

Computer Science

Bachelor of Arts (B.A.) – Catalog Year 2026-2027

PROGRAM OVERVIEW

Computer Science is rapidly changing the nature of today's workforce. People in today's world need computational thinking in every field. The Bachelor of Arts in computer science at CU Denver is a flexible degree program. It is designed with a modular approach that allows degree customization by combining computer science fundamentals with students other academic or career interests.

Graduates of the undergraduate BACS program will be able to:

- Apply algorithmic reasoning to a variety of 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.

ACADEMIC ADVISING

Students admitted to the College of Engineering, Design and Computing (CEDC) are required to meet with their assigned advisor. Students can schedule an appointment through [UCDAccess](#) or by contacting the department to schedule an appointment.

Computer Science & Engineering

computerscience@ucdenver.edu

Visit the department website [here](#)

Lawrence Street Center, 8th Floor

303-315-1408

GENERAL GRADUATION REQUIREMENTS & POLICIES

All CU Denver CEDC BACS students are required to complete the following minimum general graduation requirements:

1. Complete a minimum of 120 credit hours.
2. Achieve a minimum 2.0 CU cumulative grade point average (GPA).
3. Complete all college and major requirements.
4. Residency: complete a minimum of 30 credit hours as a declared CEDC student in good standing at CU Denver.
5. Terminal Residency: complete at least the final two semesters as an enrolled CEDC student.

PROGRAM REQUIREMENTS & POLICIES

Students are responsible for meeting with their assigned advisor in their department to confirm major requirements. Students completing the Computer Science B.A. Degree are required to complete the following minimum program requirements:

1. Complete 24 credit hours of **CU Denver Core Curriculum coursework**.
2. Complete a minimum of 22 credit hours of **required computer science core courses**.
3. Complete a minimum of 21 credit hours of **computer science technical electives**.
4. Complete a minimum of 38 credit hours of **free electives in an area of concentration**.
5. Complete 15 credit hours of **mathematics and science**.

Courses	Credits	Notes
Required CU Denver Core Curriculum Coursework	24	See requirements here
Required Computer Science Core Courses	22	
CSCI 1410 Fundamentals of Computing	3	<i>Co-Requisite: CSC 1411</i>
CSCI 1411 Fundamentals of Computing Lab	1	<i>Co-Requisite: CSC 1410</i>
CSCI 2312 Object Oriented Programming	3	<i>*Prerequisite: CSCI 1410 & 1411</i>
CSCI 2421 Data Structures & Program Design	3	<i>*Prerequisite: CSCI 2312</i>
CSCI 2511 Discrete Structures	3	<i>*Prerequisite: MATH 1401</i>
CSCI 3287 Database Systems	3	<i>*Prerequisite: ENGL 1020, CSCI 2312 & 2421</i>
CSCI 3412 Algorithms	3	<i>*Prerequisite: CSCI 2312, 2421 & 2511</i>
CSCI 3508 Introduction to Software Engineering	3	<i>*Prerequisite: CSCI 3412</i>
CS Technical Electives	21	<i>Any CSCI 3000-level and above courses that have not been applied. See handbook for additional information.</i>
Required Mathematics	7	
MATH 1401 Calculus I	4	<i>*Prerequisite: (MATH 1120 or 1130) or placement exam</i>
Any additional 2000+ level Math Class	3	<i>Includes CS Department approved CSCI Courses</i>
Required Science	8	
2 courses with labs of natural & physical sciences with a minimum of 4 credits from the CU Core natural and physical science courses w/labs intended for Science majors.	8	<i>See handbook for additional information</i>
Free Electives	38	<i>Student's area of concentration</i>
Total Program Hours	120	

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SAMPLE ACADEMIC PLAN OF STUDY

The following academic plan is a *sample* pathway to completing degree requirements for this major. Students should tailor this plan based on previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, and individual preferences related to course load, schedules, or add-on programs such as minors or double-majors. Please note CS courses that are not part of the BACS core 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.

Students deviating from this plan must fulfill course prerequisites and must meet with the faculty advisor in their department to confirm degree requirements.

YEAR ONE

Semester 1	CRS
CSCI 1410 FUNDAMENTALS OF COMPUTING	3
CSCI 1411 FUNDAMENTALS OF COMPUTING LAB	1
ENGL 1020 CORE COMPOSITION I	3
FREE ELECTIVE	3
CORE CURRICULUM ELECTIVE	3

Semester 2	CRS
CSCI 2312 OBJECT ORIENTED PROGRAMMING	3
MATH 1401 CALCULUS I	3
ENGL 2030 CORE COMPOSITION II	4
FREE ELECTIVE	3
FREE ELECTIVE	3

YEAR TWO

Semester 3	CRS
CSCI 2421 DATA STRUCTURES & PROGRAM DESIGN	3
CSCI 2511 DISCRETE STRUCTURES	3
SCIENCE CHOICE	3
SCIENCE CHOICE LAB	1
FREE ELECTIVE	3
CORE CURRICULUM ELECTIVE	3

Semester 4	CRS
CSCI 3412 ALGORITHMS	3
MATH Elective (2000+ level math course)	3
FREE ELECTIVE	3
SCIENCE CHOICE	3
SCIENCE CHOICE LAB	1
FREE ELECTIVE	3

YEAR THREE

Semester 5	CRS
CSCI 3508 INTRODUCTION TO SOFTWARE ENGINEERING	3
CS TECHNICAL ELECTIVE	3
CS TECHNICAL ELECTIVE	3
FREE ELECTIVE	3
CORE CURRICULUM ELECTIVE	3

Semester 6	CRS
CSCI 3287 DATABASE SYSTEMS	3
CS TECHNICAL ELECTIVE	3
FREE ELECTIVE	3
FREE ELECTIVE	3
CORE CURRICULUM ELECTIVE	3

YEAR FOUR

Semester 7	CRS
CS TECHNICAL ELECTIVE	3
CS TECHNICAL ELECTIVE	3
FREE ELECTIVE	3
FREE ELECTIVE	3
CORE CURRICULUM ELECTIVE	3

Semester 8	CRS
CS TECHNICAL ELECTIVE	3
CS TECHNICAL ELECTIVE	3
FREE ELECTIVE	3
FREE ELECTIVE	2
CORE CURRICULUM ELECTIVE	3