Instructor

Geri Lamble

E-mail:  [lamblegeri@fhda.edu](mailto:lamblegeri@fhda.edu)

**Lectures:** online **Labs:** online

Course Description

This course builds on the student’s prior knowledge of the Python programming language by offering a more in-depth and advanced approach to building effective Python applications.  Specific topics include user interfaces, networked applications, databases, multi-threading and regular expressions.  The course reinforces object oriented design, thorough documentation, testing and conventional programming style.

**Prerequisite:** Advisory CS 3A or CS 21A or relevant experience

**RequiredText:  Programming Python, 4**th edition, by Mark Lutz, O'Reilly publisher. ISBN:  978-0-596-15810-1.

The text for the course is *required* in that forum discussion questions can be directed to a section in the book for further explanation. It is expected that students will have access to this reference.

This book can be ordered through the [**Foothill Bookstore** (Links to an external site.)Links to an external site.](http://books.foothill.edu/).

**Required Software: Python3.**  You will need access to a Python interpreter and a text editor.  In this class we will be using Python3.

Software:

Go to the [**www.python.org** (Links to an external site.)Links to an external site.](http://www.python.org/) Downloads page link listed below.  Be careful to choose the version for your operating system and hardware.  The python.org website also provides user documentation and tutorials.

* [**Python 3 Downloads** (Links to an external site.)Links to an external site.](http://www.python.org/)
* [**Python documentation** (Links to an external site.)Links to an external site.](https://docs.python.org/3/)
* [**Python Tutorial** (Links to an external site.)Links to an external site.](https://docs.python.org/3/tutorial/index.html)

Course Objectives

Understand Python’s memory model and issues with mutability.

Recognize various aspects of Python code that exhibit better performance.

Discuss implementation differences between the standard data types.

Distinguish between Python 2 and 3, use migrations tactics, discuss porting issues, and write code compatible with both versions.

Write code that executes other (Python and non-Python) programs.

Use the standard Python developer and testing tools.

Write Python code with fewer bugs and other issues.

[Student Learning Outcomes (Links to an external site.)Links to an external site.](http://www.fgamedia.org/faculty/loceff/cs_courses/common/slos/cs_slos_1.html)

A successful student will be able to develop a Python program that runs other programs, accesses a database, and transfers files over a network.

A successful student will be able to develop an event driven Python program that interacts with the user through a graphic user interface that employs windows, dialog boxes, buttons, menus and text fields.

Grades

Your grade is determined by:

* Assignments 75%
* Exams 25%

Tests

There will be a midterm exam (worth 20 points) and a comprehensive final exam (worth 40 points). Exams will be administered online.

Lab Assignments

There will be eight required lab assignments (worth 22.5 points each).  There is an optional ninth lab assignment that can be used to replace a low lab score. Labs will be turned in online.

Grading Scale

| **Letter Grade** | **Lower %** | **Upper %** |
| --- | --- | --- |
| A | 93% | 100% |
| A- | 90% | 92% |
| B+ | 87% | 89% |
| B | 83% | 86% |
| B- | 80% | 82% |
| C+ | 77% | 79% |
| C | 73% | 76% |
| C- | 70% | 72% |
| D+ | 67% | 69% |
| D | 63% | 66% |
| D- | 60% | 62% |
| F | 0% | 59% |

Course Expectations

Attendance Policy

Regular attendance is required.  Students will be dropped for non-participation for the following:

* Not posting a first week Introduction
* Missing two consecutive lab submissions
* Missing the midterm exam
* Missing three total lab submissions

Course Communication

Course material will be provided in Canvas including announcements, discussions, lecture notes, lab assignments, and exams.

Course Outline

|  |  |  |
| --- | --- | --- |
| **Week** | **Topics** | **To Do** |
| 1 | Introduction. Python Review: Basic Data Types: Numeric, Sequence, Unordered Collections; Hashing, Object Memory Model | Post Intro |
| 2 | More Python Review: Control Flow, Functions, File I/O, Exceptions | Lab1 |
| 3 | Modules and Packages, Object oriented programming, advanced function: map, filter and reduce | Lab 2 |
| 4 | Regular Expressions | Lab 3 |
| 5 | The Web and Search | Lab 4 |
| 6 | GUI Programming | Midterm Exam |
| 7 | Databases | Lab 5 |
| 8 | Network Programming | Lab 6 |
| 9 | Internet Client Programming | Lab 7 |
| 10 | Multithreaded Programming | Lab 8 |
| 11 | Web Development | Optional Lab 9 |
| 12 |  | Final Exam |

Help Resources

[STEM Success Center (Links to an external site.)Links to an external site.](https://foothill.edu/stemcenter/)

College Policies

Academic Honesty

Your lab and exam submissions must be your own work.

The following guidelines apply:

You are encouraged to discuss in the forum about course questions but you may not examine nor reuse any other student's code. You are not allowed to copy code from **any**source — other students, the Web, etc.

Disability:

To obtain disability-related accommodations, students must contact the [**Disability Resource Center (DRC)** (Links to an external site.)Links to an external site.](https://foothill.edu/drc/) at the start of the quarter.

To contact DRC, you may:  
  
·      Visit DRC in Room 5400  
·      Email DRC at drc@foothill.edu<[mailto:adaptivelearningdrc@foothill.edu (Links to an external site.)Links to an external site.](https://www.mail.fhda.edu/owa/redir.aspx?C=1YvRhd7XtMJyiWW05thSdW7V-VkgHcxXX25DKeZh8S_1cehH_wHVCA..&URL=mailto%3aadaptivelearningdrc%40foothill.edu)>  
·      Call DRC at 650-949-7017 to make an appointment  
  
If you already have an accommodation notification from DRC, please contact me privately to discuss your needs.

Changes

This syllabus is subject to changes, additions, deletions, and/or corrections.

Last Updated:  1/4/18 3:15 PM