CSE 101
Introduction to Data Structures and Algorithms
Fall 2025

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 9:50am - 11:25pm Earth&Marine B206
Class Webpage: https://people.ucsc.edu/~ptantalo/cse101/Fall25/

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 October 1 - Wednesday December 3

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:

50% Programming Assignments: Eight projects due at roughly 8 day intervals
15% Midterm Exam 1: Thursday, October 23, 9:50 – 10:55am (lecture to follow)
15% Midterm Exam 2: Thursday, November 20, 9:50 – 10:55am (lecture to follow)
20% Final Exam: Thursday, December 11, 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 also freely use any *example code* posted by me on the class webpage. 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.

Most of you are aware that various large language models (LLMs) like ChatGPT are readily available. Our policy is that you may use LLMs while working on programming assignments, but be warned that they often give answers that are incorrect or misleading in subtle ways. We will discuss how LLMs might be used effectively to understand the topics in this course.

Please see the following links for the official UCSC policies on Academic Misconduct for Undergraduate Students and Graduate Students.

Important Dates:
Waitlists expire: Saturday, October 4 (permission codes required as of this date)
Add/Drop/Swap deadline: Wednesday, October 15 (add by petition only after this date)
Withdraw from class deadline: Wednesday, November 5 (drop after this date results in grade of NP)

Registrar Information:
Enrollment: https://registrar.ucsc.edu/class-enrollment/how-and-when-to-enroll/
Waitlist: https://registrar.ucsc.edu/class-enrollment/how-and-when-to-enroll/enrollment-waitlist-troubleshooting/