CSCE 4610 Section(s) 001 (Spring 2026 1)

Class Meetings:	M/W 4:00PM - 5:20PM in NTDP K120
Instructor:	Hui Zhao
Office:	F297C
Office Hours:	M/W 2:00 – 3:00 PM
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TA Office Hours:	Tu/Th1:30pm to 3pm (Location DP F268)

Catalog Description

The focus of this course is to improve your understanding of the technology factors, design techniques, architectural innovations and evaluation methods that will determine the form of today's computers. Given that you have basic knowledge of computer system design, this course will introduce more advanced design technologies and will help you build sols id foundations in systems/hardware design through programming and simulations.

Prerequisites

Fundamental concepts of computer architecture and organization will be necessary for the course. It is helpful to have basic understanding of "Computer Organization and Design" by Hennessy and Patterson. Programming experience in C/C++ will be necessary for the course in order to finish the programming assignments. CSCE3610/3612 for 4610 students.

ABET Course Outcomes (CSCE4610):
The CSCE4610 course will be evaluated regarding ABET. Here are the ABET outcomes:

1. Apply metrics to evaluate performance and power requirements of modern computer systems. Represent performance using arithmetic, harmonic and geometric means.
2. Understand Amdahl's law as applied to a single core and multicore systems.
3. Design a pipelined processor to meet design specifications.
4. Design an out-of-order and speculative processor to improve performance.
5. Understand cache memory performance issues.
6. Understand cache memory issues in multicore systems include cache coherency management.
7. Understand hardware support for concurrency including multithreading, locks and barriers.

Text Book

1. Hennessy and Patterson. “Computer Architecture: A Quantitative Approach”, 6th Edition

Grading Policy (Instructor reserves the rights to make changes to this policy)

Homework/Simulation assignments: 30%

Pop quizzes: 10%

Midterm exam: 30%

Final exam: 30%

Exams

The exams will be held in class and will be closed book. The exams will test your understanding of the basic ideas and objectives of the class as covered in the course book and the lectures.
Final Exam Date and Time: Saturday, May 2, 2026, 12:30 pm to 2:30 pm.

Late Policy

Students are strongly encouraged to turn in any assignments on-time. Unless otherwise noted for a particular assignment, the following late policy holds. Late assignments will be penalized by subtracting 50% of the total achievable points of that deliverable, if turned in within the first 24 hours after the due date. Late turn-in after 24 hours will receive zero points. Certain deliverables may not have ANY LATE day, as announced. Late point reductions cannot be made up by later improvements.

Academic Integrity

Unless explicitly noted, all work is to be done on an individual basis. Any violation of the university's guidelines for academic integrity will result in no credit for the course and further disciplinary action. More can be found about UNT policy in https://policy.unt.edu/sites/policy.unt.edu/files/06.003%20Student%20Academic%20Integrity.pdf

Use of AI for the assignments:
Based on the Student Academic Integrity Policy (UNT Policy 6.003) and AI, Plagiarism, and Academic Integrity at UNT Policy (https://guides.library.unt.edu/plagiarism/at-unt), any form of “unauthorized assistance” constitutes cheating. If the use of AI is not explicitly requested/authorized in a question, the violation is “**cheating**”. Therefore, the use of AI in assignments are NOT welcomed unless it is asked in the question. Such a cheating can result in the failure of the class (F) as follows:

- The assignments will be evaluated using AI detection tools, e.g., Turnitin.

- If a submission exceeds the soft threshold (i.e., 10% similarity), a deduction of two times the similarity will be applied (e.g., if you have a similarity of 11%, 2x11%=22% deduction for that assignment will occur).
- If a submission exceeds the hard threshold (i.e., 25% similarity), the assignment will be graded as 0 (zero).
- For the second time exceeding the hard threshold, the student will automatically get an F (fail) from the class and may be reported to the university.
- Similarities in exams and the project will not be tolerated. For the project, if the similarity exceeds the hard threshold, the entire group will receive a zero (even if it is the first time).

Student Perceptions of Teaching (SPOT)

Student feedback is an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The SPOT survey will be made available at the end of the semester to provide you with an opportunity to evaluate how this course is taught. For the 2026 spring semester you will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Please look for the email in your UNT email inbox. Simply click on the link and complete your survey. Once you complete the survey you will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at www.vpaa.unt.edu/spot or email spot@unt.edu

ADA Accommodation

The University of North Texas makes reasonable accommodation for students with disabilities. Students needing a reasonable academic accommodations must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the student will request their letter of accommodation. ODA will provide faculty with a reasonable accommodation letter via email to begin a private discussion regarding a student's specific needs in a course. Students may request reasonable accommodations 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 meet with faculty regarding their accommodations during 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, refer to the Office of Disability Access website.