Sciences and Introduction to Environmental Sciences Laboratory	
GEOL 1073 & GEOL 1074	Physical Geology: Surface Processes and Physical Geology: Surface Processes Laboratory	
GEOL 1083 & GEOL 1084	Physical Geology: Internal Processes and Physical Geology: Internal Processes Laboratory	
PHYS 1052	General Astronomy I	
CHEM 2061 & CHEM 2068	General Chemistry II and General Chemistry Laboratory II	
PHYS 2020 & PHYS 2341	College Physics II and Intro Experimental Phys Lab II	
BIOL 2020 & BIOL 2021	Molecules to Cells (Gen Bio) and Molecules to Cells Lab (Gen Bio)	
PHYS 2331 & PHYS 2341	General Physics II: Calculus-Based and Intro Experimental Phys Lab II	
PHYS 2331 & PHYS 2361	General Physics II: Calculus-Based and Applied Physics Lab II	
Free Electives		
Select for students' area of concentration		38
Total Hours		**120**

[1] Students may apply up to 3 credits of approved CSCI internship to the CS Technical Electives requirement.

[2] Must be completed with a C- or higher.

Please note CS courses that are not part of the BACS can be counted toward satisfying free electives. This can help with taking systems courses to prepare for the required background for some advanced CS/ breadth areas of interest.

To review the Degree Map for this program, please visit our website (https://www.ucdenver.edu/student/advising/undergraduate/degree-maps/cedc/).