

Computational Linguistics / Foundations of Computational Linguistics (Fall 2025 1) - LING 5410 Section(s) 001 and LING 4140 Section(s) 001

Instructor Information

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Course Description, Structure, and Objectives

Introduction to fundamentals of computational linguistics and data analysis.

Learning objectives:

1. Gaining proficiency in basic and advanced computational modeling and data analysis
2. Acquiring skills concerning coding with R and probabilistic inference with Stan

How to Succeed in this Course

I am happy to answer all other questions via email or at scheduled meetings. If I get many questions about the same topic, I might wait until our next session to answer them for everyone.

The following rules apply in the interaction with me:

When you write an email, I will get back to you within a reasonable time span during business hours (Mo-Fri, 8am to 5pm). I will not respond to any emails outside of these business hours. Meetings with students will be scheduled by appointment only and only over Zoom unless otherwise agreed upon with me or the TA.

Scheduling a meeting can only be done via email.

Due to scheduling reasons, I might not be able to answer questions after class. If you have questions after class and I or the TA inform you that we do not take questions after this particular class, please ask the questions via email or ask for a meeting appointment.

Students are expected to adhere to the UNT policy of conduct (<https://policy.unt.edu/policy/07-012/>).

Violations of this policy (e.g. student misconduct or student disruptive behavior) will be reported to the Dean of Students. On academic misconduct see the section plagiarism policy below.

The University of North Texas makes reasonable accommodations for students with disabilities. To request accommodations, you must first register with the Office of Disability Access (ODA) by completing an application for services and providing documentation to verify your eligibility each semester. Once your eligibility is confirmed, you may request your letter of accommodation. ODA will then email your faculty a letter of reasonable accommodation, initiating a private discussion about your specific needs in the course.

You can request accommodations at any time, but it's important to provide ODA notice to your faculty as early as possible in the semester to avoid delays in implementation. Keep in mind that you must obtain a new letter of accommodation for each semester and meet with each faculty member before accommodations can be implemented in each class. You are strongly encouraged to meet with faculty regarding your accommodations during office hours or by appointment. Faculty have the authority to ask you to discuss your letter during their designated office hours to protect your privacy. For more information and to access resources that can support your needs, refer to the [Office of Disability Access](https://studentaffairs.unt.edu/office-disability-access) website (<https://studentaffairs.unt.edu/office-disability-access>).

UNT strives to offer a high-quality education in a supportive environment where you can learn, grow, and thrive. As a faculty member, I am committed to supporting you, and I want to remind you that UNT offers a range of mental health and wellness services to help maintain balance and well-being. Utilizing these resources is a proactive way to support your academic and personal success. To explore campus resources designed to support you, check out mental health services (<https://clear.unt.edu/student-support-services-policies>), visit unt.edu/success, and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu.

Supporting Your Success and Creating an Inclusive Learning Environment

Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. We will discuss our classroom's habits of engagement and I also encourage you to review UNT's student code of conduct so that we can all start with the same baseline civility understanding (Code of Student Conduct) (<https://policy.unt.edu/policy/07-012>).

Required/Recommended Materials

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, the R programming language, and an IDE for running R scripts. 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>).

Recommended materials:

- Gelman A. Carlin J. B. Stern H. S. Dunson D. B. Vehtari A. & Rubin D. B. (2014). Bayesian data analysis (Third). CRC Press.
- McElreath R. (2020). Statistical rethinking 2nd edition (2nd ed.). Chapman and Hall/CRC.
- Kruschke J. (2014). Doing Bayesian data analysis 2nd edition (2nd ed.). Academic Press.

W3SCHOOLS, a great online resource: www.w3schools.com/R/

Course Requirements/Schedule

Course schedule:

Week	Topic
1	Introduction
2	Bayesian inference
3	<i>Coding practice</i>

- 4 MCMC and linear models
- 5 MCMC and linear models II
- 6 *Coding practice*
- 7 Causality
- 8 **Midterm Exam**
- 9 **Spring break**
- 10 Causality II; Logistic models
- 11 Linear and nonlinear models
- 12 *Coding practice*
- 13 Hierarchical models
- 14 Multivariate models and splines
- 15 *Coding practice*
- 16 **Final Exam**
- 17 **Finals week**

Note that this schedule is subject to change.

The mode of examination is in-person and consists of a paper-based exam. Summary table of the examinations:

Date	Topic	Assignment	Points Possible	% of Final Grade
3/4	<i>Midterm Exam</i> 3:30PM - 4:50PM <i>Lang 305</i>	<i>In-person Exam</i>	<i>100 points</i>	<i>50%</i>
4/29	<i>Final Exam</i> 3:30PM - 4:50PM <i>Lang 305</i>	<i>In-person Exam</i>	<i>100 points</i>	<i>50%</i>

All exams are closed-book. Students are expected to adhere to the university's academic integrity policies during all examinations. This includes refraining from unauthorized assistance, plagiarism, or any behavior that could be construed as cheating. Students found violating these policies will face serious consequences, as outlined in the Academic Integrity Policy (see below). The exam is in-person and attendance is therefore required. Extensions or nonattendance will not be granted for late arrival or any other reason not covered in UNT attendance policy (<https://policy.unt.edu/policy/06-039>). For permitted nonattendance from the exam (granted by the instructor or allowed by the UNT attendance policy), an alternative examination will be issued. Failure to turn in an exam (e.g., by nonattendance) will result in 0 points on that exam.

Exceptions from this requirement may only be granted at the instructor's discretion on an individual basis.

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

Assessing Your Work

Grading scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 0%-59%

Every student in my class can improve by doing their own work and trying their hardest with access to appropriate resources. Students who use other people's work without citations will be violating UNT's Academic Integrity Policy. Please read and follow this important set of guidelines for your academic success (<https://policy.unt.edu/policy/06-003>). If you have questions about this, or any UNT policy, please email me or come discuss this with me during my office hours.

AI Policy:

In this course, I want you to engage deeply with the materials and develop your own critical thinking and writing skills. For this reason, the use of Generative AI (GenAI) tools like [insert tool(s) here, e.g., Claude, ChatGPT, and Gemini] is not permitted. While these tools can be helpful in some contexts, they do not align with our goal of fostering the development of your independent thinking. Using GenAI to complete any part of an assignment, exam, or coursework will be considered a violation of academic integrity, as it prevents the development of your own skills, and will be addressed according to the Student Academic Integrity policy (<https://policy.unt.edu/policy/06-003>).

Attendance and Participation

The non-examination classes do not require attendance; however, attendance is strongly suggested. Being punctual indicates our respect for others. Please arrive before class begins to find a seat, prepare your materials, and connect with your peers. The beginning of class is especially critical—just like the beginning of a movie or book. Being late to class is sometimes inevitable. If you are late, know that you are welcome to join the class, but please do so without distracting others.