

CS 121 – Computer Science II / Data Structures

Course Syllabus Spring 2021

Instructor: Bruce Bolden JEB 232 bruceb@uidaho.edu
Text: *Data Structures and Program Design in C++*,
 Kruse and Ryba, Prentice Hall, 1999.
 (recommended) *The C Programming Language*, Kernighan & Ritchie, Prentice-Hall, 1988

Schedule (lecture dates may change)

Week	Day	Topic	Text
1	January 13	W Introduction/Overview F Dynamic Memory	Chapter 1
2	18	M ** MLK - Idaho Human Rights Day - NO Class ** Structs F Quiz	Chapter 6
3	25	M Dynamic Data Structures: Linked Lists Introduction to C++ Classes F Quiz Lists/Classes	
4	February 1	M Lists/Templates Program Design W Stacks F Quiz	Chapter 2
5	8	M Queues W Queues F Quiz	Chapter 3
6	15	M ** Presidents Day – NO Class ** W Order Analysis F Quiz	
7	22	M Recursion W Recursion F Quiz	Chapter 10
8	March 1	W Review Exam W Binary Search Trees F Recursion / Linked Lists F Quiz	
9	8	M Trees W Trees F Quiz	Chapter 9
	15 - 19	*** Spring Break - NO Classes ***	
10	22	M Binary Search Trees W Binary Search Tree Code Binary Search Tree Insertion F Quiz	

11		29	M	Tree Deletion	Chapter 8
			W	Trees	
				Other Trees	
			F	Quiz	
12	April	5	M	Heaps	
			W	Sorting	
				Review for Exam	
			F	Quiz	
13		12	M	Sorting/Searching	Chapter 12
			W	Sorting	
			F	Quiz	
14		19	M	Graphs	
			W	Graphs	
			F	Quiz	
15		26	M	Graphs	
			W	Graphs	
			F	No class – Engineering Expo	
16	May	3	M	Other topics	
			W	Other topics	
			F	Review for Final Exam	

Final: XXXday, May xx, 10:30 – 12:00 PM *** To be verified

Grading

The letter grade you receive from the course will be determined as follows:

A	90%	–	100%
B	89.9%	–	80%
C	79.9%	–	70%
D	69.9%	–	60%
F	59.9%	–	0%

The instructor reserves the right to adjust these percentages up or down a maximum of five (5) percent if deemed necessary.

Typical Point Distribution

	Points
Quizzes (10–15)	250
Final Exam	120
Homework/Programming Projects	120
Total	<u>500</u>

Programs

All programming assignments must be submitted as specified. Class time will not be spent on homework. No late homework assignments will be accepted.

Quizzes

Quizzes will normally be given most Fridays on the material covered since the last quiz. Knowledge of material in this class is cumulative. Your lowest quiz grade will be dropped. No makeup quizzes will be given.

Exams/Final Exam

The final exam is cumulative.

Major Topics Covered

- Algorithms, programs and data structures (3 hours)
- Pointers, with arrays, dynamic memory (2 hours)
- Program complexity concepts (2 hours)
- Linked Lists (4 hours)
- Classes / Templates (2 hours)
- Stacks (2 hours)
- Queues (2 hours)
- Recursion (2 hours)
- Trees (2 hours)
- Binary Search Trees (2 hour)
- Other Trees (2-3, AVL, Red-Black, B-trees, etc.) (1 hour)
- Hash Table (3 hours)
- Tables, priority queues, heaps (2 hours)
- Graphs (4 hours)
- Searching performance comparison (2 hours)
- Sorting techniques (insertion, merge-sort, and quick-sort) (3 hours)

Center for Disability Access and Resources (CDAR) Reasonable Accommodations Statement Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through the Center for Disability Access and Resources located in the Bruce M. Pitman Center, Suite 127 in order to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course.

Phone: 208-885-6307

Email: cdar@uidaho.edu

Website: www.uidaho.edu/current-students/cdar

University of Idaho Classroom Learning Civility Clause

In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, professors, guests, and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning.

Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern. Additional resources for expression of concern or requesting support include the Dean of Students office and staff (5-6757), the UI Counseling & Testing Center's confidential services (5-6716), or the UI Office of Human Rights, Access, & Inclusion (5-4285).

Academic Dishonesty

Academic dishonesty in any form will not be tolerated. Academic dishonesty includes, but is not limited to:

Cheating Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term "academic exercise" includes all forms of work submitted for a grade earned in a course that generates credit hours.

Fabrication Falsification or invention of any information or the source of any information in an academic exercise.

Collusion Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Plagiarism Copying or imitating the language, ideas, and/or thoughts of another author and passing off the same as one's original work.

If academic dishonesty is suspected, I will withhold a grade until we have discussed the circumstances. Any work that I determine is dishonest will receive an automatic F and you may receive an F for the course. I will also forward a report of the incident to the Dean of Student for prosecution in accordance with the University of Idaho Student Code of Conduct.

Do your assignments on your own. Consulting with friends is permitted. However, blatant copying will not be tolerated and will be dealt with according to the guidelines on academic dishonesty: University of Idaho Academic Integrity.

Policies For Healthy Vandals

It is a longstanding tradition that Vandals take care of Vandals, and we all do our best to look out for the Vandal Family. The simple precautions listed below go a long way in reducing the impact of coronavirus on our campuses and in our communities. With everyone engaging in these small actions, we can continue to participate in our vibrant campus culture where we are able to learn, live, and grow. Visit U of I's COVID-19 page often for updated information. Questions related to U of I's coronavirus response can be sent to covid19questions@uidaho.edu.

In-Person Class Attendance

Refrain from attending class in-person if you are ill, if you are experiencing any of the known symptoms of coronavirus, or if you have tested positive for COVID-19 or been potentially exposed to someone with COVID-19.

If you display symptoms and/or test positive, you should quarantine following the CDC's recommendations. Do not return to class until you meet the CDC's requirements. If you have been exposed but are asymptomatic, you should stay home for 14 days from the last exposure if you remain asymptomatic, adhering to the CDC's requirements. Documentation (a doctor's note) for medical excuses is not required; instead, email me to make arrangements to submit any missed work and make plans to use Zoom and/or online course materials to stay current with the course schedule.

Face Covering Requirements

All faculty, staff, students and visitors across all U of I locations must use face coverings over the nose and mouth whenever in any U of I buildings. Thus, you are required to wear a face covering in classrooms at all times.

If you have a medical condition that affects your ability to comply with the face covering policy, please contact the Center for Disability Access and Resources (CDAR) to request a reasonable accommodation.

If you have other reasons you believe make you exempt from wearing face coverings, please contact the COVID-19 Coordinator.

Failure to wear a face covering over your nose and mouth will require you to leave the classroom immediately. If a disruption to the learning experience occurs due to repeated offense and/or egregious behavior, you will be reported.