LIN4930/6932 Programming for Linguists

T 8:30-10:25am; R 9:35-10:25am
Room: Matherly 0119

Fall 2024

Instructor:	Prof. Zoey Liu	**Office:**	Turlington 4016
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Course objectives

This course serves as an introduction to computer programming with the high level programming language `Python`. Students learn to address a range of problems using examples from linguistics, natural language processing, among others. After the course, students should (ideally):

- ...be familiar with variables, data types, control structures, reading and writing files, functions, and basic data structures;

- ...understand fundamental design principles in programming and be able to reason about implementation choices from the perspective of elegance, program readability, and computational efficiency;

- ...be able to independently produce small programs that perform basic tasks address questions in social science research.

Prerequisite

This class is suitable for students with no prior experience in computing or programming — therefore, **all is welcome!**

Course website

Canvas will be used as the course website. All course materials will be posted on Canvas. Grades will be posted to the Canvas grade book.

Textbook

Horstmann & Necaise, Python for Everyone, 3rd. ed (eBook recommended).

Attendance & Participation

Attendance is required. Class content is mainly conveyed via a mix of "participation" quizzes, lectures, and sometimes videos on Canvas. A significant proportion of class time centers around exercises that stimulate thinking and help practice new skill. Students are responsible for all the material that is covered during class, *even when their absence from class is excused*. While in attendance, students are expected to actively participate. In case of absence from class, students are expected to download the corresponding materials from Canvas and ask a classmate what else they might have missed.

Labs

Labs are weekly exercises that make reference to class materials or discussion. Labs in general ask students to write Python programs, or briefly analyze existing programs, or sometimes check on students' understanding of concepts.

Note: Use of Artificial Intelligence (such as ChatGPT) is **not** encouraged. If students use e.g., ChatGPT to help out with their assignments, they should make sure to mention explicitly in their assignment submissions which question(s) AI has helped them with and what answers AI has provided. Failing to meet the criterion above puts your academic integrity at risk.

Grade breakdown

Attendance & Participation	10%
Lab exercises	15%
Assignments	40%
Midterm	15%
Final	20%

Grade scale

Information on current UF grades and grading policies can be found here.

A	94-100	A-	90-94	B+	87-90	B	84-87
B-	80-84	C+	77-80	C	74-77	C-	70-74
D+	67-70	D	64-67	D-	61-64	E	< 61

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.

Accommodation Policies

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability

Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

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.

Course outline
Subject to change

Week	Topics	Readings	HW
Week 1	Class Introduction	Syllabus	
Week 2	Programming environments & Elements	1.1-1.4	
	Operators	1.5-1.7; 2,1-2.2	
Week 3	Decision Structures	3.1-3.4	
	Algorithms 2	3.5; 3.9	
Week 4	While-loops	4.1-4.3	HW 1
Week 5	Lists	6.1-6.2	
	Strings	2.4; 3.8	
Week 6	Functions	5.1-5.3	
	More about lists	6.4	
Week 7	More about functions	5.4-5.5; 5.8	
	For-loops	4.6	
Week 8	Program design	How To 2.1, 2.3	
	Files	7.1, 7.2	HW 2
Week 9	More program design	4.11	
	Review; Midterm		
Week 10	Recursion	5.10; 11.1-11.2; 11.4	
Week 11	Formatting strings	2.5.3	
Week 12	Binary	7.4	
	Sets & Dictionaries	8.1-8.2	HW 3
Week 13	Sets & Dictionaries		
	Data Visualization	Toolbox 3.2 (in sec. 3.0)	
Week 14	Computational Complexity	12.1-12.7	
	Functional programming	Handout	HW 4
Week 15	**Coasting**		
Week 16	Final		