



**ITP-116**  
**Accelerated Programming in Python**

**Units:** 2

**Semester:** Spring 2022

**Day:** Monday/Wednesday

**Time:** 10:00-10:50a.m. or 11:00-11:50a.m.

**Location:** KAP 160

**Instructor:** Jeffrey Miller, Ph.D.

**Office:** RRB 203 and Zoom

**Office Hours:** Any day by appointment

**Contact Info:** [jeffrey.miller@usc.edu](mailto:jeffrey.miller@usc.edu)

**Teaching Assistants:**

Amanda Horton ([amhorton@usc.edu](mailto:amhorton@usc.edu))

Megan Friedenber ([mfrieden@usc.edu](mailto:mfrieden@usc.edu))

Riley Carlin ([rcarlin@usc.edu](mailto:rcarlin@usc.edu))

Margot Meldefontenay ([mmeldefo@usc.edu](mailto:mmeldefo@usc.edu))

**Office Hours:** Listed on Blackboard

**IT Help:** Viterbi IT

**Hours of Service:** Monday – Friday, 8:30 a.m. – 5:00 p.m.

**Contact Info:** (213) 740-0517

**Email:** [engrhelp@usc.edu](mailto: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.

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

## Course Notes

This course will use Blackboard (<https://blackboard.usc.edu>) for all content and assignments. You will need to watch videos posted on Blackboard before synchronous class sessions. During the class sessions, the instructor will lead interactive activities to reinforce the concepts covered in the videos. Lecture slides and any supplemental course content will be posted to Blackboard for use by all students. All assignments will be posted to Blackboard and will be submitted through Blackboard. Please familiarize yourself with Blackboard before the course begins.

## 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. All software needed for the course is available for free.

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.  
Python 3.x <https://www.python.org/downloads/>

You will also need to download and install PyCharm, which is an integrated design environment (IDE) for writing code and creating project. You may feel free to use another IDE such as Eclipse or NetBeans, especially if you are already familiar with one.

PyCharm <http://www.jetbrains.com/pycharm/download/>  
Choose the Free Community Edition

## USC technology rental program/ITP loaner devices

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 apply at <https://studentbasicneeds.usc.edu/resources/technology-assistance/>. The Student Basic Needs team will contact all applicants before the semester and distribute equipment to eligible applicants prior to the start of the semester.

ITP also has a loaner laptop program where students can request to use a laptop during the semester. For more information on the ITP Loaner Laptop program, please visit <https://itp.usc.edu/current-students/itp-device-check-outs/>.

## USC Technology Support Links

- [Zoom information for students](#)
- [Blackboard help for students](#)
- [Software available to USC Campus](#)

## 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.*

## General Policies

Students are expected to:

- Attend (or watch videos of) lectures and complete the in-class labs
- Complete the individual assignments
- Complete the exams
- Complete the final project

## 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/labs are due, then you will need to coordinate with the instructor to determine appropriate deadlines for the missed assignments/labs.

## Grading Breakdown

Assessment	% of Grade
Programming Assignments	41%
Labs	9%
Exam #1	15%
Exam #2	15%
Final Project	20%
<b>TOTAL</b>	<b>100%</b>

## Grading Scale

Grades will be based on a curve that operates in favor of the students, with at least the following grades for a given percentage  $x$ . If the average in the class is lower than 80%, the average will become the cut-off between a B- and a C+.

$x \geq 93$	A	$73 \leq x < 77$	C
$90 \leq x < 93$	A-	$70 \leq x < 73$	C-
$87 \leq x < 90$	B+	$67 \leq x < 70$	D+
$83 \leq x < 87$	B	$63 \leq x < 67$	D
$80 \leq x < 83$	B-	$60 \leq x < 63$	D-
$77 \leq x < 80$	C+	$x < 60$	F

## Assignment Rubrics

Assignment rubrics will be available on Blackboard in the assignment instructions.

## Assignment Submission Policy

There will be roughly one assignment due each week. Assignments are typically due on Friday by 11:59p.m. Pacific time. Each assignment covers the material from the previous week. The assignments will be posted in Blackboard under the "Assignments" section. Each assignment will include instructions and a link for electronic submission. Assignments must be submitted using this link. Each assignment must be completed individually. Do not collaborate with other students for these assignments. If you need help, please post on Piazza.

## Assignment Late Policy

It is the student's responsibility to submit assignments on or before the due date. Assignments may be submitted within three days with a late penalty. Assignments turned in one day (24 hours) late will have 10% of the total points deducted from the graded score. Assignments turned in over one day and up to two days (> 24 hours and  $\leq 48$  hours) late will have 30% of the total points deducted from the graded score. Assignments turned in over two days and up to three days (> 48 hours and  $\leq 72$  hours) late will have 50% of the total points deducted from the graded score. After three days, submissions will not be accepted, and the score for the assignment will be a 0.

## Assignment Grading Timeline

Assignments will be graded within 10 days of the assignment due date. 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 Piazza. In the post, include your name, the assignment name, and your reasons. This will allow the grader, instructor, and CTAs (Course Teaching Assistants) to view your submission and make a decision.

## In-Class Labs

There will be in-class labs approximately each week. Labs are due on Thursday each week by 11:59p.m. Pacific Time. The labs should be done the day they are assigned, but the deadline is extended to allow students who are unable to attend the class to still complete the lab. Labs must be submitted on Blackboard. Late labs will not be accepted.

## Exams

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 authorized by DSP (Disability Services and Programs), notify the instructor at least two weeks before the exam to 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 in Python of your own design. The program must use appropriate data structures, read and store data to files, allow for user interaction, and demonstrate other concepts learned during the course. 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 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.

## Attendance

Attendance is not part of the grading breakdown, although attending lectures will help you learn the material and succeed in this class.

## **Academic Integrity**

SCampus is USC's Student Guide to Policies and Conduct Code and can be found at <http://scampus.usc.edu>. Students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review, should there be any suspicion of academic dishonesty. More information can be found at <https://sjacs.usc.edu/students/academic-integrity/>.

Assignments and projects in computer programming courses are different from those in some other types of courses. Students may NOT collaborate, work together, share code, or in any way exchange solutions for assignments and projects. Assignments may be analyzed by software that looks for similarity. Any sharing of ideas or code will be considered a violation of academic integrity. Do not share your code with anyone else in this or a future section of the course, as allowing someone else to copy your code carries the same penalty as you copying the code yourself.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it will be reported to SJACS. Do not share assignments with another person. Do not submit another person's work as your own. Do not tell current or future students about questions on tests. Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

## **Sharing of Course Materials**

Do not reproduce, distribute, or post any lecture material, recordings, 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. They may not post the course materials on sites such as CourseHero. Doing so is a copyright violation and an academic integrity violation that will be dealt with accordingly.

Here is USC's policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment from SCampus Section C.1 (<https://policy.usc.edu/wp-content/uploads/2021/08/SCampus-Part-C-Academic-Policies.pdf>).

*Notes or recordings made by students based on a university class or lecture may only be made for purposes of individual or group study, or for other usual non-commercial purposes that reasonably arise from the student's membership in the class or attendance at the university. This restriction also applies to any information distributed, disseminated or in any way displayed for use in relationship to the class, whether obtained in class, via email or otherwise on the internet, or via any other medium. Actions in violation of this policy constitute a violation of the Student Conduct Code and may subject an individual or entity to university discipline and/or legal proceedings.*

## Course Schedule: A Weekly Breakdown

Week	Lecture	Date	Lecture Topic	Chapter Reference
1	1	January 10, 2022	00 - Class Overview, Environment	
	2	January 12, 2022	01 - Installation of Environment	1
2		January 17, 2022	<b>No Class – Martin Luther King Jr.'s Birthday</b>	
	3	January 19, 2022	01 - Printing, Input, Variables	1-2
3	4	January 24, 2022	Lab #1	
	5	January 26, 2022	02 - Operators, Conditions, Boolean Expressions	5
4	6	January 31, 2022	Lab #2	
	7	February 2, 2022	03 - Loops – While, For	7
5	8	February 7, 2022	Lab #3	
	9	February 9, 2022	04 - Strings	8
6	10	February 14, 2022	05 - Strings, Lists	8
	11	February 16, 2022	Lab #4	
7		February 21, 2022	<b>No Class – Presidents' Day</b>	
	12	February 23, 2022	06 - Lists, Tuples, Lists with Strings	11
8	13	February 28, 2022	Lab #5	
	14	March 2, 2022	08 - Functions	4
9	15	March 7, 2022	07 - Review for Exam #1	1, 2, 5, 7, 8, 11
	16	<b>March 9, 2022</b>	<b>Exam #1</b>	
		March 14, 2022	<b>No Class - Spring Break</b>	
		March 16, 2022	<b>No Class - Spring Break</b>	
10	17	March 21, 2022	Lab #6	
	18	March 23, 2022	08 – Functions (cont.)	6
11	19	March 28, 2022	Lab #7	
	20	March 30, 2022	09 - File Input/Output	13
12	21	April 4, 2022	Lab #8	
	22	April 6, 2022	10 - Dictionaries, Sets	20
13	23	April 11, 2022	11 - Objects	15
	24	April 13, 2022	11 - Objects (cont.)	15
14	25	April 18, 2022	Lab #9	
	26	April 20, 2022	12 - GUIs	16
15	27	April 25, 2022	13 - Review for Exam #2	1, 2, 4, 5, 6, 7, 8, 11, 13, 15, 16, 20
	28	<b>April 27, 2022</b>	<b>Exam #2</b>	
16		<b>May 9, 2022 before 11:59p.m.</b>	<b>Final Project Due</b>	

## Assessments Schedule

The dates below reflect the date each assessment is due by 11:59p.m.

Week	Day	Due Date	Assessment	% of Grade
1			<i>Nothing due</i>	
2			<i>Nothing due</i>	
3	Thursday	January 27, 2022	Lab #1	1.0%
	Friday	January 28, 2022	Assignment #1	3.0%
4	Thursday	February 3, 2022	Lab #2	1.0%
	Friday	February 4, 2022	Assignment #2	3.0%
5	Thursday	February 10, 2022	Lab #3	1.0%
	Friday	February 11, 2022	Assignment #3	3.0%
6	Thursday	February 17, 2022	Lab #4	1.0%
	Friday	February 18, 2022	Assignment #4	3.0%
7	Friday	February 25, 2022	Assignment #5	3.0%
8	Thursday	March 3, 2022	Lab #5	1.0%
	Friday	March 4, 2022	Assignment #6	4.0%
9	Wednesday	March 9, 2022	Exam #1	15.0%
10	Thursday	March 24, 2022	Lab #6	1.0%
	Friday	March 25, 2022	Assignment #7	5.0%
11	Thursday	March 31, 2022	Lab #7	1.0%
	Friday	April 1, 2022	Assignment #8	5.0%
12	Thursday	April 7, 2022	Lab #8	1.0%
	Friday	April 8, 2022	Assignment #9	6.0%
13	Friday	April 15, 2022	Final Project Proposal	2.0%
14	Thursday	April 21, 2022	Lab #9	1.0%
	Friday	April 22, 2022	Assignment #10	6.0%
15	Wednesday	April 27, 2022	Exam #2	15.0%
16	Monday	May 9, 2022	Final Project	18.0%



## Statement on Academic Conduct and Support Systems

### Academic Conduct

Plagiarism is defined as presenting someone else's ideas as your own, either verbatim or recast in your own words, and it is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" (<https://policy.usc.edu/wp-content/uploads/2021/04/SCampus-Part-B.pdf>). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus (<https://policy.usc.edu/scampus/>) and university policies on scientific misconduct (<https://policy.usc.edu>).

### Support Systems

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call*

<https://studenthealth.usc.edu/counseling>

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*

<https://suicidepreventionlifeline.org>

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call*

<https://studenthealth.usc.edu/sexual-assault>

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086*

<https://eeotix.usc.edu>

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*

[https://usc-advocate.symplicity.com/care\\_report](https://usc-advocate.symplicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Student Accessibility Services (OSAS) - (213) 740-0776*

<https://osas.usc.edu>

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

*USC Campus Support and Intervention - (213) 821-4710*

<https://campussupport.usc.edu>

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101*

<https://diversity.usc.edu>

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*

<https://dps.usc.edu>, <https://emergency.usc.edu>

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) 442-120 – 24/7 on call*

<https://dps.usc.edu>

Non-emergency assistance or information.

*Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)*

<https://ombuds.usc.edu>

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.