



Course Snapshot

Software Development Capstone I CSCE 4901 001

Term: 2026 Fall

Modality: In Person

Meeting Information: MW, 09:05AM-10:25AM, NTDP B185

Instructor Information

Name: Stephanie Ludi

UNT Email Address: Stephanie.Ludi@unt.edu

Office Hours and Location

DP A160A; MW 10:30-11:30 + by appointment

Office or Department Phone Number: 940-369-7124

Preferred Contact Method: email is best

Expected Response Time: During the week, I will usually respond within 24 hours. During the weekend and holidays, I usually check email once a day so I respond to any emails I have received then.

Course Description

4901. Software Development Capstone I. 3 hours. First of a two course sequence in which students develop a complex Software System starting from customer requirements and progressing through the entire analysis, design, implementation, testing and delivery lifecycle. Students work in teams to develop a project plan, complete the technical components of the project, prepare a variety of deliverable documents, and finally deliver the

finished product to the customer. The first course will focus on the analysis and design of the system. Prerequisite(s) : CSCE 3444 and TECM 2700, each with a grade of C or better. Senior standing.

Course Structure

This course is 3 credits and is one semester long though you will continue onto 4902 to finish your capstone. Per the catalog, you must take your capstone courses sequentially and with the same instructor.

The course calendar is presented later in the syllabus so that you can see the pace of the course and the due dates. The course is primarily project-driven, where you work on a long-term project in a team whose size will depend on the project. There are also individual assignments.

Instructor Welcome and Course Orientation

This course is very hands-on, with the expectation that you will both apply material from prior courses as well as learn new skills as appropriate to your project. In order to truly benefit from the course you will want to be open to learning new development skills and technologies. In the beginning of the course you will get a quick review of key topics from 3444/4444, and the bulk of the course will be the project (which includes team/group meetings with the instructor and demos of progress).

Learning Outcomes and Alignment

By the end of this course, students will be able to:

1. Gather and refine user functional requirements and other

- functional and non-functional requirements and constraints for a large-scale software system and create a software requirements specification document.
2. Perform software analysis and design tasks using recognized software methods to create a preliminary design specification for software based on a requirements specification.
 3. Utilize project management principles, skills and tools in creating the requirements and preliminary design specifications.
 4. Create a project management plan, including a schedule and budget for a large-scale software project.
 5. Utilize configuration management, project management and design tools in the course of the project.
 6. Analyze and maintain appropriate project artifacts to reflect inclusive design and societal impact for the project sponsors, users, and other stakeholders.

Course Materials

No Text; Other materials are dependant on the project needs.

Course-Specific Technology

Technologies needed for the porject are listed below, however others are determined by the project.

Minimum Technology Requirements

Provide a list of the minimum technology requirements for students, such as:

- Computer
- Reliable internet access
- Speakers (for any online meetings)
- Microphone (for any online meetings)
- Appropriate programming tools to support your project

- GitHub account (can be created during class)
- Trello account (can be created during class)
- Microsoft Office Suite
- Canvas Technical Requirements (as defined by UNT)

Major Assignments and Assessments

The components of your grade are comprised of:

- Team Project Deliverables: There will be a number of deliverables that cover the software engineering activities required for the large, team project. Further details are on Canvas due to the space required to explain project, which lasts for 2 semesters.
- Team Reflection Report (Final one): At the end of the course, each project team will submit a reflection report (using a supplied template) that looks back at the semester.
- Peer Evals (submitted individually): At the end of each sprint and at a couple of other checkpoints, each person submits a peer evaluation for their group/team using a template.
- Assignments: There are a small number of assignments that support your skills growth and the project in different ways. They will be further described on Canvas.

Grading and Feedback

Grading

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 50%-59%

NOTE: Canvas may not calculate your grade properly, you may need to do so using the weighted distribution below:

The various components of your grade are weighted as follows:

- Team Project Deliverables: 70% (35% team work + 35% individual contribution)
- Team Reflection Report (Final one): 10%
- Peer Evals (submitted individually): 10%
- Assignments: 10%

ABSOLUTELY NO LATE work will be graded, unless specific arrangements are made with the instructor in advance. All assignments will be turned in by the designated date due. Assignments may be submitted on Canvas in the appropriate drop box unless otherwise indicated.

ALL requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid “emergency” reason. In extreme circumstances, contact after the due date may be accepted if there is a COMPELLING reason (where documentation is available).

Course Schedule

Date	Assignment Name	Type	Points
12/6/25	Sponsor Feedback	Assignment	15
8/22/26	Project and Role Application	Assignment	0

Date	Assignment Name	Type	Points
9/5/26	Assignment 1: Project Schedule Draft in Trello, Github/repo link, Zoom link	Assignment	10
9/19/26	Assignment 2: Github Assignment	Assignment	50
9/26/26	Sprint 0 Submission	Assignment	60
9/29/26	Peer Eval for Sprint 0	Assignment	5
10/3/26	Initial submission for: Requirements doc, Design doc, Test Plan, Infrastructure doc	Assignment	100
10/3/26	Peer Eval for initial Req, Design Test Plan, Infrastructure doc	Assignment	10
10/10/26	Assignment 3: AI in SE	Assignment	50
10/24/26	Peer Eval for Sprint 1	Assignment	5
10/24/26	Sprint 1 Submission	Assignment	100
11/21/26	Peer Eval for Sprint 2	Assignment	5
11/21/26	Sprint 2 Submission	Assignment	100
12/5/26	Final Reflection Report	Assignment	50

Course Calendar

Subject to change, as needed

Week	Topics	Due / Announcements
Week 1 (8.17-)	Course Overview, teaming, start Project planning	Project and Role Application is due Saturday @ 11:59pm
Week 2 (8.24-)	Requirements, Design	<i>Team and Project Announcements expected by Thursday</i>
Week 3 (8.30-)	Design, Testing, Accessibility	Assignment 1 due 11:59pm on Saturday; Project Setup + Instructions due Sat. @ 11:59pm
Week 4 (9.7-)	Work Week	Requirements doc, peer eval due Sat @ 11:59 pm; refer to Canvas for templates
Week 5 (9.14-)	Work Week	Assignment 2 due 11:59pm on Saturday

<i>Week</i>	<i>Topics</i>	<i>Due / Announcements</i>
Week 6 (9.21-)	Sprint 0 Wrap-up check-ins/Sprint 1 starts	See Canvas for assigned meeting slot for check-ins; Sprint 0, Trello board updates, peer eval due by Sat. at 11:59pm; Submit Design doc and Test Plan doc for Sprint 1 by Saturday @ 11:59pm
Week 7 (9.28-)	Work Week	Infrastructure doc due on Saturday @ 11:59pm
Week 8 (10.5-)	Work Week	Assignment 3: AI in SE due Saturday at 11:59pm
Week 9 (10.12-)	Work Week	
Week 10 (10.19-)	Sprint 1 Wrap-up check-ins/Sprint 2 starts	See Canvas for assigned meeting slot for check-ins; Sprint artifacts and Trello board updates, peer eval due by Sat. at 11:59pm
Week 11 (10.26-)	Work Week	
Week 12 (11.2-)	Work Week	
Week 13 (11.9-)	Work Week	

Week	Topics	Due / Announcements
Week 14 (11.16-)	Sprint 2 Wrap-up check-ins/Sprint 3 starts	See Canvas for assigned meeting slot for check-ins; Sprint artifacts and Trello board updates, peer evals due by Sat. at 11:59pm
Week 15 (11.23-)	<i>Thanksgiving Break – No Class</i>	
Week 16 (11.30 -)	Mid-point demo + presentation	See Canvas for assigned meeting slot for check-ins; Submit Team Reflection Report by Tuesday @ 11:59pm
Finals		

NOTE: It is expected that after Week 3, your Trello board will be up to date (it will be periodically checked); also after Sprint 0 you need to keep ALL project artifacts up-to-date and ready to discuss at the end-of-sprint meetings.

Authorized Absences Policy

An absence will be excused by the university for: a. religious holy day, including travel for that purpose; b. participation in an official university function; c. required military service, including travel for that purpose; d. pregnancy and parenting under Title IX; and e. when the University is officially closed.

For more details and procedures regarding UNT Authorized Absences, please see [Policy 06.039](#).

Absences that do not fall under Title IX, Required Military Service, and

Official University Absences (religious holy days, participation in an official university function, and when the University is officially closed), are deemed a matter between the student and their faculty member. If the absence is due to an illness or extenuating circumstance that exceeds 5 consecutive days, the faculty member may request for the student to provide documentation through the Dean of Students' office.

Course Level Absence Practice

Attendance Policy

Attendance is expected and will be periodically monitored. Your team project will suffer without your attendance to team meetings during class time (or any other time).

Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with me prior to being absent, so you, and I (and anyone else if pertinent) can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform me if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

UNT Academic Integrity Policy

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.

Course Specific Academic Integrity Practice

CSE Department Academic Integrity Guidelines

<https://engineering.unt.edu/cse/students/resources/academic-integrity.html>

Collaboration and Cheating:

Collaboration among students in class is encouraged, as it is my belief that it provides a better learning environment, and is required for team assignments. BUT THERE ARE RULES TO FOLLOW. All resources used should be clearly cited in written work of any kind, both individual and team, using appropriate references/documentation style as relevant to the item. While using existing API's is a given nowadays, paying someone to code for you or taking a project and calling it your own is not appropriate. It is also not appropriate to make it look you are coding more than what you actually contributed (e.g. no fake contributions such as moving code around). The use of AI is permitted within the parameters that the instructor has set (as described in the Use of AI section above).

For further details and clarifications regarding collaboration and cheating, view the university Student Rights and Responsibilities web page.

AI Use Practice

Use of AI, LLM's, and related Tools in the Project and Assignments

It will be expected that you will use these tools in your project, however we will have deliverables to go with this expectation. The degree will vary by project and your interest. Having experience is expected nowadays and will give you new/more skills that will help you as you start your career. Given that, you will be expected to be honest with your use

of said tools and that you will be expected to know what the code or other material does, and that it is correct/accurate and follows best practices for the item that it is connected to (e.g. code, testing, a written document). The use of AI in assignments will be discussed in each assignment. More information will be provided in the Project and Assignments in Canvas.

Course Level Practices

Class Participation (including Project Participation)

Attendance and participation is required, is part of your grade, and will be monitored in order to ensure that all groups operate at peak efficiency. You are responsible for all discussion, lecture and other information disseminated during the class period, regardless of whether you attend or not. You are also responsible for all team assignments made by your team lead and deliverable leads regardless of your attendance. You must provide documentation for excused absences for emergencies etc.

You should regularly check Canvas, as well as take note of in-class announcements for changes in the schedule or assignments.

You should plan to spend, on average, about 10-15 hours per week outside of the normal class meetings working on the various aspects of your project. As deadlines draw near, the time commitment will likely increase

Project: The majority of the deliverables in this course will relate to a large group project that will be completed based on client requirements. You are expected to participate in ALL aspects of your team's project per the roles that you are assigned (so not just coding or not just writing docs). Your effort, including that of coding, will be

monitored (e.g. repository check-ins, peer evals and observations). Lack of coding on the project WILL RESULT in a large penalty to your project grade, AND lack of helping in a meaningful way on the written docs and related tasks WILL ALSO RESULT IN A LARGE PENALTY - it is the fastest way to fail the course. Coding is expected in each coding sprint. Contributions will be monitored in terms of code and there is a deliverable that asks for what those contributions are for other written documents. Your work impacts the group score, and lack of contribution will be determined based on the degree and quality of your contribution. You are NOT guaranteed to get the group score. **In order to get credit for your features/work, it must be integrated into the Main branch of the project in order to receive credit - unless otherwise directed by the instructor.**

Professional Conduct and Ethical Responsibility:

You will be representing yourself, your team, the CSE Department and UNT as you conduct the activities needed to deliver your capstone project. You are expected to conduct yourself professionally during team, class and sponsor interactions both verbally and in writing. This responsibility carries through in the project as well. Yes, you are learning new skills and applying what you have learned in other courses. The ACM Code of Ethics, available at: <https://ethics.acm.org/>, reflects the expectations of your conduct in this course. You are also expected to abide by the UNT Code of Conduct (discussed later in the syllabus).

Assignment Policy

Official due dates are for each assignment, project item, etc. are listed on Canvas. Unless otherwise directed in the assignment/project

item description, all course submissions (e.g. assignments, project deliverables) are submitted via Canvas in PDF in their respective item drop box.

Late Work

ABSOLUTELY NO LATE work will be graded, unless specific arrangements are made with the instructor in advance with appropriate documentation. All assignments will be turned in by the designated date due. Assignments may be submitted on Canvas in the appropriate drop box unless otherwise indicated. ALL requests for extensions on assignments must be made prior to the due date, in person, and must be for a valid “emergency” reason. In extreme circumstances, contact after the due date may be accepted if there is a COMPELLING reason (which happens rarely).

Syllabus Change Policy

The instructor reserves the right to change the course as needed, specifically (though not limited to) the case of topics, due dates, and assignments/assessment items. Any changes are done after careful consideration of the class/learning.

Student Success Guidance

The following tips are intended to help you succeed this Capstone:

- Attend class regularly. Stay on task.
- Keep in communication with your group/team
- Volunteer for tasks rather than waiting for someone to assign you project work.

- Ask questions and problem-solving are helpful to your work.
- Be prepared to learn new technologies and new skills during the CSCE 4901 and 4902 sequence.
- Make Capstone a priority. Your actions impact the team and the project.
- Consider 4901 and 4902 as practice for the workplace.

Academic Support and Student Services

Technology Support

Part of working in the online environment involves managing the inconveniences and frustrations that can arise when technology breaks down or does not perform as expected. Here at UNT, we have a [Student Help Desk](#) that you can contact for help with Canvas or other technology issues:

- Phone: 940-565-2324
- Email: helpdesk@unt.edu
- Current list of [Student Help Desk hours](#)

Academic Support Services

- The [UNT Academic Resource Center](#) provides links to the bookstore, registration and advising information, tuition information, financial aid, and more.
- The [UNT Academic Success Center](#) offers academic support services and free individual tutoring.
- [UNT Writing Lab](#)
- [UNT Libraries](#)

Student Services

- [Counseling and Testing Services](#)
- [Student Affairs Care Team](#)
- [Student Health and Wellness Center](#)

- [Student Legal Services](#)
- [UNT Food Pantry](#)

Civil Discourse

As a leading public university, the University of North Texas has a fundamental responsibility to create enduring value for the public good. The fulfillment of our mission as a university depends upon the free exchange of ideas in the pursuit of knowledge. We bring these commitments into action by centering civil discourse in our culture and curriculum. We define civil discourse as the practice of constructive dialogue to broaden understanding, grounded in our shared values and deep respect for each other's potential. By committing to this practice, we seek to equip every student with skills and mindsets to engage, contribute, and lead—at UNT and throughout your lives.

My role as an instructor is to introduce you to different ideas and scholarship and facilitate discussions that are credible, open, respectful, and relevant to this course. Our class brings together individuals with different backgrounds, experiences, and viewpoints. You may disagree with the views presented, and others may disagree with your views. But, you should expect to be listened to with respect and evaluated fairly based on the learning objectives of this course. Even when you disagree, engaging with other points of view can help you better understand both the issue at hand and your own perspective. While we may engage in vigorous debate about competing ideas, speech that violates the Student Code of Conduct, including speech that harasses a specific individual or disrupts the course is not acceptable and works against our educational mission.

University Policies

ADA Accommodation Statement: 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 at disability.unt.edu.

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 the UNT Learning Management System (LMS) 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 Blackboard 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. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

Access to Information – Eagle Connect: Students' access point for business and academic services at UNT is located at: 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: eagleconnect.unt.edu/.

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. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (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 at spot.unt.edu or email spot@unt.edu.

Survivor Advocacy: 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 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 or at (940) 565 2759.

Pregnancy Modifications Under Title IX and Parenting Resources: UNT is committed to supporting students who may need pregnancy and parenting modifications in compliance with Title IX. If you are a pregnant student or have a pregnancy related condition, please visit report.unt.edu and complete the 'Request Pregnancy/Parenting Modifications' form. Parenting students who may need resources can seek support and guidance from the Dean of Students and the Eagle Engagement Center. [Pregnant and Parenting Students Policy number 16.008](#).

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UNT

- [Web Accessibility Policy](#)
- [Privacy Statement](#)

Canvas/Instructor

- [Accessibility Statement](#)
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