

CSCE 221 Honors Syllabus – Fall 2022

Course Information

Course Number: CSCE 221
Course Title: Data Structures and Algorithms
Section: 212
Time: Lecture Time
MWF 11:30 AM – 12:20 PM
Lab Time
MW 12:40 PM – 1:30 PM
Location: Lecture Location
ZACH 244
Lab Location
ZACH 584
Credit Hours: 4

Instructor Details

Instructor: Dr. Philip Ritchey
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Office Hours: [Read Online Office Hours on Canvas.](#)

Course Description

Specification, analysis and implementation of abstract data types for lists, stacks, queues, trees, hash tables, graphs, and their associated algorithms. Performance trade-offs of different implementations; asymptotic analysis of running time and memory usage. Includes the development and execution of programs written in C++; emphasis on adherence to good software engineering principles.

Course Prerequisites

CSCE 121 – Introduction to Program Design and Concepts
CSCE 222 / ECEN 222 – Discrete Structures for Computing or MATH 302 – Discrete Mathematics (either may be taken concurrently with CSCE 221)

Course Learning Outcomes

1. Describe and implement several data structures that allow easy access and manipulation of data using the C++ programming language.
2. Apply Big-O asymptotic notation to analyze and select efficient algorithms for solving a given problem with respect to time and memory usage.

Textbook and Resource Materials

- **Required Textbook:** “Data Structures and Algorithm Analysis in C++,” 4th Edition, Mark A. Weiss, 2014, Pearson, ISBN-13: 978-0132847377 or ISBN-10: 013284737X.
- **Required Technology:** A computer sufficient CPU and RAM to run several applications at once, including a web browser (e.g. Firefox), text editor, and *nix terminal.
- **Required Access:** Internet. Some course activities, including access to material, assessments, and feedback are delivered online, therefore consistent and stable access to the Internet with sufficient bandwidth and data capacity is required.

Personal Accessibility Statement

I recognize disability as an aspect of diversity, equity, and inclusion. For that reason, I try to design all of my course material to be inclusive and accessible. However, I realize that some aspects of the course may not yet be as inclusive as they could be. I rely in part on my students to let me know when and where they need some accommodation. I want you to know that my top priority is for my students to learn as much as they can in my class. That includes working with students to find solutions that help them perform at their best. I hope tools like the [Disability Accommodation Portal](#) will make it easier for students to start the conversation about how we can work together to help them make the most out of their learning opportunities.

Grading Policy

Graded Items

ITEM	DESCRIPTION
PROGRAMMING ASSIGNMENT	C++ programming projects to practice implementing and applying the data structures and algorithms covered in class and to develop C++ programming ability. Programming Assignments are submitted to and automatically graded on Gradescope.
PROBLEM SET	Handwritten assignments to develop knowledge, skills, and abilities of describing and analyzing data structures and algorithms. Problem Sets will be submitted to and graded on Canvas.
QUIZ	Handwritten or C++ programming assessments to measure mastery of the expected knowledge and skills of describing, implementing, applying, and analyzing data structures and algorithms. Quizzes are completed during the lab session and must be submitted at or before the end of that session. Quizzes will be submitted to the TA in lab or to Gradescope. Quizzes will be graded by hand or on Gradescope.
FINAL EXAM	The final summative assessment of mastery of expected knowledge and skills. The final exam's structure and content will be similar to the Programming Assignments, Problem Sets, and Quizzes. The Final Exam will be submitted during the final exam session to the instructor or TA. The Final Exam will be graded by hand or on Gradescope.
HONOR'S PROJECT	A substantial assignment that entails analyzing and implementing advanced data structures and algorithms.

Grading Scale

Programming Assignments

There are four possible grades for programming assignments: Mastered, Completed, Attempted, and Not Attempted. The criteria for earning each grade are as follows:

- **Mastered:** score $\geq 90\%$ from autograder on Gradescope
- **Completed:** $90\% > \text{score} \geq 70\%$ from autograder on Gradescope
- **Attempted:** $70\% > \text{score} \geq 50\%$ from autograder on Gradescope
- **Not Attempted:** score $< 50\%$ from autograder on Gradescope

Problem Sets

There are three possible grades for problem sets: Completed, Attempted, and Not Attempted. The criteria for earning each grade are as follows:

- **Completed:** complete $\geq 70\%$ of assigned problems with a serious attempt.
- **Attempted:** complete $\geq 50\%$ of assigned problems with a serious attempt.
- **Not Attempted:** complete $< 50\%$ of assigned problems with a serious attempt.

A “serious attempt” is not necessarily correct, but demonstrates that the student spent time and thoughtful effort on solving the problem.

A serious attempt requires that

- every part of the problem is seriously attempted
- work is shown (no magic results)
- work is relevant and appropriate for the problem

Additional indicators of a serious attempt include that

- some progress at solving the problem is made
- ineffective strategies (or dead-end attempts) are acknowledged
- effort is made to check answers, such as verifying small/simple cases
- interesting or unexpected results are identified
- pictures and diagrams are included
- pseudocode is included
- plots and tables of data are included

Quizzes and Honor's Project

There are four possible grades for quizzes: Mastered, Completed, Attempted, and Not Attempted. The criteria for earning each grade are as follows:

GRADE	DESCRIPTION
MASTERED	Excellent example that exceeds expectations. Complete and clear communication. Evidence of clear understanding of topic. Any error is trivial.
COMPLETED	Meets expectations. Understanding is evident. Needs some revision or expansion to be excellent, but written work is good enough. No additional teaching is required.
ATTEMPTED	Needs revision. Partial understanding is evident, but some significant gaps remain. Needs more work / teaching / communication.
NOT ATTEMPTED	Fragmentary. Clear misunderstanding. Insubstantial attempt made. Or, no work was submitted at all.

These are general rubrics for the quizzes. The specific expectations depend on the module, but the general rule is that the quiz for topic X expects you to demonstrate your knowledge and skills about X.

Multiple Choice / Fill-in-the-Blank / Short Answer Quiz Rubric

- **Mastered:** $\geq 90\%$ correct answers,
- **Completed:** $\geq 70\%$ correct answers
- **Attempted:** $\geq 50\%$ correct answers
- **Not Attempted:** $< 50\%$ correct answers

Free Response / Algorithms / Analysis / Programming Quiz Rubric

- **Mastered (score $\geq 90\%$)**
 - All parts of *Completed* are included.
 - The work demonstrates a high level of mastery, e.g. the work is correct, efficient, and elegant.
 - Every step of the work is well-communicated, e.g. no skipped steps, every step follows clearly from the previous step or is annotated or explained.
- **Completed (score $\geq 70\%$)**
 - The work demonstrates basic mastery (competency), e.g. the work is correct, but may be inefficient or inelegant.
 - The work demonstrates the expected knowledge or skill(s)
 - The work is clear and easy to follow.
- **Attempted (score $\geq 50\%$)**
 - The work is incorrect.
 - The work is incomplete.
 - The work does not demonstrate the expected knowledge or skill(s), e.g. steps are skipped or expected justification is not stated.
 - The work is unclear or difficult to follow.
- **Not Attempted (score $< 50\%$)**
 - Fragmentary.
 - Clear misunderstanding.
 - Insubstantial attempt.
 - Illegible

Final Exam

The final exam is nominally graded on a scale from 0 to 100, but there are simply four significant ranges of scores:

- **High:** score $\geq 80\%$ signifies a *high* level of demonstrated mastery
- **Acceptable:** $80\% > \text{score} \geq 70\%$ signifies an *acceptable* level of demonstrated mastery
- **Unacceptable:** $70\% > \text{score} \geq 50\%$ signifies an *unacceptable* level of demonstrated mastery
- **Failure:** score $< 50\%$ signifies a *failure* to demonstrate mastery

Final Letter Grade

The final letter grade is assigned according to the quantity and quality of content mastery demonstrated through activities and assessments.

GRADE	REQUIREMENTS
A	<ul style="list-style-type: none"> • Master / Complete <ol style="list-style-type: none"> 9 Programming Assignments* 7 Problem Sets 9 Quizzes* *: With 5 Mastered • High score on Final Exam • Mastered on Honor's Project
B	<ul style="list-style-type: none"> • Master / Complete <ol style="list-style-type: none"> 8 Programming Assignments* 6 Problem Sets 8 Quizzes* *: With 3 Mastered • Acceptable score on Final Exam • Completed on Honor's Project
C	<ul style="list-style-type: none"> • Complete <ol style="list-style-type: none"> 7 Programming Assignments 5 Problem Sets 7 Quizzes • Acceptable score on Final Exam • Completed on Honor's Project
D	<ul style="list-style-type: none"> • Complete <ol style="list-style-type: none"> 5 Programming Assignments 4 Problem Sets 5 Quizzes • Unacceptable score on Final Exam • Attempted Honor's Project
F	None.

You must satisfy **every** requirement to earn the corresponding grade, with some exception(s) (see [Minimum Final Grade Override Policy](#)).

2 Attempted = 1 Completed

Two grades of “Attempted” can count as one grade of “Completed”. There is no such relationship between “Not Attempted” and “Attempted” or between “Completed” and “Mastered”.

Final Letter Grade Override

The final grade shall be at least a C in the following case(s):

- Attempted (or better) on 10 Programming Assignments, 10 Problems Sets, and 10 Quizzes and Acceptable score (or better) on Final Exam.
- The numeric weighted rubric (see below) gives a passing grade but the mastery rubric does not.

I will review final letter grades before submitting them to evaluate the cases of students who were “close” to a higher grade on a case-by-case basis.

I may add other cases or may relax requirements if I deem it necessary.

Due to edge cases that may arise from certain scenarios (see [final grade examples](#)), I will also compute final letter grades using the following weighted rubric:

COMPONENT	WEIGHT
PROGRAMMING ASSIGNMENTS	20%
PROBLEM SETS	20%
QUIZZES	20%
FINAL EXAM	20%
HONOR’S PROJECT	20%

This letter grade will be used to detect and correct cases where the mastery grading rubric gives a non-passing grade (less than C).

Example Grades

Consider the following examples of anonymous students adapted from previous semesters.

Student A

PAs: 99, 100, 100, 0, 87, 100, 100, 100, 100, 100 (avg. = 88.6)
 PSs: 1, 1, 1, 1, 1, 1, 1, 1, 1, 0.5 (avg. = 95.0)
 Qs: 94, 80, 77, 91, 79, 100, 92, 93, 95, 96 (avg. = 89.7)
 FE: 95

This person earned an **A** because they

- Completed 9 programming assignments and mastered 8 of them
- Completed 9.5 problem sets (1 Att. = 0.5 Comp.)
- Completed 10 quizzes and mastered 7 of them
- earned a High grade on the final exam

Student B

PAs: 35, 82, 91, 83, 94, 79, 81, 0, 71, 91 (avg. = 70.7)
 PSs: 1, 1, 1, 0, 0.5, 1, 1, 1, 1, 0.5 (avg. = 80.0)
 Qs: 97, 85, 67, 60, 73, 62, 70, 80, 94, 90 (avg. = 77.8)
 FE: 89

This person earned a **B** because they

- Completed 8 programming assignments and mastered 3 of them
- Completed 8 problem sets (7 Comp. + 2 Att. = 8 Comp.)
- Completed 8.5 quizzes and mastered 3 of them (7 Comp. + 3 Att. = 8.5 Comp.)
- earned (greater than) an Acceptable grade on the final exam

Student C

PAs: 36, 86, 87, 100, 84, 97, 70, 92, 5, 94 (avg. = 75.1)
 PSs: 1, 1, 0, 0.5, 1, 1, 1, 1, 0.5, 0.5 (avg. = 75.0)
 Qs: 71, 96, 96, 76, 49, 85, 100, 47, 91, 36 (avg. = 74.7)
 FE: 96

This person earned a **C** because they

- Completed 7 programming assignments (3 Mast. + 4 Comp. = 7 Comp.)
- Completed 7.5 problem sets (6 Comp. + 3 Att. = 7.5 Comp.)
- Completed 7 quizzes and mastered 4 of them
- earned (greater than) an Acceptable grade on the final exam

Student D

PAs: 86, 28, 64, 71, 90, 100, 0, 52, 48, 79 (avg. = 61.8)
 PSs: 0.5, 1, 1, 0, 0.5, 0.5, 0.5, 0.5, 0.5, 1 (avg. = 60.0)
 Qs: 84, 0, 63, 71, 85, 26, 0, 87, 0, 80 (avg. = 49.6)
 FE: 77

This person earned a **D** because they

- Completed 5 programming assignments
- Completed 6 problem sets (3 Comp. + 6 Att. = 6 Comp.)
- Completed 5 quizzes
- earned (greater than) an Unacceptable grade on the final exam

Student E

PAs: 98, 94, 54, 51, 77, 59, 79, 88, 88, 85 (avg. = 77.3)
 PSs: 0.5, 0.5, 1, 0.5, 0.5, 0.5, 0.5, 1, 1, 0.5 (avg. = 65.0)
 Qs: 50, 75, 81, 78, 52, 61, 80, 97, 82, 82 (avg. = 73.8)
 FE: 72

This person earned a **C** (instead of a D) because they

- Attempted 10 programming assignments (2 Mast. + 5 Comp. + 3 Att. = 8 Comp.)
- **Attempted 10 problem sets (3 Comp. + 7 Att. = 6.5 Comp. → would have earned a D)**
- Attempted 10 quizzes (1 Mast. + 6 Comp. + 3 Att. = 8.5 Comp.)
- earned an Acceptable grade on the final exam

Student F

PAs: 0, 15, 69, 42, 0, 49, 75, 0, 41, 51 (avg. = 34.2)
 PSs: 1, 0.5, 0, 1, 1, 0, 0, 0.5, 1, 1 (avg. = 60.0)
 Qs: 22, 31, 85, 60, 59, 0, 0, 0, 93, 80 (avg. = 43.0)
 FE: 53

This person earned an **F** because they

- Completed 2 programming assignments (1 Comp. 2 Att. = 1.5 Comp.)
- Completed 6 problem sets (5 Comp. + 2 Att. = 6 Comp.)
- Completed 4 quizzes (1 Mast. + 2 Comp. + 2 Att. = 4 Comp.)
- earned an Unacceptable grade on the final exam

Student G (a made-up example)

PAs: 100, 100, 100, 100, 100, 100, 100, 100, 100, 100 (avg. = 100.0)

PSS: 0.5, 1, 1, 0, 1, 1, 1, 0, 1, 0 (avg. = 65.0)

Qs: 100, 100, 100, 100, 100, 100, 100, 100, 100, 100 (avg. = 100.0)

FE: 100

This person earned a **C** (instead of a D) because they

- Completed 10 programming assignments and mastered 10
- **Completed 6.5 problem sets (6 Comp. + 1 Att. = 6.5 Comp.) → would have earned a D**
- Completed 10 quizzes and mastered 10
- earned a High grade on the final exam

This example is manufactured to demonstrate the catastrophic result of not making a serious effort on *all* aspects of the course. I hope that this situation will be never be realized. I think the probability of it is very nearly zero and I am including this example to help ensure that the probability stays very near zero. Such a situation could happen for any single category: demonstrating mastery in three out of four categories, but failing to demonstrate it in the fourth.

The best ways to avoid this happening is to submit your work on time and to review and respond to feedback (through consistent and deliberate practice) as soon as it is received. In this fictitious case, the student may have ignored (or otherwise neglected) the feedback on their Problem Sets. Or, they may have waited until the end of the semester to submit their Problems Sets and therefore did not give themselves enough time to review and respond to the feedback.

The existence of such edge cases (no matter how improbable they are) informs my [policy on final letter grades](#).

Late Work Policy

Late work is work which is submitted after the specified deadline for the assignment or assessment.

ITEM	LATE WORK POLICY
PROGRAMMING ASSIGNMENTS	Late work is accepted without penalty.
PROBLEM SETS	Late work is accepted without penalty.
QUIZZES	Late work is not accepted.
HONOR'S PROJECT	Late work is not accepted.

Work submitted by a student as makeup work for an excused absence is not considered late work and is exempted from the late work policy. Makeup work for excused absences must be arranged with the instructor. [See also: Makeup Work Policy.](#)

Course Schedules

Lectures

Students are expected to have read the relevant section in the textbook before the class in which the topic is discussed. Lecture is a guide and support for learning. Lecture is not a replacement for independent study, review, and deliberate and consistent practice. Students are encouraged to ask questions during lecture.

WEEK	DAY	DATE	LECTURE TOPICS	TEXTBOOK
1	M	22 Aug	Classes Start 24 August, Get Excited! – No Class	
	W	24 Aug	Course Overview and Syllabus	
	F	26	Review: C++ Programming	Chapter 1.4, 1.5
2	M	29	Review: Mathematics	Chapter 1.2
	W	31	C++ Templates, List ADT	Chapter 1.6, 3.1, 3.2
	F	02 Sept	List ADT	Chapter 3.1 – 3.4
3	M	05	<i>Labor Day – No Class</i>	
	W	07	Linked List	Chapter 3.5
	F	09	Direct and Indirect Proofs	Chapter 1.2.5
4	M	12	Proof by Induction	Chapter 1.2.5
	W	14	Big-O Analysis	Chapter 2.1
	F	16	Stack ADT	Chapter 3.6
5	M	19	Queue ADT	Chapter 3.7
	W	21	Introduction to Analysis of Algorithms	Chapter 2.1 – 2.3
	F	23	Running Time Calculations	Chapter 2.4
6	M	26	Running Time Calculations	Chapter 2.4
	W	28	Recursion, Structural Induction	Chapter 1.3
	F	30	Introduction to Trees and Tree Traversal	Chapter 4.1, 4.2, 4.6
7	M	3 Oct	Search Tree ADT and Binary Search Trees	Chapter 4.3
	W	5	AVL Trees	Chapter 4.4
	F	7	AVL Trees	Chapter 4.4
8	M	10	<i>Fall Break – No Class</i>	
	W	12	AVL and Red-Black Trees	Chapter 4.4, 12.2
	F	14	Red-Black Trees	Chapter 12.2
9	M	17	Red Black Trees	Chapter 12.2
	W	19	Set ADT	Chapter 4.8
	F	21	Map ADT	Chapter 4.8
10	M	24	Hashing	Chapter 5
	W	26	Binary Heap	Chapter 6.3
	F	28	Priority Queue	Chapter 6.1 – 6.4
11	M	31	Sorting	Chapter 7
	W	2 Nov	Sorting	Chapter 7
	F	4	Graph Definitions and Representations	Chapter 9.1
12	M	7	Topological Sort	Chapter 9.2
	W	9	Topological Sort	Chapter 9.2

	F	11	Single Source Shortest Path, Breadth-First Search	Chapter 9.3
13	M	14	Dijkstra	Chapter 9.3.2
	W	16	Minimum Spanning Tree, Prim's Algorithm	Chapter 9.5
	F	18	Disjoint Set, Kruskal's Algorithm	Chapter 8.1 – 8.5, 9.5.2
14	M	21	Greedy Algorithms	Chapter 10.1
	W	23	<i>Reading Day – No Class</i>	
	F	25	<i>Thanksgiving Holiday – No Class</i>	
15	M	28	Divide and Conquer	Chapter 10.2
	W	30	Master Theorem	Chapter 10.2.1
	F	2 Dec	Amortized Analysis	Chapter 11
16	M	5	Amortized Analysis	Chapter 11
	W	7	Last Day of Class: Something Fun	
	F	9	<i>Final Exams – No Class</i>	
17	M	12	<i>Final Exams – No Class</i>	
	W	14	Final Exam at 10:30 AM – 12:30 PM in ZACH 244	

Lab and Quiz Sessions

Lab and Quiz sessions are a time to practice and assess knowledge, skills, and abilities.

WEEK	DAY	DATE	LAB ACTIVITY
1	M	22 Aug	Labs/Quizzes Start 24 August, Get Excited! – No Lab
	W	24	0 th Lab Session: Meet your TA and Lab mates
2	M	29	1 st Lab Session: Math and C++ Review
	W	31	1 st Quiz Session
3	M	05 Sept	Labor Day – No Lab Session
	W	07	2 nd Lab Session: C++ Templates, Lists
4	M	12	3 rd Lab Session: Proof by Induction
	W	14	2 nd Quiz Session
5	M	19	4 th Lab Session: Big-O, Stack, Queue
	W	21	3 rd Quiz Session
6	M	26	5 th Lab Session: Running Time Calculations
	W	28	4 th Quiz Session
7	M	03 Oct	6 th Lab Session: Recursion, Struct. Induction, Trees
	W	05	5 th Quiz Session
8	M	10	Fall Break – No Lab Session
	W	12	7 th Lab Session: AVL Trees
9	M	17	8 th Lab Session: Red-Black Trees
	W	19	6 th Quiz Session
10	M	24	9 th Lab Session: Set, Map, Hashing
	W	26	7 th Quiz Session
11	M	31	10 th Lab Session: Heap, Priority Queue, Sorting
	W	02 Nov	8 th Quiz Session
12	M	07	11 th Lab Session: Graphs, Topological Sort
	W	09	9 th Quiz Session
13	M	14	12 th Lab Session: Shortest Path Alg.s – BFS, Dijkstra
	W	16	10 th Quiz Session
14	M	21	13 th Lab Session: MST Alg.s – Prim's and Kruskal's
	W	23	Thanksgiving Holiday – No Quiz Session
15	M	28	14 th Lab Session: Greedy and D&C Algorithms
	W	30	11 th Quiz Session
16	M	05 Dec	15 th and Final Lab Session: Amortized Analysis
	W	07 Dec	12 th and Final Quiz Session

Quiz Topics

- | | |
|------------------------------|----------------------------|
| 1. Math and C++ Programming | 6. Heap and Priority Queue |
| 2. Analysis of Algorithms | 7. Sorting |
| 3. Lists, Stacks, and Queues | 8. Graphs |
| 4. Binary Search Trees | 9. Algorithm Design |
| 5. Hashing | 10. Amortized Analysis |

The quiz over topic n will be available on and after the n^{th} quiz session.

Homework

Homework are activities to support acquisition and development of knowledge, skills, and abilities through consistent and deliberate practice.

ASSIGNMENT (PA & PS)	RECOMMENDED DUE DATE
1	8 September
2	18 September
3	28 September
4	8 October
5	18 October
6	28 October
7	7 November
8	17 November
9	27 November
10	7 December

Homework is officially due by 11:59 PM on Wednesday 7 December 2022.

Final Exam

10:30 AM – 12:30 PM Wednesday 14 December 2022 in ZACH 244.

To do your best on the exam:

- get plenty of sleep and eat healthy and well-balanced meals before the exam
- engage in consistent and deliberate practice to improve your knowledge, skills, and abilities throughout the entire semester

Honor's Project

The honor's project is due at 11:59 PM on 7 December 2022.

Other Course Information Items

Quiz Policy

Most Wednesday lab sessions are quiz sessions. During a quiz session, a student may take any available quiz for which they are eligible (see [Quiz Eligibility](#)). Quizzes are timeboxed to 25 minutes, so it is possible to take two in one session (or more if the student finishes two quizzes in less than 50 minutes). The first quiz session is Wednesday 31 August. The last quiz session is Wednesday 7 December. There is a lab session on Wednesday 24 August, but that session will not be a quiz session. There is no quiz session on Wednesday 23 November due to Thanksgiving Break (have a safe and happy break). In all, there are 12 quiz sessions (see [Lab and Quiz Sessions](#)).

If you have an accommodation letter from Disability Resources that includes extra time on timed assessments, you can either choose to take the quiz in the lab room during the quiz session or at the Testing Center. Either way, you are responsible for making the appropriate arrangements. Please contact me as early as possible in the semester (and bring a copy of your accommodation letter) so I can help you make sure you have the best chance for success.

Quiz Eligibility

You must complete (score $\geq 70\%$) Quiz n before you can attempt Quiz $n+1$. Quiz 1 will be available starting from the 1st quiz session on 31 August. Quiz 10 will be available starting from the 10th quiz session on 16 November.

Final Exam Policy

The final exam is the final summative assessment in the course and is therefore a **required** activity. (OK... nothing is *really* required. But, missing the final exam would be a catastrophic mistake.)

Revision and Resubmission of Work

Programming Assignments

Programming Assignments may be revised and resubmitted after receiving feedback from the autograder. There is no limit to the number of submissions.

Problem Sets

Problem Sets may be revised and resubmitted once (for a total of two submissions). Students are encouraged to review the feedback from the TAs and revise their problem-solving work.

Quizzes

Quizzes cannot be resubmitted, but students may retake a quiz that they have previously taken (the version will be different, though) during any quiz session after their work has been returned with feedback (usually < 1 week from date of submission). There is no limit to the number of times a student may retake a quiz (except that the semester will eventually end).

Honor's Project

The Honor's Project cannot be resubmitted.

Inventory of Tools and Services

This is a list of the tools that we will use.

- Learning Management System: [Canvas](#)
- Submission of Graded Items: [Canvas](#), [Gradescope](#)
- Q&A Forum: [Email](#), [Canvas](#), [Slido](#), [Discord](#)
- Source Code Editor: [VS Code](#) is recommended
- Compiler: [GCC ≥8.4](#) is recommended
- C++ Standard: [17](#)
- Build system: [GNU Make](#)
- Version Control: [Git](#), [github.tamu.edu](#)
- Online IDE: [onlinegdb.com](#) and [repl.it](#) are recommended
- Typesetting for Problem Sets: [LaTeX](#) is recommended (you can use [Overleaf](#) for editing in a cloud environment). [MS Word](#), [OpenOffice Writer](#) are acceptable.
- Telepresence: [Zoom](#)

University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Students are strongly advised to attend every class and lab session, arriving on time and staying the whole time. Students are responsible for the learning the content covered in class and lab regardless of their attendance. Students should not attend a lab or lecture session for which they are not registered without prior written approval from the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" ([Student Rule 7, Section 7.4.1](#)).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

Course-Specific Details

Programming Assignments and Problem Sets are activities that occur outside of class and therefore are not subject to the Makeup Work Policy. Thus, absences do not affect the deadlines for submitting PAs and PSs.

Quizzes are conducting during class time (in lab), and therefore the Makeup Work Policy applies. However, the [quiz policy](#) makes the Makeup Work Policy almost redundant. The designated date for making up a missed quiz is the following quiz session (see [Lab and Quiz Sessions](#)). Every student, regardless of absence, has the same opportunity to make up a missed quiz by taking it during a future quiz session. If a student misses more than 7 quiz sessions due to excused absences, they must attend the scheduled quiz makeup session on Thursday 8 December at 1pm in PETR 414. If an eligible student

has an excused absence for that day, they must contact the instructor to schedule a quiz makeup session on or before Wednesday 14 December.

If a student has an excused absence for the final exam, they will receive a grade of Incomplete until they can schedule and take a makeup final exam. In this case, the student must contact the instructor to schedule the makeup exam.

Academic Integrity Statement and Policy

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” ([Section 20.1.2.3, Student Rule 20](#)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Students are forbidden from collaborating and using any resources (including human, computer, and text) without explicit written approval from the instructor. If you are unsure about whether a resource is acceptable to use, ask the instructor.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services](#) (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's [Title IX webpage](#).

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at suicidepreventionlifeline.org.

COVID-19 Statement for Fall 2022

The following statement on the value of vaccinations and masking was developed by the Executive Committee of the Faculty Senate and approved by the Administration in August 2021.

To help protect Aggieland and stop the spread of COVID-19, Texas A&M University urges students to be vaccinated and to wear masks in classrooms and all other academic facilities on campus, including labs. Doing so exemplifies the Aggie Core Values of respect, leadership, integrity, and selfless service by putting community concerns above individual preferences. COVID-19 vaccines and masking — regardless of vaccination status — have been shown to be safe and effective at reducing spread to others, infection, hospitalization, and death.