

CSE 101

Introduction to Data Structures and Algorithms

Winter 2026

Description: Introduction to abstract data types and basics of algorithms. Linked lists, stacks, queues, hash tables, trees, heaps, and graphs will be covered. Students will also be taught how to derive big-Oh analysis of simple algorithms. All assignments will be in C/C++.

Prerequisites: CSE 12 or BME 160; CSE 13E or ECE 13 or CSE 13S; and CSE 16; and CSE 30; and MATH 11B or MATH 19B or MATH 20B or AM 11B.

Lecture: TTh 1:30pm - 3:05pm Classroom Unit 002

Class Webpage: <https://people.ucsc.edu/~ptantalo/cse101/Winter26/>

Instructor: Patrick Tantalo <https://users.soe.ucsc.edu/~ptantalo/>

Email: ptantalo@ucsc.edu

Office Hours: Wednesdays 10:00 - 12:00pm & 2:00 - 4:00pm [Zoom Link](#) (Uses CruzID Gold)

Meeting ID: 925 3990 7374

Dates: Wednesday January 7 - Wednesday March 11

Teaching Assistants:

Mahyar Vahabi	mvahabi@ucsc.edu
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Course Tutors: TBA

Required Text:

Introduction to Algorithms (4th edition) by Cormen, Leiserson, Rivest and Stein. MIT Press 2009
ISBN 978-0-26-204630-5. On reserve (2-hour loan) at the [Science Library](#).

Recommended Texts:

Open Data Structures (pseudo-code edition) by Pat Morin. <https://opendatastructures.org/>
Data Abstraction & Problem Solving with C++ (6th edition) by Carrano & Henry. Pearson 2013

Coursework:

40% Programming Assignments: Eight projects due at roughly 8 day intervals
20% Midterm Exam 1: Thursday, January 29, 1:30-2:35pm (lecture to follow)
20% Midterm Exam 2: Thursday, February 26, 1:30-2:35pm (lecture to follow)
20% Final Exam: Wednesday, March 18, 12:00–2:00pm

All scores are rounded to the nearest 10th of a percent. They will not be rounded further. No scores are curved. The following letter grade boundaries will be used to determine your grade in the class.

Grading scale:

A+	99.0% - 100%
A	94.0% - 98.9%
A-	91.0% - 93.9%
B+	89.0% - 90.9%
B	84.0% - 88.9%
B-	81.0% - 83.9%
C+	79.0% - 80.9%
C	70.0% - 78.9%
C-	68.0% - 69.9%
D+	65.0% - 67.9%
D	61.0% - 64.9%
D-	59.0% - 60.9%
F	0% - 58.9%

Accommodations for Students with Disabilities

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please contact the Disability Resource Center (DRC) by email drc@ucsc.edu or by phone 831-459-2089. Once I receive your accommodation authorization from the DRC, I will be happy to meet with you in office hours to discuss how to ensure your full participation in the course. See <https://drc.ucsc.edu/> for further information.

Academic Honesty:

The Baskin School of Engineering has a zero-tolerance policy for any incident of academic misconduct. If cheating occurs, consequences may range from getting zero on a particular assignment to failing the course. In addition, every case of academic misconduct is referred to the students' college Provost, who sets in motion an official disciplinary process. Cheating in any part of the course may lead to failing the course, suspension or dismissal from the Baskin School of Engineering, or from UCSC.

What is cheating? In short, it is presenting someone else's work as your own. Examples include copying another students', programming assignment, or exam solution; allowing your own work to be copied; or in any way facilitating misconduct by others. You may discuss programming projects with fellow students, but your collaboration must be at the level of *ideas* only. You may freely give and receive help on the UCSC gitlab facilities, code editors, IDEs, the Linux operating system, and on the proper use and syntax of the C and C++ programming languages. You may freely use any example code posted on the class webpage by me. However, you may not *copy, paste, email, send, receive, transfer, view* or *share in any way* the *source code* for your projects in this class.

Please see the following links for the official UCSC policies on Academic Misconduct for [Undergraduate Students](#) and [Graduate Students](#).

Use of AI Tools in Programming Projects

Most students are aware of the ready availability of various Large Language Models (LLMs) like ChatGPT, Claude, Gemini and Grok. You may use AI tools, but their use does not override our basic rule concerning collaboration on programming projects. That rule, simply put, is that legitimate collaboration is at the level of ideas only. Thus, if a student simply asks an AI model to do the assignment, and submits the generated code with no understanding of how it works, then that student has crossed the line into academic misconduct. Please do the following on all assignments.

1. Any and all external help, whether it be from an AI agent, fellow student or Tutor, must be disclosed. Place this information in the opening comment block of each source code file you submit.

2. If you receive help from an AI tool, include the URL(s) of your chat logs with the AI agent. All online tools, like those mentioned above, have the ability to export your conversation(s) for later reference. Some IDEs (like VS Code) contain integrated AI tools that do not have this capability. *Please do not use such tools*. If an instance of code similarity arises, and no chat history URLs are disclosed, we will not accept as an excuse that "no record was made".
3. Regardless of what help you receive, whether it be from an AI agent, a tutor, a fellow student, or from any other source, you must be prepared to explain how your own code works, if asked. This requirement ensures that any help you receive is at the level of ideas, since if you can't explain your code, it was not ideas that were shared.

If you have any questions or concerns regarding these policies, see me in office hours to discuss it.

Important Dates and Information:

Waitlists expire: Wednesday, January 14, week 2 (permission codes required as of this date)

Add/Drop/Swap deadline: Monday, January 26, week 4 (add by petition only after this date)

Withdraw from class deadline: Tuesday, February 17, week 7

Enrollment and Waitlist Information:

<https://registrar.ucsc.edu/class-enrollment/how-and-when-to-enroll/enrollment-waitlist-troubleshooting/>