

Computer science



Did You Know?

Computer science faculty and students involved in CU's Center for Lifelong Learning and Design are developing tools to help people with cognitive disabilities become more independent.

Instructional Faculty:

31 faculty

Research:

4 interdisciplinary research centers
\$6.3 million in funding (2008-09)

Rankings:

CU-Boulder is the only doctoral university in the Rocky Mountain region ranked in the top 20 public engineering programs in the nation. The graduate program in Computer Science is 23rd among public institutions (USNWR).

From crafting the technologies that keep our cell phones and iPods working to developing large scale software that powers business and industry, computer scientists use their technical and creative skills to improve people's lives. The software, systems, robots, and machines created by computer scientists impact medicine, education, music, navigation, and business.

At CU-Boulder, undergraduate computer science students develop a wide array of skills that prepare them for a large variety of high-paying jobs. The Department of Computer Science is interdisciplinary and collaborative, giving students the opportunity to explore applications in fields ranging from science to architecture to medicine and to work with faculty in a variety of disciplines. The department's seven specialized tracks allow students to tailor their degree to their own interests.

"Computer science is boundless and limitless for your creativity. You can use it in any way you want.

I want to help develop Third World countries through e-learning."

— Maryam Gooyabadi



Hands-on Learning

At CU, students learn by doing. In the department of Computer Science, students tackle problems hands-on, including completing year-long software design projects for industry clients. CS undergraduates also gain valuable experience through research with expert faculty both in and outside of the department. Many students also learn through internships and active learning experiences.

A computer science degree prepares students for careers including:

- software development
- computer engineering
- medical technology
- computer animation
- robotics
- multimedia
- cellular phone industry
- educational technologies

Computer scientists are in high demand. The wide applicability of computer science skills means graduates have more opportunity to choose from a variety of locations, work settings, and type of work.



Computer Science curriculum

128 semester credit hours required
(Sample Curriculum)

Computer Science Foundation (21 Credits)

CSCI 1000 Computer Science as a Field of Work and Study	1
CSCI 1300 Computer Science 1: Programming	4
CSCI 2270 Computer Science 2: Data Structures	4
CSCI 2400 Computer Systems	4
CSCI 3104 Algorithms	4
CSCI 3155 Principles Programming Languages	4

Mathematics (17 Credits)

APPM 1350 Calculus 1 for Engineers	4
APPM 1360 Calculus 2 for Engineers	4
Discrete Mathematics	3
Probability or Statistics	3
Linear Algebra	3

Foundation and Core Courses for Specialized Track (19-22 credits, depending on selected track).

Select from seven specialized tracks:

- General Computing
- Computational Biology and Health Informatics
- Computational Science and Engineering
- Human-Centered Computing
- Networked Devices and Systems
- Software Engineering
- Systems

Capstone Courses (8 credits)

CSCI 4308 Software Engineering Project 1*	4	(or)	CSCI 4950 Senior Thesis	4
CSCI 4318 Software Engineering Project 2*	4		CSCI 4950 Senior Thesis	4

*Some tracks may also have track-specific capstone courses. Please see advisor for specific requirements

Humanities and Social Sciences

24 credits, including 3 credits upper-division writing and 6 credits approved upper-division

Natural Sciences

17 credits, including science sequence approved for selected track

Electives

- Additional approved courses to bring the total Computer Science credits to 58
- Free electives to bring total to 128 credits

For more information visit www.cs.colorado.edu

The Department of Computer Science offers strong research programs in:

- computer architecture
- operating systems
- networking
- mobile computing
- software engineering
- programming languages
- databases
- human computer interaction
- machine learning
- lifelong learning and design
- numerical and parallel computation
- speech and language processing
- theoretical computer science

