

CSCE 2110.400: Foundations of Data Structures Syllabus

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Office Hours: TBA

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Lecture Class Time: TBA

Place: TBA

Graders:

TA: TBA

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Online Office Hours: TBA

Course Description

Introduces students to the basics of more organized software developments. This includes the basics of using Integrated Development Environments (IDE), proper debugging and testing strategies, and the use of code repositories. Students will be expected to work in teams to develop programming solutions in C or C++. Additionally, the effective use of regular expressions to parse text and the use of hash tables to store data will be covered. By the end of the foundation courses, each student will have a solid foundation in conceptual and formal models and levels of abstraction as used in the field of computer science, as well as greater proficiency in software development.

Course Outcomes

Course Outcomes are measurable achievements to be accomplished by the completion of the course. These outcomes are evaluated as part of our ABET accreditation process.

1. Demonstrate the ability to use modern software development tools to design, build, test and debug large-scale software applications individually and in project teams

2. Use abstraction in the design and implementation of algorithms, such as sorting and searching algorithms and data structures.
3. Design and implement programming solutions to problems in C or C++.
4. Collaborate with other students in a team towards the design and development of programming solutions, utilizing code repositories and other modern collaboration tools and techniques
5. Use regular expressions in C/C++ programs to match patterns.
6. Use of stacks, queues, linked lists, hash tables, trees and graphs in design and construction of software solutions to complex problems.

Course Structure

This course is delivered fully online through Canvas. In addition to the online course content, you will attend a weekly **in-person** lab/recitation session designed to reinforce concepts, provide hands-on practice, and support your learning.

The course is organized into 13 modules. A new module will be released roughly each week, and you are expected to complete the assigned readings, videos, activities, and assessments within the designated time frame. Regular engagement with the course materials and participation in the weekly lab sessions are essential for success in the course.

Required Textbook

We are using an E-Book this semester as the required textbook.

zyBook: CSCE 2110: Foundations of Data Structures

zyBook code: UNTCSCE2110DorriFall2026

zyBook ISBN: 979-8-203-29222-3

To do the **assignments**, follow these steps:

1. Click any zyBooks assignment link in Canvas (Do not go to the zyBooks website and create a new account)
2. Subscribe

Prerequisites

Completion of CSCE 1040 with a grade of C or better.

Communication Expectations

Connect with me through email and/or by attending office hours. I will strive to respond to your emails within 1 business day and make grades of each homework/exam within two weeks after the due date.

Please write the course number and section number in your email subject line.

If you contact me and do not receive a response within two business days, please send a follow up email. A gentle nudge is always appreciated.

All course-related announcements will be on Canvas. Please setup your notification settings to avoid missing any announcements. Please check CLEAR Online Communication Tips at <https://clear.unt.edu/online-communication-tips>.

I reserve the right to modify course policies, the course calendar, assignment or project point values, and due dates.

For assistance with assignments or questions about grading of a particular assignment, you may also contact the TA assigned to this directly via e-mail or their office hours.

Course Requirements:

Attendance: Required - student is responsible for all materials covered in lecture and class discussion and there will be occasional quizzes in recitation classes.

Assignments: There will be some larger programming assignments, quizzes, exams and laboratory exercises to complete.

Course Plan:

Students are expected to read and review the weekly Canvas materials, including assigned readings, instructional content, participation activities, and Challenge Assignments, before attending each recitation session. Students must come to recitation prepared and ready to actively participate in discussions, problem-solving activities, coding exercises, and collaborative work.

Recitation sessions will focus on applying concepts through guided practice, collaborative exercises, hands-on coding activities, and deeper exploration of course topics rather than traditional lecture-based instruction. At least one class period each week will involve in-class code development activities connected to homework, labs, or real-world programming scenarios. Class activities will also emphasize critical thinking, algorithmic problem solving, communication, and teamwork skills relevant to professional computing environments.

The detailed calendar will be available in Canvas

Grading:

- Attendance 5%
- ZyBooks Participations and Challenges 10%
- Quizzes 10%
- Labs/Homework 20%
- Projects (Groups) 25%
- Assessment Exams 30%

A: 90-100; B: 80-89; C: 70-79; D: 60-69; F <60

Tentative Course Schedule

Week	Topics
1	Introduction
2	Linked List, Stacks and Queues
3	Complexity
4	Complexity
5	Project Management
6	Searching and Sorting Algorithms
7	Searching and Sorting Algorithms
8	Hash Tables

Week	Topics
9	Graphs
10	Graphs
11	Trees
12	Trees
13	Regular Expressions
14	grep
15	Review & Final Exam

- This schedule is tentative and subject to change at the instructor's discretion. Changes will be announced in Canvas. The instructor reserves the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.
- This course has digital components. To fully participate in this class, students will need internet access to reference content on the Canvas Learning Management System. If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at [Learn Anywhere \(https://online.unt.edu/learn\)](https://online.unt.edu/learn).
- Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, but typically about 10-15 calendar days after the assignment was due. **Grading discussion should first go to the TA graded your assessment in 5 calendar days after grades posted, but if a resolution cannot be reached between the student and the grader, then you should go to the instructor who will have the final decision on the grade. After 5 calendar days, barring an exceptional circumstance, grades will not be altered.**

Any work must be turned in on their due dates.

We do not accept submissions by email.

Students will be notified by Eagle Alert if there is a campus closing that will impact a class and describe that the calendar is subject to change, citing the [Campus Closures Policy \(https://policy.unt.edu/policy/15-006\)](https://policy.unt.edu/policy/15-006).

While working in laboratory sessions, students are required to follow proper safety procedures and guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, handling chemical solutions and hot and cold products. Students should be aware that UNT is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider obtaining Student Health Insurance. Brochures for student insurance are available in the UNT Student Health and Wellness Center. Students who are injured during class activities may seek medical attention at the Student Health and Wellness Center at rates that are reduced compared to other medical facilities. If students have an insurance plan other than Student Health Insurance at UNT, they should be sure that the plan covers treatment at this facility. If students choose not to go to the UNT Student Health and Wellness Center, they may be transported to an emergency room at a local hospital. Students are responsible for expenses incurred there.

Recitation Attendance Policy:

Recitation sessions are a required component of this course and are designed to support project development, collaborative learning, hands-on coding activities, quizzes, and applied problem-solving exercises. Students are expected to arrive on time, prepared, and ready to actively participate in all recitation activities.

Failure to attend recitation sessions regularly may negatively impact project performance, participation grades, quiz scores, and overall course success. Students who arrive late may not receive credit for recitation activities, quizzes, or participation completed during that class period.

Students are responsible for all materials, announcements, activities, and assignments covered during missed recitation sessions, regardless of the reason for the absence, including university-sponsored events. Absences do not extend or modify assignment deadlines unless otherwise approved under university policy or documented accommodations.

Submission Policy:

All projects are expected to be submitted on time with all of the correct parts through the Canvas system. The project documentation must be created as a wiki page in GitLab, and no photographed or scanned content will be scored. Further, any content that is deemed

illegible will not be scored. The program must be coded in C or C++ and contain ample comments and descriptions. All programs will be compiled and executed on the department's CSE servers, and any that fail to compile or execute on that system will lose points. Additionally, a README file, in .txt format, with clear instructions on how to compile and execute your program must be included.

Make-up Work Policy :

For most situations there will be no make-up work for any assessment in this course. However, in the event of an unavoidable absence for one of the reasons below, email the instructor as soon as possible so we can work out a solution. The following events are grounds for make-up work: being a participant in a conference

Additionally, in the case of a missed assignment due to illness, make-up work will only be allowed by the instructor to receive further notification from the Dean of Students. Students are responsible for sending an email to the Dean of Students with a physical copy of a signed doctor's note. See the [UNT Attendance Policy](#) for more information.

A student is responsible for requesting an excused absence in writing, providing satisfactory evidence to the **Dean of Students (deanofstudents@unt.edu)** to substantiate excused absence, and the Dean of Students will send the notification to the faculty member assigned to the course for which the student will be absent. When an absence is excused, the faculty member will provide a reasonable time after the absence for the student to complete the assignment.

Because there are group projects, if one group member is caught cheating the consequences of their actions will extend to the group as a whole. It is the responsibility of all group members to ensure that when they put their names on their submission as a whole and submit it, the submission does not contain any instances of cheating. Failure to report known instances of cheating within a group will be deemed facilitation of academic dishonesty and reported as such.

Late Work Submission Policy:

All projects may be submitted up to one day late at a 10% penalty. Any projects submitted two or more days after the due date will receive a 0.

Academic Integrity and Collaboration:

UNT policy 06.003 defines the following breaches of academic integrity:

1. **Cheating.** The use of unauthorized assistance in an academic exercise, including but not limited to:
 2. use of any unauthorized assistance to take exams, tests, quizzes or other assessments;
 3. usage of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; usage without permission, of tests, notes, or other academic materials belonging to instructors, staff members, or other students of the university;
 4. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor;
 5. any other act designed to give a student an unfair advantage on an academic assignment.
6. **Plagiarism.** Use of another's thoughts or words without proper attribution in any academic exercise, regardless of the student's intent, including but not limited to:
 7. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement or citation.
 8. the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in selling term papers or other academic materials.
9. **Forgery.** Altering a score, grade or official academic university record; or forging the signature of an instructor or other student.
10. **Fabrication.** Falsifying or inventing any information, data or research as part of an academic exercise.
11. **Facilitating Academic Dishonesty.** Helping or assisting another in the commission of academic dishonesty.
12. **Sabotage.** Acting to prevent others from completing their work or willfully disrupting the academic work of others.

Cheating of any sort will not be tolerated in this course. All submissions must be your own original work. Taking information or code from the internet or other students is considered

a breach of academic integrity. Failure to adhere to these strict standards will be cause for disciplinary action that could be as severe as expulsion from the university. **If it is determined a student cheated on any assignment in this course they will receive an F for their final course grade and an academic integrity report will be filed with the Office of Academic Integrity.** Further, UNT is now maintaining a database recording any acts of academic dishonesty that is available to employers. Additionally, because these are group projects, if one group member is caught cheating the consequences of their actions will extend to the group as a whole. It is the responsibility of all group members to insure that when they put their names on their submission as a whole and submit it, the submission does not contain any instances of cheating. Failure to report known instances of cheating within a group will be deemed facilitation of academic dishonesty and reported as such. For more information see the UNT Student Academic Integrity Policy.

Collaboration Policy: For each project submission, all work is expected to be your own. While you should be working with your group members, you are not to collaborate with other groups for projects, provide solutions to other groups, search for solutions on the internet, or purchase solutions. Doing so will be deemed a breach of academic integrity. However, for any non-graded, practice assignments students are encouraged to work together to solve problems.

All students are required to know, observe and help enforce the UNT Code of Student Academic Integrity. Academic dishonesty will result in disciplinary action according to [UNT Policy 06.003](#). The penalty for any offense can range from a formal warning to an 'F' for the course. Regardless of the penalty imposed, a record of the offense will be kept in the Office of the Dean of Students. Please find the Department Academic Integrity Guidelines [here](#).

Disabilities Accommodation:

ODA: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodation at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to

implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at **940.565.4323**.

Accessibility Note for Students Using Screen Readers:

This course includes programming code, mathematical expressions, and other content containing specialized symbols and punctuation. Students using screen readers or other assistive technologies may find it helpful to increase punctuation and verbosity settings to the highest level available in their software. Doing so can improve the accuracy with which programming syntax, operators, and code structures are announced.

Syllabus Revisions:

This syllabus may be modified as the course progresses should the instructor deem it necessary. Notice of changes to the syllabus shall be made through Canvas and/or in-class announcements.