

INSY 5336: Python Programming

Instructor

Name: Kambiz Saffari (he/him)
Office: College of Business, Room 530
Office Hours: Monday and Wednesday, 4:00 to 5:00 PM or by appointment
Email: kambiz.saffari@uta.edu
TAs Abhishek Basnet (axb7302@mavs.uta.edu)
Gajanan Ganji (gajananlaxmanra.ganji@mavs.uta.edu)

Course

Class Hours: Section 101: Monday and Wednesday, 2:30 PM – 3:50 PM
Location: Pickard Hall 206

Course Description

An introductory programming course that teaches students how to solve business problems using the scripting language, Python. Students will be exposed to object-oriented programming concepts, file handling, database access, and data structures in numpy and pandas.

Course Objectives

Python is a simple yet powerful scripting language that has grown in popularity. It has been used widely for web development, game programming, general application development, and, more recently, for data analytics. This course aims to acquaint students with the key aspects of the Python language. Upon successful completion of the course, students will be able to:

1. Apply data structures and programming constructs in the Python language, such as lists, tuples, dictionaries, sets, selection (e.g., if..else), and iteration (e.g., while and for loops), to solve business problems;
2. Understand Object-Oriented Programming fundamentals
3. Learn the basics of database programming in Python
4. Understand the Numpy data structure
5. Access different file formats (e.g., CSV, Excel, JSON) and preprocess data using Pandas
6. Data Visualization

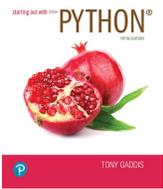
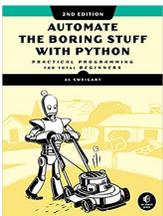
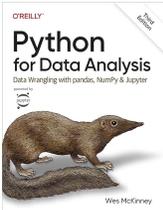
Course Mechanics

In general, each class meeting consists of two distinct yet intertwined parts:

- Lecture, in which we introduce and discuss theoretical knowledge on the subject
- Lab, in which we develop and practice hands-on skills

Course Materials

Textbook

	<p>Starting Out with Python, 5th edition [Recommended]</p> <p>ISBN-10: 0135929032</p> <p>Price (eTextbook Rental): \$10.99/month</p>
	<p>Automate the Boring Stuff with Python, 2nd Edition: Practical Programming for Total Beginners [Optional]</p> <p>ISBN-10: 1593279922</p> <p>Price (eTextbook Purchase): \$23.99</p>
	<p>Python for Data Analysis: Data Wrangling with pandas, NumPy, and Jupyter 3rd Edition [optional]</p> <p>ISBN-10: 109810403X</p> <p>Price (eTextbook Purchase): \$41.79</p>

Software and Technology

Please note that it is your **responsibility** as the student to **bring your laptop** to the class. You should be able to install and execute Anaconda on your laptop. You can follow the proper installation guide below. I will provide further information on how to install and use Anaconda.

	<p>Anaconda (free)</p> <p>Download and install the free version of Anaconda: https://www.anaconda.com/download/success</p> <p>How to install on Windows: https://docs.anaconda.com/anaconda/install/windows/</p> <p>How to install on Mac: https://docs.anaconda.com/anaconda/install/mac-os/</p>
---	---

Student Evaluation

1. Participation	10 pts
2. Assignment (4 assignments, 2.5 pts each)	10 pts
3. Group Project	20 pts
Phase I	5 pts
Phase II	10 pts
Presentation	5 pts
4. Exam	60 pts
4.1. Mini Exam (3 mini-exams, 15 pts each; the lowest score will be dropped)	30 pts
4.2. Final Exam	30 pts
5. Extra Credit Activities (Python-Related Professional Certificates)	15 pts
<i>Total</i>	<i>100+15 pts</i>

Gradable items are explained below.

1. Participation

Class attendance is required and directly affects your maximum possible participation score. You can maintain a maximum score of 10 out of 10 with up to 3 absences. Starting from the 4th absence, your maximum possible score will be reduced by **one point per absence**. **After 8 absences, you will receive a zero and may be assigned an F** for the course. For example, a student with 4 absences cannot earn more than 9 out of 10 participation points, while a student with 8 absences cannot earn more than 5 out of 10 participation points.

Please note that **attendance sets the upper limit of your participation score, but it does not automatically translate into participation points. The only way to accumulate participation points is by actively participating** in offline/online class activities and discussions. In evaluating your participation, I consider both the quantity and quality of your contributions. The following factors contribute to your participation score:

- Contributing to class discussions
- Asking or answering questions on the discussion forum
- Attentively working on in-class exercises
- Demonstrating a respectful and positive attitude towards yourself, your classmates, and the instructor

Excused Absences:

There are times when students must miss class due to exigent circumstances. The following are considered excused absences and will not be counted against your attendance:

- Jury duty or short-term military call-up (with appropriate documentation)
- Religious observances (you must submit the Religious Accommodation Request Form to the instructor; see [here](#))
- Participation in athletics or other required university-sanctioned events (with appropriate documentation)
- Absences resulting from legally mandated accommodation requirements (e.g., Title IX, ADA, etc.) (appropriate documentation may be required)

2. Assignment

Individual assignments are intended to help students apply concepts to practice and develop *problem-solving skills*. Assignments and their due dates will be made available on Canvas. Assignments involve writing code and creating documentation.

I do not mind collaboration on assignments. However, if no effort is made to differentiate submissions (such as large portions of the submission copy-pasted), I will first give you a zero on the assignment. On the next occurrence, I will submit an Academic Integrity Referral Form and report the incident to the university (see [here](#) for more details).

3. Group Project

The group project will require students to synthesize the concepts taught throughout the semester into a deliverable project. The group project will take place largely after the midpoint of the semester. Additional information on the project will be released as the semester progresses.

Team members will receive the same project grade unless there is evidence that a member did not adequately contribute to the project effort. To ensure that individual team members' project grades reflect fairly the contributions they made to the group projects, there will be a peer evaluation at the end of the semester. **The group project's final grades for each individual in the group may differ as a result of peer evaluation at the end of the course.**

4. Exam

Exams are designed to reinforce and integrate learning. This course includes three mini-exams and one final exam. Exam questions will consist of multiple-choice, true/false, short-answer, and coding questions. The exams will cover all materials presented or discussed in class, including the instructor's notes, slides, required readings, and exercises. **All exams will be paper-based,** meaning that all answers must be written on paper. This approach is intended **to encourage a deeper understanding of the problem-solving process rather than focusing solely on language-specific syntax.**

Exams will only be administered in class on the dates and times listed in the syllabus or announced on Canvas. Students who miss an exam will receive a zero. **No make-up exams will be offered except in the special cases outlined in the Late Work section of this document.**

Exams must be completed individually. **Students are NOT permitted to use any notes during any of the exams.** If there is clear evidence of academic misconduct during the exam or in connection with the exams, I will submit an Academic Integrity Referral Form and report the incident to the university. (For more details, please refer to the [university's policy](#).)

5. Extra Credit Activities

You can complete the following online courses and receive an official certificate of completion. If you earn the certificate after the start date of the class and before the final exam, you can submit it to receive bonus points. Below is a list of pre-approved courses. If you wish to complete a different course, please discuss it with me beforehand:

- [Google IT Automation with Python Professional Certificate](#); Maximum of 15 bonus points for earning the certificate, which includes all the modules listed below. If you do not complete all the courses, you can still receive partial bonus points for completing individual courses.
 - [Crash Course on Python](#) (2 bonus pts)
 - [Using Python to Interact with the Operating System](#) (2 bonus pts)
 - [Introduction to Git and GitHub](#) (2 bonus pts)
 - [Troubleshooting and Debugging Techniques](#) (2 bonus pts)
 - [Configuration Management and the Cloud](#) (2 bonus pts)
 - [Automating Real-World Tasks with Python](#) (2 bonus pts)

Late Work

For assignments and project documents, a penalty of 20% will be assessed for each day late, up to 2 days (48 hours). After 48 hours past the deadline, no submissions will be allowed, and a score of zero (0) will be assigned. To avoid this penalty, ensure your internet connection is reliable before the deadline. This policy DOES NOT apply to exams.

You may request alternative deadlines **only if** you have a legitimate reason, such as those listed under Excused Absences or documented medical needs, including scheduled surgeries or childbirth. Please note that a booked flight does not constitute a legitimate reason in this class.

If you feel that your performance in the class is being affected by circumstances outside of class, please don't hesitate to talk with me. I want to be a resource for you.

Course Expectations

In addition to the time required to attend the class, students enrolled in this course should expect to spend at least 9 additional hours per week on course-related activities. These activities include reviewing required materials, completing assignments, participating in forums, and preparing for exams.

Grade Ranges

Grades will be based on the university grading system.

Percentage Range	Letter Grade
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
0-59.99	F

Institutional Information

You are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the [Institutional Information](#) page which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

Additional Information

Face Covering Policy

Face coverings are not mandatory; all students and instructional staff are welcome to wear face coverings while they are on campus or in the classroom.

Attendance

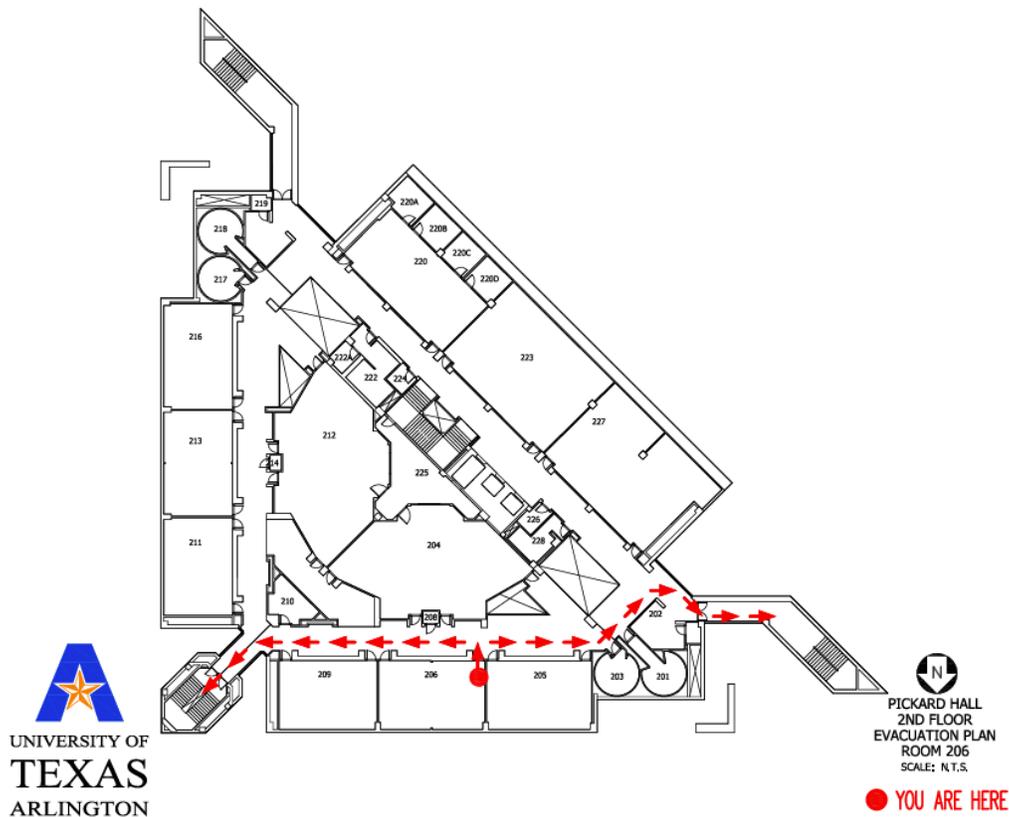
This section provides additional [information beyond the attendance policy outlined under the Participation section](#) of this document. The U.S. Department of Education requires that UT Arlington have a mechanism in place to verify Federal Student Aid recipients' attendance in courses. UT Arlington instructors are expected to report the last date of attendance when submitting students' final course grades; specifically, when a student earns a course grade of F, instructors must report the last date a student attended their class. For on-campus classes, last

date of attendance can be based on attendance rosters or on academic engagements—a test, participation in a class project or presentation, or Canvas-based activity. Online or distance education courses require regular and substantive online interaction and participation. Students must participate in online course activities in Canvas to demonstrate attendance; logging into an online class is not sufficient by itself to demonstrate attendance. The last date of attendance is reported to the U.S. Department of Education for federal financial aid recipients.

Emergency Exit Procedures

Should we experience an emergency event that requires evacuation of the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, do not take an elevator but use the stairwells instead. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities. Evacuation plans may be found at [Evacuation Route Maps \(Buildings\)](#).

You are encouraged to subscribe to the MavAlert system which will send information in case of an emergency to your cell phone or email account. Anyone can subscribe to the [Emergency Communication System](#).



Academic Success Center

The Academic Success Center (ASC) includes a variety of resources and services to help you maximize your learning and succeed as a student at the University of Texas at Arlington. ASC services include supplemental instruction, peer-led team learning, tutoring, mentoring and TRIO SSS. Academic Success Center services are provided at no additional cost to UTA students. For additional information visit: [Academic Success Center](#). To request disability accommodations for tutoring, please complete this [tutoring request form](#).

The [IDEAS Center](#) (2nd Floor of Central Library) offers FREE tutoring and mentoring to all students with a focus on transfer students, sophomores, veterans, and others undergoing a transition to UT Arlington. Students can drop in or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

Emergency Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381.

Course Outline

The course outline below provides a general plan for the class. However, **the plan is subject to change to accommodate students' learning progress and unexpected events**. All changes to the outline will be updated and posted on D2L.

Session Date	Description	Book Chapter	Notes
Aug 19	• Introduction		
Aug 21	• Input, Processing, and Output	2	✓ Install Anaconda
Aug 26	• Logic Statements	3	
Aug 28	• Loops	4	
Sep 2	• Labor Day Holiday		
Sep 4	• Functions (I)	5	◇ Release: Assignment 1
Sep 9	• Functions (II)	5	
Sep 11	• File Handling	6	◆ Due: Assignment 1
Sep 16	• Exception Handling	6	
Sep 18	• Exam I		☰ Exam I: Chapters 2, 3, 4, and 5
Sep 23	• Lists and Tuples	7	

Sep 25	• Strings	8	
Sep 30	• Dictionaries and Sets	9	
Oct 2	• Object-Oriented Programming (I)	10	◇ Release: Assignment 2
Oct 7	• Object-Oriented Programming (II)	10	
Oct 9	• Object-Oriented Programming (III)	10	◆ Due: Assignment 2
Oct 14	• Exam II		☰ Exam II: Chapters 6, 7, 8, and 9
Oct 16	• Database Programming (I)	14	
Oct 21	• No Class		
Oct 23	• Database Programming (II)	14	◇ Release: Assignment 3
Oct 28	• Database Programming (III)	14	
Oct 30	• Numpy		◆ Due: Assignment 3
Nov 4	• Pandas (I)		📁 Due: Group Project Phase I
Nov 6	• Pandas (II)		
Nov 11	• Pandas (III)		
Nov 13	• Exam III		☰ Exam III: Chapter 10, Chapter 14, Numpy, and Pandas
Nov 18	• Advanced Python Libraries (I)		◇ Release: Assignment 4
Nov 20	• Advanced Python Libraries (II)		
Nov 25	• Advanced Python Libraries (III)		◆ Due: Assignment 4
Nov 27	• Thanksgiving Holiday		
Dec 2	• Project Presentation		📁 Group Project Phase II 📁 Group Project Presentation
Dec 9	• Final Exam: Monday, Dec 9 at 2 – 4:30 p.m. [Comprehensive Exam]		