

CSS 502B Data Structures and Object-oriented Programming II Winter 2018

University of Washington Bothell, STEM, Computing & Software Systems

<http://courses.washington.edu/css502/zander>

MW 6-7:45 pm, UW1-220

Professor: Dr. Carol Zander **Office Hours:** W 4:30 - 5:30pm
Office: UW1 – 260 (open area) W 10 - 10:30pm (if you tell me)
Email: zander@u.washington.edu or by appointment

Lab tutors: Hours will be posted at <http://www.uwb.edu/qsc/schedule/css>

Overview:

The course is a continuation of CSS 501 and covers advanced data structures including trees, balanced trees, heaps, graphs, and hash tables along with associated algorithms. Students learn how to analyze a problem and design and implement a solution using object-oriented design and programming with a focus on inheritance and polymorphism. Advanced data structures are incorporated into their software implementations. Good software engineering practices are used throughout. Formal notation for a programming language is introduced through automata theory.

Prerequisites: 2.7 in CSS 501 (or equivalent)

Learning Objectives:

- Critical problem solving skills related to advanced software development
- An understanding of trees, balanced trees, heaps, and hash tables and their uses
- An understanding of the graph data structure and associated algorithms
- Ability to design and implement a complex object-oriented problem
- Ability to incorporate polymorphism and inheritance in software applications
- Make good use of software engineering practices in developing programs
- An understanding of the formal notation for a programming language

Course structure: Hybrid, 50% face-to-face, 50% online

Textbook:

Data Abstraction & Problem Solving with C++ , Frank M. Carrano and Timothy Henry, 7th edition (6th edition is fine too), Addison-Wesley

Links to online discrete math texts can be found on the website.

Assignments / Grading:

Programming assignments (Labs in schedule):	30%	
Written assignments (Hw in schedule):	10%	Think of these as take-home quizzes.
Midterm:	30%	
Final exam:	30%	

There are four programming assignments, the last one larger with a separately graded design. Some assignments additionally have written homework problems components.

A student who achieves 80% of the possible points should expect to receive a 3.0 course grade.

As you know, computer science takes time and effort. Expect to spend a minimum of 15-20 hours outside of class reading, problem solving, programming, debugging, etc. Keep up!

Policies:

Computer use during lecture is limited to taking notes. No social networks, email, games, etc. The bottom line is that you are not allowed to display images on your screen during lecture as it is distracting to your neighbors trying to learn. No cell phones. Keep whispering to a minimum.

Pay attention to the catalyst due date. Canvas can be slow, so don't wait for the last minute. Assignments will only be accepted via canvas. Unless we have spoken about the circumstances and prior arrangements have been made, there are no late assignments accepted. An assignment not turned in receives a grade of zero.

Written assignments or any hard copies are expected to be turned in before the start of lecture.

No make-up exams will be given except under exceptional circumstances.

To request academic accommodations due to a disability, please contact Disability Resources (DRS) at 425.352.5307, 425.352.5303 TDD, or uwbdrs@uw.edu. Please discuss any needed accommodations with me.

If you are a student who has served in our nation's military forces, if desired, please feel comfortable to confidentially self-identify yourself to me so I can help you make a successful transition from the military to higher education.

Homework and exam policies:

Pay attention to the catalyst due date. Recall catalyst can be slow, so don't wait for the last minute. Assignments will only be accepted via catalyst. Unless we have spoken about the circumstances and prior arrangements have been made, an assignment not turned in receives a grade of zero.

Written assignments or any hard copies are expected to be turned in before the start of lecture.

No make-up exams will be given except under exceptional circumstances.

Academic Integrity:

Work is to be done independently unless directed otherwise; collaboration of work is NOT acceptable. You may discuss the problem statement with others or help debug, but any actual work to be turned in, must be done without collaboration.

This class is run by honor code. By taking this class, you agree that you will not collaborate inappropriately on any work. In some cultures, family relationships and their loyalty are considered above all others. In this course, we are an academic family and you betray the instructor's and the university's trust should you violate the honor code. For the student conduct code, see:

http://www.uwb.edu/academic/policies/Academic_Conduct.xhtml

For Academic Integrity and Plagiarism Prevention Resources:

<http://guides.lib.uw.edu/bothell/ai>

There is much public code out there, even for course assignments. You are not allowed to use or to even view others' assignment code and will receive a failing grade. This is taken seriously and can lead to expulsion. Nor are you allowed to post your assignment code to any public website, ever.