San José State University
Computer Science Department
CS-22A: Python Programming for Non-Majors I, Section 01, Spring 2022

Course and Contact Information

Instructor:	Diksha Kool
Office Location:	Online (Zoom)
Email:	diksha.kool@sjsu.edu
Office Hours:	Tuesday & Thursday: 5:00 PM – 6:00 PM Online or by appointment
Class Days/Time:	Tuesday & Thursday: 1:30 PM – 2:45 PM
Classroom:	Online (Zoom) and Science Building 311
Prerequisites:	This course is intended for students who have no prior programming experience. This course is not open to computer science majors or minors or software engineering majors.

Course Description

This course is an introduction to Python Programming. Introduction to Python programming in interesting, relevant, and practical contexts. Programming skills are developed to solve problems in such fields as life sciences, mathematics, and business. Fundamental programming constructs: data structures and algorithms, iterations, and functions.

Course Format

- Class lectures consist of "lecture" mode and "lab" mode (explained in Classroom Protocol below)
- You are required to bring your wireless laptop to each class
- Exams will be in-class, hand-written or on canvas, closed-book.
- Course materials such as syllabus, handouts, notes, hands-on exercise, project instructions, etc. can be found on Canvas Learning Management System course login website at https://sjsu.instructure.com. You are responsible for regularly checking with the Canvas messaging system to learn of any updates.

Course Learning Outcomes (CLO)

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

1. CLO 1: Explain fundamental programming constructs such as assignments, sequential operations, iterations, conditionals, defining functions, and abstraction.
2. CLO 2: Analyze and explain the behavior of Python programs.
3. CLO 3: Apply fundamental programming constructs in life and physical science contexts.

Required Texts/Readings

Python for Biologists by Martin Jones, 2015, ISBN-13: 978-1492346135, ISBN-10: 1492346135. **Note:** The author is a biologist. This book, as well as Advanced Python for Biologists, were written especially for

scientists who are new to programming. You can use this version of the book: http://userpages.fu-berlin.de/digga/p4b.pdf.

Note: We will cover the first eight topics of the book with examples drawn from various fields (biology, mathematics, etc.)

Other Readings

Additional course readings, examples, exercises, etc. will be assigned and will be provided by the instructor.

Course Requirements and Assignments

1. **Hands-On Exercises (20%)**: We will have several hands-on exercises. You will work on these exercises in class with your assigned groups. The purpose of the hands-on exercises is to develop your understanding of the material and your skills in problem-solving and in programming. Occasionally, you will be asked in class to go through your group solutions (programs) and share them with (explain them to) the rest of the class. Hands-on exercises will need to be submitted on Canvas, and the due dates will be announced in class. They will be graded as either complete or incomplete.
2. **Homework (20%)**: Five homework assignments that reinforce lecture and practical skills will be assigned. The purpose of the assignments is to develop your understanding of the material and your skills in problem solving and in programming. Homework assignments will be submitted via Canvas for grading. Please note that you will be responsible for knowing/understanding the content in all homework questions. Only a randomly chosen subset of the assigned problems will be graded (per homework). Assignments are due at the beginning of the lecture and must be submitted on Canvas by 1:29 PM.
3. **Term-Project (20%):** There will be a group programming project. Information on the project (group formations, topics, deadlines) will be given later. Each group will give an in-class presentation on May 10, or May 12, 2022. The project paper is due on Tuesday, May 10, 2022, which is the first day of presentations.
4. **Term Exams (20%):**
   Exam One: Tuesday, March 15, 2022
   Exam Two: Tuesday, April 19, 2022
   Exam One and Exam Two are each one hour and fifteen minutes long (entire class time). All exams are in-class, hand-written or on canvas, closed-book, and comprehensive. Make-up exams will be given only at the instructor's discretion. Note: If you fall behind, you will likely do poorly on the exams as well. Plan on attending office hours if falling behind.
5. **Final Exam (20%):** A cumulative final will be given online scheduled for Monday, May 23 from 12:15-2:30 PM

Grading Information

Grading calculation will be based on the following:

- Hands-On Exercises (20%)
- Five Homework Assignments (20%)
- Term Project (20%)
- Two Term Exams (20%)
- Final Examination (20%)

Incomplete work: Points will be deducted for incomplete question responses and solutions that are partially functional. Consult individual assignments for details of point allocation for each problem.

Late assignments: No late homework will be accepted. However, under exceptional circumstances, one homework assignment per student might be accepted late. It will need to be handed in prior to the following class meeting and will be graded with 30% off. Such an extension should be requested from the instructor. No late assignments will be accepted at the end of the semester for partial points or to increase grades so do your best to complete all assignments on time.

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.

Grading Scale:

Point Range	Letter Grade	Point Range	Letter Grade
960 to 1000	A plus	730 to 759	C
930 to 959	A	700 to 729	C minus
900 to 929	A minus	660 to 699	D plus
860 to 899	B plus	630 to 659	D
830 to 859	B	600 to 629	D minus
800 to 829	B minus	599 or lower	F
760 to 799	C plus		

Classroom Protocol

- **Lecture Mode:** This is when class is used as a regular lecture room. Students are expected to listen and follow the lecture. Be considerate to your classmates and follow the lecture. Do not use the computer for outside-of-class activities.
- **Lab Mode:** This is when class is used as a computer lab. Use your laptop computers. Work collaboratively on problems of the Hands-On and share your ideas and solutions with your classmates.
- We alternate between the two modes. A typical class will begin with a lecture (Lecture Mode) followed by a Hands-On (Lab Mode).

University Policies
Per University Policy S16-9, success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on the Office of Graduate and Undergraduate Programs'

syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/. Cheating will be taken seriously and can result in a zero for the assignment/exams/course.

Per University Policy S14-7, accommodation shall be provided on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed.

Zoom Policies: Use of Zoom

Zoom lectures will be recorded and posted on Canvas for students in the class to access. If you do not wish to appear in a class recording, you have the "anonymous" option (e.g., turning off any identifying information from the Zoom session, including name and picture, prior to recording).

You are not allowed to share any class recordings with anyone who is not enrolled in the class or without permission. The recordings are protected by instructor's copyright. All federal, state, CSU system, and campus regulations on conduct including harassment and discrimination against other students or faculty apply to the online environment, just as in face-to-face instruction.

Students are not allowed to record without instructor permission

Students are prohibited from recording class activities (including class lectures, office hours, advising sessions, etc.), distributing class recordings, or posting class recordings. Materials created by the instructor for the course (syllabi, lectures and lecture notes, presentations, etc.) are copyrighted by the instructor. This university policy (S12-7) is in place to protect the privacy of students in the course, as well as to maintain academic integrity through reducing the instances of cheating. Students who record, distribute, or post these materials will be referred to the Student Conduct and Ethical Development office. Unauthorized recording may violate university and state law. It is the responsibility of students that require special accommodations or assistive technology due to a disability to notify the instructor.

Zoom Classroom Etiquette

- Mute Your Microphone: To help keep background noises to a minimum, make sure you mute your microphone when you are not speaking.
- If using a virtual background, it should be appropriate and professional and should NOT suggest or include content that is objectively offensive or demeaning.

Technology Requirements

Students are required to have a laptop. SJSU has a free equipment loan program available for students. If students are unable to have reliable Wi-Fi, they must inform the instructor, as soon as possible or at the latest one week before the test date to determine an alternative.

COVID-19 Safety Training Materials

All students registered for a College of Science (CoS) class with an in-person component must view the CoS COVID-19 Training slides and the SJSU Phased Adapt Plan website and acknowledge reading them according to their instructor's directions. By working together to follow these county and SJSU safety practices, we can keep our college safer. Students who do not follow COVID-19 Safety practice(s) outlined in the training, the SJSU Phased Adapt Plan, or instructions from their instructors, TAs or CoS Safety Staff may be dismissed from CoS buildings, facilities, or field sites. Please review this training as needed throughout the semester, as updates will be implemented as changes occur (and posted to the same links).

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Course Schedule

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

Week	Date	Topics
1	01/27	Syllabus, Introduction, Course Expectations, Python Interpreter and Python Coding Style Hands-On One and Book MJ Chapter One
2	02/01	Printing and Manipulating Text Hands-On Two and Book MJ Chapter Two
2	02/03	Printing and Manipulating Text Hands-On Two and Book MJ Chapter Two
3	02/08	Printing and Manipulating Text Hands-On Three and Book MJ Chapter Two
3	02/10	Reading and Writing Files Hands-On Four and Book MJ Chapter Three
4	02/15	Reading and Writing Files Hands-On Four and Book MJ Chapter Three
4	02/17	Lists and Loops Hands-On Five and Book MJ Chapter Four
5	02/22	**Homework #1 due @ 1:29 PM** Lists and Loops Hands-On Five and Book MJ Chapter Four
5	02/24	Homework #1 answers Lists and Loops Hands-On Six and Book MJ Chapter Four
6	03/01	Lists and Loops Hands-On Six and Book MJ Chapter Four
6	03/03	Writing our own Function Hands-On Seven and (MJ) Chapter Five
7	03/08	**Homework #2 due @ 1:29 PM** Writing our own Function Hands-On Eight and Book MJ Chapter Five
7	03/10	Homework #2 answers Exam review
8	03/15	**Term Exam 1**
8	03/17	Project Information/Team Building Term Exam 1 answers. Hands-On Nine

9	03/22	Conditional Tests Hands-On Ten and Book MJ Chapter Six
9	03/24	**Project Team Formation** Conditional Tests Hands-On Eleven and Book MJ Chapter Six
10	03/29	**Homework #3 due @ 1:29 PM** **Spring Recess – No Class**
10	03/31	**Spring Recess – No Class**
11	04/05	Homework #3 answers Conditional Tests Hands-On Eleven and Book MJ Chapter Six
11	04/07	**Project Proposal Due @ 1:29 PM** Dictionaries Hands-On Twelve and Book MJ Chapter Eight
12	04/12	**Homework #4 due @ 1:29 PM** Dictionaries Hands-On Thirteen and Book MJ Chapter Eight
12	04/14	Homework #4 answers Exam review
13	04/19	**Term Exam 2**
13	04/21	Term Exam 2 answers. Regular Expressions Hands-On Fourteen and Book MJ Chapter Seven
14	04/26	Regular Expressions Hands-On Fifteen and Book MJ Chapter Seven
14	04/28	Regular Expressions Hands-On Sixteen
15	05/03	**Homework #5 due @ 1:29 PM** Hands-On Sixteen
15	05/05	Homework #5 answers Exam review
16	05/10	**Projects Due @ 1:29 PM** In-Class Presentations
16	05/12	In-Class Presentations [Continuation]
17	05/23	**Final Exam** – May 23 - Monday, 12:15-2:30 PM

Important dates:

Monday, February 7:   Last day to drop courses without a "W" grade

Monday, February 14: Last day to add classes, register late, and submit Credit/No Credit (CR/NC) request.