CSCE 4890 Directed Study – Introduction to CS Research and Project

Instructor Contact

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Communication Expectations: The best way to reach me outside of class/office hour is via email. During the week I will respond to your email within 24 hours. During the weekend, response time may be longer. This includes personal concerns or questions about the class, a particular assignment, etc. The TA's and I strive to get grades back between 1-1.5 weeks from the due date though that is not always possible when the class is large. Communication is expected to be professional and respectful where tips are available at Online Communication Tips (https://clear.unt.edu/online-communication-tips).

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 Description

This course will introduce you to the basics of research in computer science. You will learn what a research problem in CS looks like, how to read and find research papers, how to articulate a problem, and how to propose a research project to solve that problem. It is group-based, so the majority of the work you will do in this course will be collaborative. This course will prepare you for independent research projects in computing and beyond.

Course Structure

This course is 3 credits structured as an Introduction to CS Research as well as hands-on participation in a computing research project in a CSE lab.

Course Prerequisites or Other Restrictions

None, though must be an undergraduate student in the CSE Department

Course Objectives

These are the BIG IDEAS that you should walk away with and hold on to by the time class is over. Specifically, by the end of this course, you should be able to:

1. RESEARCH SKILLS: Develop practical skills required to effectively conduct a computer science research project
2. COMMUNICATION: Communicate research findings via written and oral means

3. TEAMWORK: Work effectively in a team to accomplish research goals
4. CS & SOCIETY: Evaluate the social, ethical, and cultural impacts of your computer science research project
5. IDENTITY: Develop a computer science research identity
6. BELONGING: Develop skills to support belonging for all persons with your computer science research project
7. CAREER: Aspire towards consideration of pursuing a graduate degree in computer science

Materials

- There is no textbook
- Resources are provided online and you can use others as needed by the project.
- Zoom: As part of the CRA CS Research Training sessions, there will be live class sessions online with Zoom. Please be sure that you are able to join Zoom meetings prior to the start of class. We will be using the following link for all class sessions: posted on Canvas and emailed to you.
- Webcam and Microphone: We will have significant group interactions online and thus a functioning webcam and microphone are necessary to facilitate these interactions. If you do not have access to a webcam or microphone please contact your instructors for assistance.
- Research project specific materials will be provided to you by your faculty mentor.

Teaching Philosophy

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 meetings with the instructor and demos of progress).

Course Technology & Skills

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
- Microsoft Office Suite

Course Structure and Components

Weekly Pre-class and In-class Assignments: Most weeks of class will have some type of pre-class work associated with it to prepare you for class. In-class, we will be doing lots of different types of activities to help you apply concepts related to computer science research.

Group Work and Participation: We expect you to work well in class together each day with either or both your UR2PHD groups (groups made of students from different universities) and your on-site groups (groups made of students from your own research group). You should arrive at class on time each day and be prepared to participate in all activities.

Peer Evaluation: Since the majority of this course involves group work, it is important to be accountable to yourself and your groupmates. You will complete both a mid-course and an end-of-course peer evaluation where you provide a "grade" and feedback to your groupmates.

Research Logs: Taking detailed notes and keeping track of your experimental data are extremely important aspects of doing computer science research. You will be expected to keep an online research log that you update regularly with your tasks, data, and accomplishments. You will complete these assignments independently.

LinkedIn Profile: In order to facilitate your professional development in the computer science research community, you will be building a LinkedIn profile during the course. Each week, you will add small components to your profile, and by the end of the course will have a fully developed profile that you will use to share the progress of your research project and you will begin making connections with the broader computer science community. You will complete this assignment independently.

Research Proposal: The heart of this course is the writing of a research proposal. We will guide you through this process and help you structure your proposal over several weeks, starting with a literature review and ending with a fully developed proposal. You will complete this assignment with your on-site group.

Presentation: You will present your research proposal to the class at the end of the course two ways. First, you will give a brief "promo" presentation live on Zoom where you give the major highlights of the proposal. Second, you will record a more formal presentation video similar to what you would present at a research conference. You will complete this assignment with your on-site group.

Exams and Quizzes: There are no quizzes nor exams in this course.

Research Work with your Faculty Sponsor: The work here will be identified by your faculty sponsor. Typically, this could consist tasks such as reading papers, writing paper summaries, program design, coding, testing, and participating in the conduct of experiments or studies.

Evaluation and Grading

There will be multiple grading opportunities in this course, giving you many chances to do well. A summary of the various grading opportunities is given below.

The online aspect of the course will constitute 50% of your final grade.

Assignment	Weight	Comments
Participation	10%	12x, drop 1
Research Logs	10%	6x, drop 1
Peer Evaluation	10%	2x, mid and final
Pre-class and Homework	10%	~13x, drop 1
LinkedIn Profile	10%	4x throughout the course
Final Presentations	10%	2x, recorded and live
Research Proposal	40%	Several components

The other 50% of your grade will be based on feedback from the faculty member that you are working with on your research project this term. There will be evaluations from them in Week 5, 10 and 16.

You earn a grade based on your overall performance. Grades will be assigned according to your institution's grading scale and represent the extent of the demonstrated mastery of the material listed in the learning objectives. As general guidelines, composite scores of ~90% or above are an A, >80% are a B, >70% are a C, >60% are a D and below 60% are an F.

There may need to be some adjustment to the schedule if needed.

Course Policies

Courtesy to your fellow students and instructor during online class sessions: While we will be holding class online, we still expect you to be courteous to each other and to your instructors. This includes muting your microphone when not speaking, not speaking over someone else, using appropriate language, and overall simply being respectful. By doing so you will help create a positive and inclusive online classroom environment where we can work together successfully!

Attendance: You must attend each class on time, and participate actively in the class activities. For each class session, you will receive a grade of Participating if you arrive on time and actively participate in class activities, or Absent/Not Participating if you are either not present, very late, or not participating. Please be on time, have your microphone ready to use, and have

your webcam on to facilitate group interactions. Students who are chronically late will not receive full participation credit. Excused absences will be honored.

Absences: You are expected to attend all scheduled class sessions for your specific section. This course is not following any specific university calendar, so if your university has a holiday or break day when we have class, we still expect you to attend. If you need to miss a session, please let your instructors know ahead of time and attend the other section if possible. If you cannot attend the other section, then we will provide you with access to the class recording for your th review and you can make up the assignments from that day within a certain period of time. If you routinely miss class we will reach out to you for a discussion.

Late or missing work: Late work will not be accepted. Missing work will be considered a dropped assignment score. If you have an official university excused absence, then you may be excused from the assignment in question and you do not have to make it up and it does not count as a dropped assignment.

Regrade policy: If you think your work has been graded inappropriately, you may submit a regrade request within one week of when the work is returned to you. You must submit this request in writing (i.e. email) to your instructors and give evidence for why your work should be re-graded. Note that when submitting a regrade request, the entire assignment will be re-graded, not just the portion in question.

Academic Integrity: In this course, you will complete your work honestly, with integrity, and support an environment of integrity. You will get out of the UR2PHD course what you put into it. For that reason, it does not make any sense to cheat. All work in this class must be your own or the work of your group, where appropriate. ALL writing must be your own original work, or the joint work of your group where appropriate, and may not be copied from any source without proper attribution. If you have any questions or concerns about what constitutes cheating in this class, please ask the instructors as soon as the question arises. All work in this course will be clearly labeled as "individual" or "group" work. When the work is individual, we expect that you will complete the work thoughtfully on your own. You may work alongside others and discuss the work, but all writing should be yours and yours only. When the work is group-based, you will submit a single submission for your entire group, and you will all receive the same grade (with some limited exceptions, see specific assignments for details).

General AI policy: Generative Artificial Intelligence (genAI) tools such as ChatGPT are important resources in many fields and industries. Because these tools will be used in professional and personal contexts, we believe it is valuable for you to engage critically with these tools and explore their use in generating content submitted for evaluation in this course, including [papers; take-home examinations; specified other assignments]. You remain responsible for all content you submit for evaluation. You may use genAI tools to help generate ideas and brainstorm. However, you should note that the material generated by these tools may be inaccurate, incomplete, biased, or otherwise problematic. We encourage you to consider how genAI complements, supplants, or fails to replace your contributions and abilities. If you include content (e.g., ideas, text, code, images) that was generated, in whole or in part, by Generative Artificial Intelligence tools (including, but not limited to, ChatGPT and other large language models) in work submitted for evaluation in this course, you must document and credit your

source. Failure to properly cite sources, including AI tools for generating content, would be considered academic misconduct.

Principles for group interaction: Be respectful. Be sensitive. Be aware. Promote Others. UR2PHD is about building a community where everyone feels supported, included, empowered and safe. To promote this environment, it is imperative that everyone adhere to the communication guidelines below:
- Treat your classmates with respect.
- Be thoughtful and open in discussion.
- Be aware and sensitive to different perspectives.
- Build one another up and encourage one another to succeed.
- Actively ensure that everyone is contributing to the discussion.

The following behavior is promoted:
- Recognizing that not everyone's experience is equal: racism, sexism, ableism, homophobia or any combination systemically disadvantages some more than others.
- Acknowledging the bias in your own perspective.
- Amplifying the voices of classmates, particularly those who are from groups that are often overlooked.
- Really listening with an intent to understand (instead of thinking about your own next statement).
- Phrasing discussion around ideas, not people.

The following behavior should be avoided:
- Using insulting, condescending, or abusive words.
- Offensive jokes of any kind, even if you don't think it's offensive to anyone present.
- Hitting on/flirting with groupmates or other classmates in the context of work for this course.
- Using all capital letters in written communication, which comes across as SHOUTING.
- Posting copyrighted material.

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. When SPOT becomes available, you will receive an email.

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.

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. [Insert specific sanction or academic penalty for specific academic integrity violation.]

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/).

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) to learn more.

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 Eagle Connect (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) 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/) or email spot@unt.edu.

Survivor Advocacy

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct. Federal laws and UNT policies prohibit discrimination on the basis of sex as well as 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. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-5652648.

Important Notice for F-1 Students taking Distance Education Courses

Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the Electronic Code of Federal Regulations website (http://www.ecfr.gov/). The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student's responsibility to do the following:

(1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.

(2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses (https://policy.unt.edu/policy/07-002).

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.

Class Recordings & Student Likenesses (if we have any)

Synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes.   Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

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)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- UNT Care Team (https://studentaffairs.unt.edu/care)
- UNT Psychiatric Services (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- 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)
- Financial Aid (https://financialaid.unt.edu/)
- Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
- Career Center (https://studentaffairs.unt.edu/career-center)
- Multicultural Center (https://edo.unt.edu/multicultural-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- Pride Alliance (https://edo.unt.edu/pridealliance)
- UNT Food Pantry (https://deanofstudents.unt.edu/resources/food-pantry)

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