ITP-116 Accelerated Programming in Python

Units: 2   Semester: Spring 2023

Time:
MW 9:00 - 9:50 in KAP 160
TTH 4:00 - 4:50 in KAP 160
TTh 5:00 - 5:50 in KAP 160

Instructor:	**Maryam Majedi, Ph.D.**
Office:	RRB 243
Office Hours:	Listed on EdStem
Contact Info:	majedi@usc.edu

Learning Assistants: Listed on EdStem
Office Hours: Listed on EdStem

IT Help: Provided by Viterbi IT
Hours of Service: 8 am – 5pm; M – F
Walk-in: DRB 205
Contact Info: (213) 740–0517
Email: engrhelp@usc.edu

Course Description
The course is intended to teach the fundamental concepts of the Python programming language to those students who already have experience with a previous programming language. Python's high level data structures and clear syntax make it a versatile language, while the large number of existing libraries make it suitable to tackle almost any programming tasks. Python offers an interactive environment in which to explore procedural, functional, and object-oriented approaches to problem solving.

Learning Objectives
- Learn the syntax of the Python programming language.
- Implement programs that use Python coding conventions in industry.
- Implement programs that read from and write to files.
- Demonstrate an understanding of data structures by using them to manage data.
- Demonstrate an understanding of object-oriented programming by creating classes and corresponding objects in the implementation of the solution to a given problem.

Prerequisite(s): None
Co-Requisite(s): None
Concurrent Enrollment: None
Recommended Preparation: Any programming experience from any point in your life

Course Notes
This course will use Ed (https://edstem.org/) for all content and assignments. For submissions we use Blackboard (https://blackboard.usc.edu) . Lecture slides and any supplemental course content will be posted to Ed for use by all students. Please familiarize yourself with Ed and Blackboard.

Technological Proficiency and Hardware/Software Required
Students will need a computer (laptop or desktop) and access to the internet. If you do not have access to a computer, please see below. The software needed for this course is available for free online. All homework and projects will need this software to be completed (available for Mac and Windows). Download the latest version of Python 3 at https://www.python.org/downloads/.

You will also need to download and install PyCharm, which is an integrated design environment (IDE) for creating an ITP 116 project and writing code. Download the latest version of PyCharm CE (Community Edition) at https://www.jetbrains.com/pycharm/download/.

USC Technology Rental Program
If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please submit an application. The Student Basic Needs team will contact all applicants and distribute equipment to eligible applicants prior to the start of the semester.
ITP Computers
ITP has a limited number of laptops that are available to borrow for ITP classes. Eligible students will be able to borrow a MacBook or Dell XPS for ITP coursework once their request is approved and their contract is signed via DocuSign. Though the initial loan period is 7 days, they will still be able to renew their device and extend the loan period as in previous semesters. They will need to pop into one of ITP's Zoom device check-in sessions before the end of each week. If all of them have been checked out, then the student will be placed on the waiting list. You will not be able to save your work on the ITP lab computers and the ITP laptops. Once they are restarted, all work will be deleted. Use an external USB drive, or a cloud-based service like Google Drive or Dropbox to save your work. ITP is not responsible for any lost work. Information about the ITP Loaner Laptop Program and the request form can be found at https://itp.usc.edu/current-students/itp-device-check-outs/.

Supplementary Materials
Supplemental - Wentworth, P., Elkner, J., Downey, A. B., Meyers, C. (2012). Learning with Python 3: How to Think Like a Computer Scientist.
http://openbookproject.net/thinkcs/python/english3e/

The above book can be used for reference, though most Python books or web sites could be used for reference as well.

Grading Breakdown

Assessment	% of Grade
In-class Quizzes (weighted proportionally)	10%
Assignments (weighted proportionally)	50%
Exam 1	15%
Exam 2	15%
Final project	10%
Total	100%

Grading Scale
Course final grades will be determined using the following scale:

Letter grade	Corresponding numerical point range
A	>= 93
A-	>= 90 and < 93
B+	>= 87 and < 90
B	>= 83 and < 87
B-	>= 80 and < 83
C+	>= 77 and < 80
C	>= 73 and < 77
C-	>= 70 and < 73
D+	>= 67 and < 70
D	>= 65 and < 67
F	< 65

For the Pass/No Pass grading option, you must earn at least 70% to pass.

Pre-reading and Quizzes
There will be approximately weekly in-class quizzes based on pre-readings. They should be done the day they are assigned; however, the quizzes are due on Friday at 11:59 pm PT (Pacific Time). Quizzes should be done on Ed. The two lowest scores will be dropped.
Quizzes late policy: There is no late policy for quizzes since late quizzes will not be accepted.

Assignments
There will be a coding assignment approximately for each week. They are due on the Tuesday of the following week by 11:59p.m. Pacific Time. Each assignment covers the material from the current week (and past weeks since concepts build upon each other). Assignments must be submitted via Blackboard. You must code the solutions according to the content taught in this course. Using coding techniques and modules outside the content of this course is not allowed and will receive 0 points. Each assignment must be completed individually. Do not collaborate

with other students for these assignments. If you need help, please ask for help by posting on Ed and attending office hours. Do not share the answers in a public post.

Assignments late policy: Students are responsible for completing individual assignments by stated deadlines. Assignments turned in late will have 25% of the total points deducted from the graded score for each late day. Students are given three "grace" days for the semester. Other late submissions will be penalized, with no exceptions.

Exams

Exams will be conducted during a lecture time in the class.

Exam policy and OSAS arrangement: No make-up exams (except for documented medical or family emergencies) will be offered. If you will not be able to attend an exam due to an athletic game or other valid reason, then you must coordinate with the instructor before the exam is given. You may arrange to take the exam before you leave, with an approved university personnel during the time you are gone, or within the week the exam is given. If you do not take an exam, then you will receive a 0 for it. If you need accommodations, register with OSAS (Office of Student Accessibility Services). Once you receive your accommodation letter, share your letter with the instructor at least one week before the test. This will allow time for arrangements to be made.

Final Project

The final project replaces the final exam. This comprehensive assignment will be due during Finals Week. The final project needs to be submitted by the due date. Late projects will not be accepted and will receive a 0. You must plan and implement a multiple-class fully functioning application of your own design. Use proper coding styles and comments. Project should perform error-checking on all inputs. A project must represent the student's sole effort; online tutorials or other examples may be consulted, but they must be improved upon and noted in the final documentation. Failure to note and provide links to any reference material will be considered cheating.

Students will submit the final project proposal to the course staff by the due date and receive feedback. Part of the proposal will include the grading criteria, which will define how the student's final project will be graded by the course staff.

Project late policy: No extensions or grace days will be granted for the project.

Grading Timeline

Submissions will be graded within 10 days. Students have one week to contest a grade once it has been posted on Blackboard. After this one week, the grade will not be changed. To contest a grade, create a private post on Ed. In the post, include your name, your section, the assignment name, and your reasons. This will allow the grader, instructor, and head LA (Learning Assistant) to view your submission and make a decision. Do **not** email the grader directly. All communications need to be seen and approved by the instructor.

Course Schedule: A Weekly Breakdown

Week	Date for MW	Date for TTh	Topic	Quiz due date	Assignment due date
1	January 9, 2023	January 10, 2023	PyCharm installation – Basic operations	January 13, 2023	January 17, 2023
	January 11, 2023	January 12, 2023	Built-in Functions, variables, conventions		
2	**January 16, 2023**	**January 17, 2023**	**Holiday - No class**	January 20, 2023	January 24, 2023
	January 18, 2023	January 19, 2023	User-defined Functions		
3	January 23, 2023	January 24, 2023	Docstring and testing	January 27, 2023	January 31, 2023
	January 25, 2023	January 26, 2023	Conditions, Boolean Expressions		
4	January 30, 2023	January 31, 2023	Loops – While, For	February 3, 2023	February 7, 2023
	February 1, 2023	February 2, 2023	Cont.		
5	February 6, 2023	February 7, 2023	Strings	February 10, 2023	February 14, 2023
	February 8, 2023	February 9, 2023	Cont.		
6	February 13, 2023	February 14, 2023	Lists and tuples	February 17, 2023	February 21, 2023
	February 15, 2023	February 16, 2023	list with string		
7	**February 20, 2023**	**February 21, 2023**	**Holiday - No class PD**	February 24, 2023	February 28, 2023
	February 22, 2023	February 23, 2023	Nested lists		
8	February 27, 2023	February 28, 2023	Cont.		
	March 1, 2023	March 2, 2023	Practice session		
9	March 6, 2023	March 7, 2023	Review for Exam 1		
	March 8, 2023	**March 9, 2023**	**Exam 1**		
10	**March 13, 2023**	**March 14, 2023**	**Winter recess – No class**		
	March 15, 2023	**March 16, 2023**	**Winter recess – No class**		
11	March 20, 2023	March 21, 2023	File Input/Output	March 24, 2023	March 28, 2023
	March 22, 2023	March 23, 2023	Dictionaries, Sets Cont.		
12	March 27, 2023	March 28, 2023	Cont.	March 31, 2023	April 4, 2023
	March 29, 2023	March 30, 2023	OOP		
13	April 3, 2023	April 4, 2023	Cont.	April 7, 2023	April 11, 2023
	April 5, 2023	April 6, 2023	Cont.		
14	April 10, 2023	April 11, 2023	Sorting	April 14, 2023	April 18, 2023
	April 12, 2023	April 13, 2023	Cont.		
15	April 17, 2023	April 18, 2023	GUIs		
	April 19, 2023	April 20, 2023	Cont.		
16	April 24, 2023	April 25, 2023	Review 2 for Exam 2		
	April 26, 2023	**April 27, 2023**	**Exam 2**		

Assessments Schedule

Assessment	Due Date	% of Grade
Quizzes	Weekly on Friday at 11:59 pm	10
Assignments	Weekly on Tuesday at 11:59 pm	50
Exam 1	March 8, 2023 for MW class March 9, 2023 for TTh class	15
Project proposal	April 21, 2023 on Friday at 11:59 pm	2
Exam 2	April 26, 2023 for MW class April 27, 2023 for TTh class	15
Project	May 4, 2023 on Thursday at 11:59 pm	8

Adding the Course after Week 1

Per university policy, students are allowed to add the course until the end of week 3. Any students wishing to add the course should plan on attending the course from the beginning of the semester. Upon adding the course after week 1, the student should email the instructor immediately to make a plan for completion of work and learning missed materials. Any missed work is required to be completed and submitted according to the schedule provided by the instructor. If you register for the class after assignments/exercises are due, then you will need to coordinate with the instructor to determine appropriate deadlines for the missed assignments/ exercises.

Attendance

Attendance is not part of the grading breakdown, although attending lectures will help you to participate in the exercises and learn the material and succeed in this class. If you are not able to attend, then it is your responsibility to catch up with the material and complete the requirements.

Communication

The preferred way to communicate with instructors and LAs is posting on Ed (https://edstem.org/). All ITP 116 students, and LAs will have access to the same discussion board. Information about accessing Ed is available on Blackboard. If you have questions about assignments, quizzes, exams, and other aspects about this course, please post on Ed. You are able to make public posts that all members can see and answer or private posts to individuals which are only accessible to the instructor and LAs.

Students should **NOT** directly email the LAs or graders: all correspondence with the LAs should be done on Ed. If a direct email is required for any reason, the student must cc the instructor in the email.

Statement on Academic Conduct and Support Systems

Academic Integrity:
The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see the student handbook or the Office of Academic Integrity's website, and university policies on Research and Scholarship Misconduct.

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:
USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

988 Suicide and Crisis Lifeline - 988 for both calls and text messages – 24/7 on call
The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL) – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776
OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 740-0411
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (213) 740-2101
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-2850 or otfp@med.usc.edu
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

Course Content Distribution and Synchronous Session Recordings Policies
USC has policies that prohibit recording and distribution of any synchronous and asynchronous course content outside of the learning environment.

Recording a university class without the express permission of the instructor and announcement to the class, or unless conducted pursuant to an Office of Student Accessibility Services (OSAS) accommodation. Recording can inhibit free discussion in the future, and thus infringe on the academic freedom of other students as well as the instructor. (Living our Unifying Values: The USC Student Handbook, page 13).

Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study. This includes but is not limited to providing materials for distribution by services publishing course materials. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the internet, or via any other media. (Living our Unifying Values: The USC Student Handbook, page 13).

Do not reproduce, distribute, or post any lecture material, assignments, or tests publicly without the written consent of the instructor. Students may take notes and make copies of course materials for their own use. Students may not post the course materials on sites such as CourseHero and Chegg. Doing so is a copyright violation and an academic integrity violation that will be dealt with accordingly.