

LIN4770C/5770C INTRODUCTION TO COMPUTATIONAL LINGUISTICS

MWF 10:40-11:30, Matherly 108
Spring 2025

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Course objectives

This course surveys selected topics and tasks that are fundamental to computational linguistics. Students will learn to gain (1) understanding of different linguistic problems that could be solved with mathematical means; (2) understanding of different computational methods to derive automatic analysis of language structures at different linguistic levels; (3) technical programming skills to model linguistic phenomena in a computational framework.

Prerequisite

Given the title of the course, where the word *computational* functions as the modifier of *linguistics*, **an interest in Linguistics is required**. In addition, students are expected to have taken LIN4930/6932 PROGRAMMING FOR LINGUISTS or the equivalent to ensure they have sufficient background in the programming language, Python.

Course website

We will be using Canvas as the course website. All lecture and lab related materials will be posted on Canvas. Instructional materials for this course consist of only those materials specifically reviewed, selected, and assigned by the Instructor. The Instructor is only responsible for these instructional materials. Grades will be posted to the Canvas grade book.

External references

There is no required textbook for the course. Class content will rely heavily on relevant chapters from the following (free!) book as references:

- [Speech and Language Processing \(3rd ed. draft\)](#). Dan Jurafsky & James H. Martin.

Grade breakdown

Attendance & Participation	5%	Assignments	35%	Final project deliverables	
Peer engagement	8%			Project pitch	2%
Quizzes	12%			Project proposal	3%
Labs	15%			Final presentation	5%
				Final write-up	15%

Grade scale

We will be using the default canvas grading scheme.

		B+ 87-89%	C+ 77-79%	D+ 67-69%	
A 94-100%	B 83-86%	C 73-76%	D 63-66%	F 0-59%	
A- 90-93%	B- 80-82%	C- 70-72%	D- 60-62%		

Attendance & Participation

Attendance is required. You are responsible for all the material that is covered during class, *even when your absence from class is excused*. While in attendance, you are expected to actively participate. When your absence is excused, download the lecture notes from Canvas and ask a classmate what else you might have missed.

Laptop: Class meetings will include lectures, quizzes, and programming-related activities. Make sure to bring your laptop to class.

Peer engagement

Engaging in community discussion can constitute a rewarding and beneficial way of learning, because this motivates sharing thoughts with each other and learning from diverse perspectives. In this class, aside from class participation, peer engagement will be operationalized as follows: please choose at least 8 weeks of this semester; for each week, post a question, a comment, a thought, or a response to someone else's question on the week's lecture materials (and/or readings) in Canvas Discussion section. For each week you pick, please try to post on the Discussion board by the end of that week (Fridays). That said, there are no strict individual deadlines for these posts; they must be submitted by 11:59 PM, April 25th, 2025.

Quizzes

There will be approximately 8-9 pop quizzes throughout the semester; students are expected to take the quiz in class with their laptop. Quizzes are open-book; usage of AI tools, however, is not allowed. The lowest quiz score will be dropped.

Labs

There will be approximately 6 lab sessions throughout the semester, led by the TA; students are expected to participate in lab sessions with their laptop. There are no strict individual deadlines for lab submissions; they must be submitted by 11:59 PM, April 25th, 2025. Labs will be graded based on completion.

Assignment

There will be a total of five coding assignments. Students are expected to complete each assignment independently. Consultation with AI tools is not prohibited, but is not recommended. Usage of any AI tools is required to be mentioned as a comment on Canvas upon assignment submission. Assignments have strict deadlines which will be noted on Canvas.

Final project

Students will form teams to complete their final project; the ideal size of the team is 2 people. The final project consists of four components: (1) project pitch; this requires students to come to office hours and discuss with the Instructor in person for approval of their project idea (2) a two-paragraph project proposal; (3) project presentation in Week 15; (4) a write-up (5-8 pages, excluding references) for the final project.

Each of the four components has strict deadlines which will be noted on Canvas; this is to ensure that students are on track making progress towards completing their final project.

Late work

Late submissions for this class are not accepted, unless they are accompanied by a letter of explanation from your class dean or a medical professional. Any reasons that fall out of those scenarios should be discussed with the Instructor in person; email inquiries in these cases will not be addressed.

Course outline

Note: the following course outline is *subject to change*.

Week	Topic	Lab	Assignment due
Week 1	Introduction; Text Normalization		
Week 2	Regular Expressions with Python; Edit Distance	Lab 1	
Week 3	Formal Language		Assignment 1
Week 4	N -gram Language Modeling	Lab 2	
Week 5	Noisy Channel; Statistical Machine Learning		Assignment 2
Week 6	Statistical Machine Learning, continued	Lab 3	
Week 7	Part-of-Speech (POS) Tagging		Assignment 3
Week 8	Context-free Parsing / TBD	Lab 4	
Week 9	Dependency Parsing		Assignment 4
Week 10	Spring Break		
Week 11	Dependency Parsing, continued	Lab 5	Project pitch
Week 12	Word Senses; Vector Semantics		
Week 13	Vector Semantics, Continued	Lab 6	Project proposal
Week 14	Topic Modeling; Neural Networks		
Week 15	Final Project Presentations		Assignment 5

Academic Integrity

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, students are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If students have any questions or concerns, please consult with the Instructor or the TA.

Classroom Conduct

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to professional behavioral standards may be subject to discipline. The Instructor pledges to treat each of the students with dignity, respect, and professional courtesy. Students are expected to do the same for the Instructor and for each other.

Attendance Policy, Class Expectations, use of AI, Make-Up Policy, Cell-phone use

- Students are required to submit all assignments and tests before the class period they are due. Please contact the Instructor in advance if you need to skip a class, or cannot make a deadline.
- Attendance is mandatory. If you are absent for more than three classes, you will get a warning. If absences persist the Instructor can prohibit further attendance and assign a failing grade for excessive absences.
- Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/
- Students need to disclose any use of AI in their assignments, and need to indicate their prompts and their critical (content) edits of the AI output. AI output without prompts or critical edits will not be accepted. AI needs to be properly cited (<https://apastyle.apa.org/blog/how-to-cite-chatgpt>).
- Cell-phone use is not allowed during class unless this is part of the course assignments. Laptops and tablets can only be used to take notes and for in-class assignments.

Accommodation Policies

If a student qualifies for accommodations because of a disability, please submit their accommodation letter from the [Disability Resource Center](#) to the Instructor in a timely manner so that their needs can be addressed.

Religious Observances

A student should inform the Instructor of religious observances that will conflict with class attendance, tests or examinations, or other class activities prior to the class or occurrence of that test or activity. The Instructor is obligated to accommodate students’ religious observances. See policy details [here](#).

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available [here](#). Students will be notified when the evaluation period

opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via [here](#). Summaries of course evaluation results are available to students [here](#).

Recording lecture content.

Students are allowed to record class lectures. However, the only allowable purposes of these recordings are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. Specifically, students may not publish recorded lectures without the written consent of the instructor. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. A recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil action and/or discipline the Student Honor Code and Student Conduct Code.