Computer Programming: Python - CS109

Instructor: Soumyajit Gupta -- smjtgupta@utexas.edu
Class Time: Wednesday -- 1:00PM- 2:00PM
Class Location: GDC 4.304
Office Hours Location: TBD
Office Hours Time: TBD
Canvas: https://utexas.instructure.com/courses/1263560
Piazza: https://piazza.com/class/jzsx8sbmr8r2kv

This course

An introduction to programming in Python. Students will be expected to write code, read code, and think about code. Students are expected to know how to program already, having **already completed basic programming** and **data structures** courses. Trying to take this course without this background may be possible, but it will be challenging and, perhaps more importantly, much more than 1 unit of work. (**OOP** concepts **not needed**. We will focus on it in the course itself).

The goal of this course is to teach the basics of programming in Python. Ideally to the point that students are prepared to develop in Python and teach themselves new areas of the language.

Communication

This shared doc will be used to track syllabus, projects and lectures. This course will use **Piazza** as the default communication portal and **Canvas** as an assignment submission/grading portal. All discussions related to any topics will be done on **Piazza**.

Create a Private post if you have some personal doubts, but group participation is encouraged. In case of any other issue, do email me at smjtgupta@utexas.edu

Notifications for Assignments will be sent out on both **Canvas** and **Piazza**. I will be available on Piazza most days from evening to late at night. Daytimes are subjected to my own schedule apart from office hours.

Resources

This course does not require any external materials. I am making the lecture notes on **Jupyter Notebook** to make it interactive during teaching. They will be shared after the lectures with some feedback from the students on which parts to improve.

We will be using **Python 3.6** for the course. In case we want to play around with some external library that has compatibility issues, we will switch to an appropriate stable version. Feel free to use the lab machines in GDC or setup your own python environment using **Anaconda**.

Schedule

Class meets Aug 28 – Dec 11. This is a one-credit course taught over the semester.

Date	Topic	Remark
Aug 28	Introduction	
Sep 4-11	Syntax, Dynamic Typing, Control Structures, Values	
Sep 11-18	Data structures: List, Set, Tuple, Dictionary	
Sep 18	File I/O and Text Processing	
Sep 18-25	Advanced functions, Iterables, Comprehensions and Generators	
Oct 2	More on Iterables, Comprehensions and Generators	
Oct 2	More on Iterables, Comprehensions and Generators ***	
Oct 9	Objects and Classes	
Oct 16	Objects and Classes	
Oct 23	Objects and Classes ***	
Nov 6	Advanced control: Exceptions, With	
Nov 6	Dicts: What allows Python to be so dynamic	
Nov 13	Operator overloading a.k.a. “Magic methods”	
Nov 20	Basic Object-oriented Design	
Dec 4	Testing Python: The unittest module	
Dec 11	Standard Library	

The dates are subjected to change as per class progress.

*** Subject to change as per student requirements

Assessments and grading

- 5 assignments (total 70%)
- Final project (30%)
- In weeks between assignments, we might do some online coding practice

The grade in this course will be assigned based on:

- The quality and correctness of the programs you write.
- Readability the code.
- Following coding conventions (Pep-8)
- Note that performance is not a significant concern, and performance optimization will generally make the program harder to read and therefore negatively affect your grade.
- Programming assignments will be graded by a combination of automated testing and manual program inspection.
- The final grading tests will differ somewhat from the given tests, so be sure to evaluate your program independently of the given tests.

Grades will be given as percentages during the course and final grades will be assigned as whole letter grades (no +/-). The final grade will be affected by all assigned work. This class will not have extra credit.

All assignments will be due at 1:00pm on the due date. Late assignments will have their grade reduced by 10% per day (including partial days). For fairness, deadlines are strict to the second. For example, if you turn in an assignment at 1:00:15pm it will be penalized by 10%. Please turn in your assignments a few minutes early to avoid problems.

Non-working submissions will be heavily penalized, so do take the time to redownload and verify your submissions are correct and are not missing any files. Running the submission downloaded from Canvas is a good idea.

Never post or store complete or partial solutions to the assignments online.

Questions?

Any question that is not directly asking for a solution to a part of the assignment is encouraged. Feel free to help your fellow students understand the material of the course by answering questions on piazza and in person. However, never include details of how you are solving the problems. Never post code you have written for the assignment to Piazza or anywhere else. If you cannot figure out how to ask a question without including details of the assignment or code, email the question to me directly.

Academic Dishonesty

Academic dishonesty will lead to failure of the course. Academic dishonesty in this course includes #but is not limited to: working with another student on an assignment, using code written by someone else in your submission, and discussing the details of your submission with another student (including discussing the design of your submission). If you are ever in doubt, credit the person with whom you may have worked closely or cite your source. If you have any questions, please ask. You may also find this information helpful: http://deanofstudents.utexas.edu/sjs/_acint_student.php. This course has no group projects.

Never post complete or partial solutions to the assignments online. This enables others to cheat. This means you cannot use a public version control repository for your projects. You can use a private online repository such as the private repositories available on GitHub or Bitbucket.

Special Accommodations

Any student with a documented disability who requires academic accommodations should contact the Services for Students with Disabilities at 512-471-6259 (voice) or 512-410-6644 (Video Phone) as soon as possible to request an official letter outlining authorized accommodations. Information is also available on the Services for Students with Disabilities website: http://ddce.utexas.edu/disability/current-students. Additionally, please speak to me about the accommodations you will need, so that I can make sure that I am prepared to provide them.