SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Advanced Programming with Python Section 02

CS 122

Spring 2024   3 Unit(s)   01/24/2024 to 05/13/2024   Modified 01/23/2024

👤 Contact Information

Instructor:	Deep Shah
Office Location:	Online
Email:	deeppradipbhai.shah@sjsu.edu
Office Hours:	Mo/We 5 pm – 6 pm PST or by appointment (via. Zoom https://sjsu.zoom.us/j/86536665808)
Class Days/Time:	Mo/We 12 pm – 1:15 pm
Classroom:	SH 238 (Sweeney Hall)

💻 Course Description and Requisites

Advanced features of the Python programming language with emphasis on programming practice. Course involves substantial programming projects in Python.

Prerequisite(s): CS 146 (with a grade of "C-" or better). Computer Science, Applied and Computational Math, or Software Engineering majors only.

Letter Graded

▤ Program Information

Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

📊 Course Learning Outcomes (CLOs)

Upon successful completion of this course, students will be able to:

1. Design, implement and test readable, efficient programs that take advantage of Python built-in capabilities and follow Python best practices.
2. Understand implementation differences and performance tradeoffs associated with various Python data structures.
3. Develop Python applications using the modules and packages available in the Python standard library.
4. Develop Python applications using third party libraries.
5. Design, implement and test Python programs that include a graphical user interface, data analysis and visualization, web data extraction and web applications.

📘 Course Materials

This course will utilize The Quick Python Book by Naomi Cedar (3rd Edition, ISBN 9781617294037).

It is provided in Canvas and also available at the MLK Library, including electronic access options.

✔️ Grading Information

Category	Percent of Total Grade
Assignments	30%
Midterm	20%
Project	30%
Final	20%

🏛️ University Policies

Per [University Policy S16-9 (PDF) (http://www.sjsu.edu/senate/docs/S16-9.pdf)](http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance,

counseling, and other resources) are listed on the [Syllabus Information (https://www.sjsu.edu/curriculum/courses/syllabus-info.php)](https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

📅 Course Schedule

Note: This is a tentative schedule. Some topics may be changed with due notice as deemed suitable by the instructor.

Week	Date	Topic
1	1/24	Course Logistics & Installation
2	1/29	Python Basics
	1/31	Sequence Data Types (Lists, Tuples, and Sets)
3	2/5	Strings, Dictionaries
	2/7	Control Flow
4	2/12	Functions
	2/14	Modules, Scoping, Programs
5	2/19	Using the Filesystem
	2/21	Files I/O
6	2/26	Exceptions
	2/28	Python Classes

7	3/4	Objects
	3/6	Packages, Libraries
8	3/11	File Wrangling
	3/13	Processing Data Files
9	3/18	**Midterm**
	3/20	Project Formulation
10	3/25	Scraping the Web
	3/27	
11	4/1	*Spring Break - no class*
	4/3	
12	4/8	GUI programming (tkinter)
	4/10	
13	4/15	Web Development (flask)
	4/17	
14	4/22	Final Project Meetings
	4/24	Data Analysis
15	4/29	Final Project Work Time
	5/1	Final Project Presentations

| 16 | 5/6 | Final Project Presentations |
| 17 | 5/21 | **Final Exam**: 12:15 - 2:30 pm (Tuesday) |