

San José State University
Computer Science
CS 122 – Advanced Python Programming
Spring 2018

Course and Contact Information

Instructor:	Nooshin Tajik
Office Location:	DH282
Telephone:	Please use email
Email:	nooshin.tajik@sjsu.edu Or contact me through Piazza
Office Hours:	Wed at 3:15 to 4:30 pm
Class Days/Time:	Mon & Wed at 4:30 to 5:45 pm
Classroom:	DH450
Prerequisites:	CS 146 (with a grade of "C-" or better) or instructor consent

Description:

Advanced features of Python programming language, with emphasis on useful libraries and data analysis. Programming projects in database connections, web development, web scraping, data wrangling and data analysis.

Course Learning Outcomes (CLO):

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

1. Develop algorithms through the process of top-down, stepwise refinement and implement them in Python.
2. Easily use libraries such as numpy, pandas, matplotlib.
3. Perform data analysis using python libraries.

Required Texts/Software:

Textbook

Lutz, Mark: Learning Python, 5th edition. O'Reilly Media. ISBN: 978-1-4493-5573-9. 2013

Software

You will be using Python throughout the course, including many Python libraries. Anaconda is an easy-to-install bundle of Python and contains most of the required libraries. Please visit [this page](#) and follow the instructions to set up Python.

Course Assignments:

Mini Projects

We will have 4 mini projects during the course (30%). The due for mini projects is variable and would be defined when they are assigned. Mini projects should be done individually.

Coding Challenges

Coding challenges would be given in the classes to practice python syntax(10%).

Exams

One mid term exam (10%) and a final exam (20%). Exams cannot be made up, except for reasons of illness, as certified by a doctor, or documentable extreme emergency.

Final Project

There is a final project that you can work in groups of two. You will design and present the project(30%).

Grading Information:

- Mini Projects (30%)
- Coding Challenges (10%)
- Mid Term (10%)
- Final Exam (20%)
- Final Project (30%)

Incomplete work: Points will be deducted for incomplete codes that are partially functional.

Late Submission: You have one bonus day for late submission for the whole semester. After you used the two days, any late submission would cause a deduction of daily 20% of total points for the assignment. Please note, in the case of the bonus, even if you submit 1 hour late it would be counted as a one day.

Makeup Exams: You must submit only your own work on exams. Makeup exams will only be given in cases of illness (documented by a doctor) or in cases of documentable, extreme emergency.

Individual Work:

All homework and exams must be your own individual work. It is ok to have general discussions about homework assignments, or read other material for inspiration. You may never copy anything from anyone without attribution. This means if you find code on Stackoverflow or another web site, you need to give the URL where you found the code in a comment at the top of your class so that I can look at it if necessary. You may copy from the textbook, the labs, or anything we do in class without attribution. For Mini Projects and exams, you may not copy anything from any other student at all, and you may not collaboratively produce

results in pairs or teams. Your work must be entirely your own. It is never okay to give your completed code to another student before the due date. A first incident of cheating will result in a 0 on that assignment or exam. A second incident will result in a failure for the class.

Point Range	Letter Grade
100% to 94%	A
< 94% to 90%	A-
< 90% to 87%	B+
< 87% to 84%	B
< 84% to 80%	B-
< 80% to 77%	C+
< 77% to 74%	C
< 74% to 70%	C-
< 70% to 67%	D+
< 67% to 64%	D
< 64% to 61%	D-
< 61 to 0%	F

University Policies:

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>"

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The course schedule is subject to change with fair notice. Changes will be announced on Canvas.

Course Schedule

Week	Date	Topics
0	01/24	Getting Started
1	01/29	Types & Operations
1	01/31	Types & Operations
2	02/05	Statements & Syntax
2	02/07	Statements & Syntax
3	02/12	Functions
3	02/14	Python Libraries (Pandas)
4	02/19	Python Libraries (Pandas)
4	02/21	Access Database
5	02/26	Python Framework (Flask)
5	02/28	Data Analysis
6	03/05	Data Analysis
6	03/07	Data Analysis
7	03/12	Classes & OOP
7	03/14	Classes & OOP
8	03/19	Review
8	03/21	Mid Term
9	03/26	Spring break
9	03/28	Spring break
10	04/02	Overloading
10	04/04	Generators
11	04/09	Decorators
11	04/11	Dynamic Typing
12	04/16	Modules & Packages
12	04/18	Modules & Packages

13	04/23	Advanced Function Topics
13	04/25	Advanced Class Topics
14	04/30	Exceptions
14	05/02	Exceptions
15	05/07	Review
15	05/09	Presentation
16	05/14	Presentation
Final Exam	05/16	14:45-17:00 pm