

Programming in Python

ITP-115 (2 units)



Objective

This course is intended to teach the basics of programming in Python. Python's high level data structures and clear syntax make it an ideal first language, while the large number of existing libraries make it suitable to tackle almost any programming tasks.

Concepts

Python offers an interactive environment in which to explore procedural, functional and object oriented approaches to problem solving.

Prerequisites

None

Instructors

Mark Core – core@ict.usc.edu

Michael Crowley – crowley@usc.edu

Trina Gregory – trinagre@usc.edu

Rob Parke – parke@usc.edu

Office Hours

Listed on Piazza

Lab Assistants

Listed on Piazza

Contacting the Course Assistants Listed on Piazza

Lecture/Lab 3 hours / week

Required Textbooks



Punch, William F. The Practice of Computing Using Python (3rd edition). Pearson, 2016 (you do not need MyProgrammingLab)

ISBN: 0134379764

Purchase: [Amazon](https://www.amazon.com/dp/0134379764)

Website

All course material will be on Blackboard (<http://blackboard.usc.edu>).

Grading

Labs (in class)	10%
Assignments	45%
Exams (two)	30%
Final Project	15%

Grading Scale

A	100-93	B-	82-80	D+	69-67
A-	92-90	C+	79-77	D	66-65
B+	89-87	C	76-73	F	64 or below
B	86-83	C-	72-70		

Final grade percentages are calculated to two decimal places. For example, 82.45 is a B-.

Policies

Students are expected to:

- Attend and participate in lecture discussions and critiques
- Attend and complete weekly assignments
- Manage and complete individual class projects

Software

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).

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**

Late Work

Assignments may be turned in with a late penalty of 25% per day. This will apply to assignments immediately after the deadline. It is the responsibility of the student to contact the grader when posting late projects. After four days, submissions will not be accepted and you will receive a 0.

If you register for the class after assignments are due, then you will have one week from when you registered for the class to submit the assignments. If you add the class during the third week of classes, then you must meet with the instructor to create a plan together on how to catch up to the rest of the class.

ITP Labs

Before logging onto an ITP computer, students must ensure that they have emailed or saved projects created during the class or lab session. Any work not saved will be erased after restarting the computer. ITP is not responsible for any work lost.

ITP offers Open Lab use for all students enrolled in ITP classes. These open labs are held beginning the second week of classes through the last week of classes. Specific times, days, and location for the current semester are listed at <http://itp.usc.edu/labs>.

Attendance

Attendance may be taken during lecture sessions electronically, verbally, or via a roster passed around the room. Do not sign in for another student; doing so is an academic integrity violation. If you would like to be considered for an excused absent, then create a private note on Piazza and select the absent folder. In the post, include your name, week (1-15), day, reason, and documentation.

Attending lectures will help you learn the material and succeed in this class. If you are not able to attend lectures and be an active learner, then do not take this class. I expect you to pay attention during lectures and refrain from distracting your classmates. Chatting while the instructor is talking, texting on your mobile device, and participating on social media sites during class is disrespectful to the instructor and your classmates.

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 that exam.

Course Materials

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

Incomplete and Missing Grades

Excerpts for this section have been taken from the University Grading Handbook, located at <http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html>. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) “is assigned when work is no completed because of documented illness or other ‘emergency’ **occurring after the twelfth week** of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

Academic Conduct

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles.

SCampus is USC's Student Guide to Policies and Conduct Code and can be found at <http://scampus.usc.edu/>. Section 11 contains the Behavior Violating University Standards and Appropriate Sanctions and can be found at <http://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. 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. The Review process can be found at <http://www.usc.edu/student-affairs/SJACS/>.

An academic integrity tutorial can be found at http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php.

A Note about Collaboration and Cheating

Assignments and projects in computer programming course 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. All assignments are analyzed by software that looks for similarity. Any sharing of ideas or code will be considered a violation of academic integrity (cheating); an SJACS report will be filed with the recommended penalty of an F in the course. 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 has to be reported to SJACS. Do not share assignments with another person. Do not submit another person's work as your own. Do not look at other students' papers during exams. Do not leave the room during an exam without permission. **Do not cheat!**

As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

Viterbi Honor Code

Engineering enables and empowers our ambitions and is integral to our identities. In the Viterbi community, accountability is reflected in all our endeavors.

Engineering+ Integrity.

Engineering+ Responsibility.

Engineering+ Community.

Think good. Do better. Be great.

These are the pillars we stand upon as we address the challenges of society and enrich lives.

Support Systems

USC provides many services to support you and your fellow classmates at USC.

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.
<https://engemannshc.usc.edu/counseling/>

National Suicide Prevention Lifeline – 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship and Sexual Violence Prevention Services (RSVP)

(213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class.
<https://equity.usc.edu/>

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response.

<https://studentaffairs.usc.edu/bias-assessment-response-support/>

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students.
<https://diversity.usc.edu/>

Disability Services

The Office of Disability Services and Programs provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam, but preferably at the beginning the semester.

<http://dsp.usc.edu>

Emergency

If an officially declared emergency makes travel to campus infeasible, **USC Emergency Information** will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

<http://emergency.usc.edu/>

Additional information about **Campus Safety and Emergency Preparedness** can be found at

<http://preparedness.usc.edu>.

USC Department of Public Safety – 213-740-4321 (UPC) and 323-442-1000 (HSC)

Call for 24-hour emergency assistance or to report a crime.

Provides overall safety to USC community. <http://dps.usc.edu>

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Course Outline

Subject to change throughout the semester

Week	Topic	Reading	Assignment
1	Intro to course + Python: types, variables, i/o	ch. 1	A# 1
2	Flow of Control: branching, if/else, boolean, modules	ch. 2	A# 2
3	Loops and Strings as Sequences	ch. 2, 4	A# 3
4	Lists and Tuples	ch. 7	A# 4
5	Functions	ch. 6, 8	A# 5
6	Files	ch. 5	A# 6
7	Exam (Wed or Thurs)	-	study
8	Dictionaries	ch. 9	A# 7
9	Webscraping, EarSketch	notes	project
10	Objects	ch. 11	A# 8
11	OOP	ch. 11	A# 8
12	Inheritance	ch. 12	A# 9
13	Exam (Wed or Thurs)	notes	project
14	GUI	notes	A# 10
15	Graphics	notes	project
16	Final Projects Due	-	-