

# CSCE 5610-001 – Computer Systems Architecture

Class Hours & Location:	Tue and Thursday, 11:30AM-12:50PM, NTDP D201
Class Website:	Canvas
Instructor:	Dr. Beilei Jiang
Office:	<b>E245J</b>
Office Hours:	Tuesday and Thursday, 4:00pm-5:00pm, or by appointment
Contact:	<a href="mailto:beilei.jiang@unt.edu">beilei.jiang@unt.edu</a>
Instructional Assistant:	Bakaram, Naresh
IA Office:	Help Lab - E247
IA Office Hours:	Mon/Wed 2:00pm – 4:00pm
IA Contact:	<a href="mailto:nareshbakaram@my.unt.edu">nareshbakaram@my.unt.edu</a>
Teaching Assistant:	Biglari Ardebili, Siamak
TA Office:	F268
TA Office Hours:	Tue/Thurs 1:00pm – 3:00pm
TA Contact:	<a href="mailto:siamakbiglariardebili@my.unt.edu">siamakbiglariardebili@my.unt.edu</a>

**Communication Expectations:** This course will use the Canvas learning management system (LMS) to distribute course materials, communicate and collaborate online, post grades, and submit assignments. You are responsible for checking the Canvas course site regularly for class work and announcements. You may find the Online Communication Tips (<https://clear.unt.edu/online-communication-tips>) helpful. Should you have any questions about the course or material in general, you may attend your instructor's office hours or **use your UNT e-mail address** to e-mail your instructor directly at the e-mail address listed above **with CSCE 5610-001 in the subject line**. Every attempt will be made to answer e-mails within 24 hours, but if no reply is received within this time frame, please follow up with your instructor again to ensure a response.

For assistance with assignments or questions about grading of a particular assignment, you may also contact the Tas/IAs assigned to this directly via e-mail or during their office hours. This information will be available on Canvas.

Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, but typically about one week after the assignment was due. Grading disputes should first go to the TA that graded your assignment, 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 say on the grade.

## Welcome to UNT!

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation. UNT's full Non-Discrimination Policy can be found in the UNT Policies section of the syllabus.

## Course Structure

Meeting in NTDP D201 on Tue and Thursday, 11:30AM-12:50PM, this class is held in person, face to face.

### **Tentative Class Schedule** (*subject to change*):

<b>Week</b>	<b>Lecture</b>	<b>Assignments Due</b>
8/20 - 8/22	Introduction, Machine Organization and Assembly Language	
8/27 - 8/29	Introduction, Machine Organization and Assembly Language	
<del>9/3</del> - 9/5	Form a team and help with paper selection	
9/10 - 9/12	The processor	
9/17 - 9/19	Instruction-Level Parallelism and Its Exploration	
9/24 - 9/26	Memory Hierarchy Design	
10/1 - 10/3	Memory Hierarchy Design	
10/8 - 10/10	Paper presentation	
10/15 - 10/17	Paper presentation	
10/22 - 10/24	Virtual Memory	
10/29 - 10/31	Virtual Memory	
11/5 - 11/7	Parallel Processor	
11/12 - 11/14	Review, Exam	Exam
11/19 - 11/21	Project Presentation	
12/3 - 12/5	Project Presentation	

### **Recommended Textbooks**

Computer Architecture: A Quantitative Approach, 6th Edition, Hennessy and Patterson, 2017 (or the 5th edition, 2012)

Computer Organizations and Design, Patterson and Hennessy, 3rd Ed.

### **Technical Assistance**

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help

**UIT Help Desk:** (<http://www.unt.edu/helpdesk/index.htm>)

**Email:** [helpdesk@unt.edu](mailto:helpdesk@unt.edu)

**Phone:** 940-565-2324

**In Person:** Sage Hall, Room 130

**Walk-In Availability:** 8am-9pm

**Telephone Availability:**

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

**Laptop Checkout:** 8am-7pm

For additional support, visit [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328) (<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

### **Rules of Engagement**

Rules of engagement refer to the way students are expected to interact with each other and with their instructors. Here are some general guidelines:

- While the freedom to express yourself is a fundamental human right, any communication that utilizes cruel and derogatory language on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law will not be tolerated.
- Treat your instructor and classmates with respect in any communication online or face-to-face, even when their opinion differs from your own.
- Ask for and use the correct name and pronouns for your instructor and classmates.
- Speak from personal experiences. Use "I" statements to share thoughts and feelings. Try not to speak on behalf of groups or other individual's experiences.
- Use your critical thinking skills to challenge other people's ideas, instead of attacking individuals.
- Avoid using all caps while communicating digitally. This may be interpreted as "YELLING!"
- Be cautious when using humor or sarcasm in emails or discussion posts as tone can be difficult to interpret digitally.
- Avoid using "text-talk" unless explicitly permitted by your instructor.
- Proofread and fact-check your sources.
- Keep in mind that online posts can be permanent, so think first before you type.

See these [Engagement Guidelines](https://clear.unt.edu/online-communication-tips) (https://clear.unt.edu/online-communication-tips) for more information.

## Course Requirements

**Homework:** There will be approximately four homework assigned during the semester. **Homework will be accepted up to 24 hours late and be assessed a 50% grade reduction penalty. Homework submitted more than 24 hours late will not be accepted and receive a grade of 0.** If you are having trouble with the homework, please consult with your instructor, TAs, or Peer Mentors associated with the class. No regular or late credit will be given for any programming assignment that does not compile on the CELL Linux servers. Partial credit can be given for programs that compile, but are not complete, so you must make sure that your programs at least compile on our CELL Linux servers.

**Project:** There will be one project assigned. **The project assignment will be accepted up to 24 hours late and be assessed a 50% grade reduction penalty. Project assignments submitted more than 24 hours late will not be accepted and receive a grade of 0.** If you are having trouble with the project assignment, please consult with your instructor, TAs, or Peer Mentors associated with the class.

**Midterm/Final Exam/Quizzes:** There will be one comprehensive exam during the scheduled exam time. All students are expected to take the exams/quizzes during the scheduled time period.

## Grading

Your course grade will be a *weighted* average according to the following:

Homework	20.0%
Paper Presentation	10.0%
Project	30.0%
<u>Comprehensive Exam</u>	<u>40.0%</u>
Total	100.0%

Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above. *Once a grade is posted on Canvas, students have two (2) weeks to dispute the grade, unless otherwise instructed.* The proper channel for grade disputes is to first go to the original grader (i.e., the TA) in an attempt to resolve the issue. If, however, a resolution cannot be reached between the student and the grader, the student shall then go to the instructor who will have the final say on the grade.

**Students are responsible for submitting the correct assignments (i.e., uploading the proper files) for each applicable assignment submission on Canvas.** If you have any questions or concerns about your submission,

please work with your instructor, TA, or Peer Mentor to ensure the correct file(s) is/are submitted.

## Course Evaluation

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course. SPOT evaluations should become available in November.

## Course Policies

### Attendance Policy

Students are required to attend and be on time for the class face-to-face. **Please note that attendance is mandatory!!!** A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day. The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on all material covered in this course, regardless of attendance. If there are extenuating circumstances preventing you from attending the class, please notify your instructor so that you can work together to ensure your success in learning the material.

### Late Work

**No late work will be accepted for quizzes or exams.** Homework, however, will be accepted up to 24 hours late and be assessed a 50% grade reduction penalty. Challenging Project submitted more than 24 hours late will not be accepted and receive a grade of 0.

### Examination Policy

All exams will be closed-book/closed-notes and will be given during the scheduled exam time. If you have any issues during the exam, please contact your instructor **immediately**.

A make-up exam will be given at the discretion of the instructor when a student misses an exam with a documented excused absence.

### Assignment Policy

The University is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: [helpdesk@unt.edu](mailto:helpdesk@unt.edu) or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

All assignments will be posted to Canvas with given due dates. Submissions will be done using Canvas to the appropriate assignment drop box by the due date and time. A sophisticated program will be used to compare your assignment submission to the work of all other students (including students in past classes).

### Instructor Responsibilities and Feedback

Your instructor is committed to providing a quality course that includes clear instructions for projects and assignments as well as an appropriate amount of time to complete the assignments. Questions about an assignment may be addressed to the instructor or the TAs supporting this course. Study guides for exams will be made available to students prior to the exam.

Every attempt will be made to answer e-mails within 24 hours (weekdays). If you do not receive a response by that time, please re-send the e-mail and verify that you have sent it to my correct e-mail address: [beilei.jiang@unt.edu](mailto:beilei.jiang@unt.edu). It is my hope that grades will be returned to students approximately one week after the due date (for the latest section, in the case of labs), but please keep in mind that this course has a number of students with limited grading resources who are students as well, so we ask your patience if we run behind in returning the graded assignments.

### Syllabus Change Policy

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 class announcement.

## UNT Policies

### Academic Integrity Policy

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

This course follows UNT's policy for *Student Academic Integrity* that can be found at <https://policy.unt.edu/policy/06-003> as well as the *Cheating Policy* for the Department of Computer Science and Engineering (posted on Canvas). Specifically, the first instance of a student found to have violated the academic integrity (i.e., cheating) policy will result in a grade of "F" for the course and have a report filed into the Academic Integrity Database, which may include additional sanctions.

Collaboration with other students is only acceptable for lab assignments that are not given as part of an exam. And although you may seek assistance from your TA, Peer Mentors, and other students during the lab session for non-exam lab assignments, you are still required to work on your own lab assignment and turn in your individual work to Canvas before the lab session is complete, unless directed otherwise.

Individual programming assignments (i.e., projects) given outside of the lab in this course are meant to be problem-solving exercises and must be the sole work of the individual student. *You should not work with other students on shared program solutions or use program solutions found on the Internet. Specifically, you should never copy someone else's solution or code, and never let a classmate examine your code. A sophisticated program will be used to compare your work to the work of all other students (including students in past classes).* If you are having trouble with an assignment, please consult with your instructor, TAs, or Peer Mentors associated with the class.

You must do your own work on the zyBooks participation and challenge assignments as well as exams. There should be no ambiguity here.

In case the above description and in-class discussion of appropriate and inappropriate collaboration do not answer all of your questions, please meet with your instructor and look at the university Student Rights and Responsibilities web page.

### ADA Policy

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of 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 accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the [ODA website \(https://disability.unt.edu/\)](https://disability.unt.edu/).

### Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

### Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

## Retention of Student Records

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

## Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's [Code of Student Conduct](https://deanofstudents.unt.edu/conduct) (<https://deanofstudents.unt.edu/conduct>) to learn more.

## Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: [my.unt.edu](https://my.unt.edu). All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail [Eagle Connect](https://it.unt.edu/eagleconnect) (<https://it.unt.edu/eagleconnect>).

## Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" ([no-reply@iasystem.org](mailto:no-reply@iasystem.org)) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the [SPOT website](http://spot.unt.edu/) (<http://spot.unt.edu/>) or email [spot@unt.edu](mailto:spot@unt.edu).

## Sexual Assault Prevention

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at [SurvivorAdvocate@unt.edu](mailto:SurvivorAdvocate@unt.edu) or by calling the Dean of Students Office at 940-565- 2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at [oeo@unt.edu](mailto:oeo@unt.edu) or at (940) 565 2759.

## Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.



- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

### **Transmission and Recording of Student Images in Electronically-Delivered Courses**

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.
2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.
3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.

## **Academic Support & Student Services**

### **Student Support Services**

#### *Mental Health*

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (<https://studentaffairs.unt.edu/care>)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

#### *Chosen Names*

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- [UNT Records](#)
- [UNT ID Card](#)
- [UNT Email Address](#)
- [Legal Name](#)

*\*UNT euIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.*

### *Pronouns*

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can [add your pronouns to your Canvas account](#) so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- [What are pronouns and why are they important?](#)
- [How do I use pronouns?](#)
- [How do I share my pronouns?](#)
- [How do I ask for another person's pronouns?](#)
- [How do I correct myself or others when the wrong pronoun is used?](#)

### *Additional Student Support Services*

- [Registrar](https://registrar.unt.edu/registration) (<https://registrar.unt.edu/registration>)
- [Financial Aid](https://financialaid.unt.edu/) (<https://financialaid.unt.edu/>)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (<https://studentaffairs.unt.edu/student-legal-services>)
- [Career Center](https://studentaffairs.unt.edu/career-center) (<https://studentaffairs.unt.edu/career-center>)
- [Multicultural Center](https://edo.unt.edu/multicultural-center) (<https://edo.unt.edu/multicultural-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (<https://edo.unt.edu/pridealliance>)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (<https://deanofstudents.unt.edu/resources/food-pantry>)

### *Academic Support Services*

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (<https://clear.unt.edu/canvas/student-resources>)
- [Academic Success Center](https://success.unt.edu/asc) (<https://success.unt.edu/asc>)
- [UNT Libraries](https://library.unt.edu/) (<https://library.unt.edu/>)
- [Writing Lab](http://writingcenter.unt.edu/) (<http://writingcenter.unt.edu/>)