COMPUTER SCIENCE
COLORADO STATE UNIVERSITY

Computer Science Department Minors (modified March 2026)

About the Computer Science Department:

Welcome to the Department of Computer Science! From the environment and healthcare to artificial intelligence and space exploration, computer science is everywhere, improving people's lives in extraordinary ways. Because computer science is everywhere, a minor can be a great option for students majoring in many other areas. There are three minors offered by Computer Science (CS): Minor in Computer Science, Minor in Machine Learning, Minor in Bioinformatics.

If you're interested in one of our minors, we encourage you to make an appointment with a CS Advisor to learn more and discuss requirements and resources available in the CS Department.

The Computer Science Department has competitive entrance requirements because we want students to be set up for success. Students with a declared CS major are not eligible to declare any of the minors offered by CS.

To be eligible to declare the Computer Science Minor or Machine Learning Minor, you must meet the following requirements:

- CSU GPA of 2.5 or greater
- 'B' or better in (CS 150B or CS 152)
- 'C' or better in (MATH 160 or MATH 156 or CS 162 or CS 163 or CS 164)

The Bioinformatics Minor does not have admissions requirements.

If you don't meet these requirements, we encourage you to:

- Take the following courses as you work toward the minor control requirements
  - CS 150 B, CS 152, CS 162, CS 164, CS 165, CS 220
- Meet with a CS Advisor to discuss requirements, resources, and opportunities within the department
- Participate in the CS Community through applicable CS Department Clubs.

Prerequisite Considerations:

Most CS courses have prerequisite requirements. Registration for CS 162 and CS 164 requires that students have completed (with a B or better) CS 150b or CS 152. CS 150b is the starting course for most students and counts as an AUCC 3B Arts & Humanities. CS 152 and CS 162 are 8-week accelerated courses covering the coding content from CS 150b and CS 162, respectively. Please consult with a CS advisor for more information and guidance.

Other CS courses may have additional prerequisites. Consult the prerequisite chart for specific prerequisite details.

Course Offering Schedule Considerations:

Not all CS courses are offered every semester. Most lower division (100 & 200 level) courses are offered every semester, but upper division courses (300 and 400 level courses) are offered less frequently. The course catalog can often have out-of-date information on when courses are expected to be offered. For the most up-to-date information, please refer to the course list.

Computer Science Minor

Requirements:

- CS 162, CS 163, or CS 164
- CS 165
- Pick one from: CS 220, CS 250, CS 270, CS 214 or CS 253
- Pick 12 credits of Upper Division CS Classes (3xx-4xx) - *Generally requires 4 courses*

A minor in Computer Science will give students a foundation in software development, programming, and computer and information theory. The CS Minor is customizable to allow students to decide what courses are of interest, or which courses might best complement degree and professional goals. Other than prerequisite requirements, you don't need to follow a set pathway.

The following are two possible pathways that students could choose to follow, as examples:

- If you are interested in adding the ability to develop software applications - a good path might be - CS 150/CS 152, CS 162/3/4, CS 165, CS 214/253, CS 312, CS 314, CS 356, CS 462, CS 464, CS 414, CS 415, or CS 430.
- If you are interested in adding a strong understanding of software security, a good path might be CS 150/CS 152, CS 162/3/4, CS 165, CS 214/253, CS 314, CS 356, CS 456, CS 458

Machine Learning Minor

Requirements:

- CS 162, CS 163, or CS 164
- CS 165
- CS 220
- CS 345
- CS 445 *(Spring only)*
- Pick one from: DSCI 369 or MATH 369
- Pick one from: STAT 301 or STAT 315

Machine learning (ML) is the science of creating algorithms that learn from data. ML systems are everywhere, from cars and smartphones to various home devices. Businesses of all sizes are investing in ML technology. ML is ubiquitous across the sciences: many areas of science generate substantial amounts of data and rely on ML to assist in making new discoveries in fields ranging from particle physics to medicine.

Bioinformatics Minor

Requirements:

- Pick one from: BZ 110, BZ 120 or LIFE 102
- BZ 360 *(Fall only, check with Biology Dept to confirm timing)*
- Pick one from: CS 150B or CS 152
- Pick one from: CS 162, CS 163, CS 164 or DSCI 235
- CS 220
- CS 345
- CS 425 *(Spring only)*
- Pick one from: MATH 155, MATH 156, or MATH 160
- Pick one from: STAT 301, STAT 303/ECE 303, STAT 307, or STAT 315

The Bioinformatics Minor does not have admissions requirements.

At the intersection of biology and computer science, bioinformatics is the study of applying computational tools to collect and analyze complex biological data such as genomic sequences. The bioinformatics minor will give students a foundation in programming that will complement their biology backgrounds. In addition to programming, students will take important foundational coursework in statistics and machine learning.