San José State University
Computer Science Department
CS 22A: Python Programming for Non-Majors I, Section 01, Spring 2021

Course and Contact Information

Instructor:	Punit Sundar
Office Location:	Online
Email:	punithavathi.sundaramurthy@sjsu.edu
Office Hours:	M/W: 3-4pm or by appointment
Class Days/Time:	M/W 1:30pm - 2:45pm
Classroom:	Online
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 Format

- Class lectures consist of "lecture" mode and "lab" mode (explained in Classroom Protocol)
- You are required to bring your wireless laptop to each class
- Exams will be online, during class time, and 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 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.
Prerequisite: 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.
Note: This course is mainly for life science students interested in pursuing a Minor in Bioinformatics. In other words, we will cover Python with a bias towards examples drawn from Biology.

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. The author maintains a website for the books at https://pythonforbiologists.com/introduction. An older version of the book can be found online: http://userpages.fu-berlin.de/digga/p4b.pdf.

Note: We will cover the first eight chapters of the book.

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 a number of 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.
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 on their due date.
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 gives an in-class presentation on May 12 or May 17. The project paper is due on Wednesday, May 12, 2021 which is the first day of presentations.
4. **Term Exams (20%):**

Exam One: Monday, March 15, 2021
Exam Two: Monday, April 26, 2021
Exam One and Exam Two are each one hour and fifteen minutes long (entire class time). All exams are online during the class period 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 Wednesday, May 19 12:15pm - 2:30pm

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**
97.0 - 100	A+	72.0 - 76.99	C
93.0 - 96.99	A	70.0 - 71.99	C-
90.0 - 92.99	A-	67.0 - 69.99	D+
87.0 - 89.99	B+	62.0 - 66.99	D
82.0 - 86.99	B	60.0 - 61.99	D-

80.0 - 81.99	B-	<60.0	F
77.0 - 79.99	C+		

NO extra credit assignments will be given.

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, 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.

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.

Technical Difficulties

Internet connection issues:

Immediately email the instructor a current copy of the state of your exam and explain the problem you are facing. Your instructor may not be able to respond immediately or provide technical support. However, the copy of your exam and email will provide a record of the situation. If possible, complete the exam in the remaining allotted time, offline if necessary. Email your exam to your instructor within the allotted time or soon after.

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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, Course Expectations, Python Interpreter and Python Coding Style Hands-On One and Book (MJ) Chapter One
2	02/01	MJ Chapter Two, Printing and Manipulating Text Hands-On Two
2	02/03	MJ Chapter Two, Printing and Manipulating Text Hands-On Three
3	02/08	MJ Chapter Two, Printing and Manipulating Text Hands-On Three
3	02/10	MJ Chapter Three, Reading and Writing Files Hands-On Four
4	02/15	MJ Chapter Three, Reading and Writing Files Hands-On Four
4	02/17	**Homework #1 due** MJ Chapter Four, Lists and Loops Hands-On Five
5	02/22	Homework #1 answers. MJ Chapter Four, Lists and Loops Hands-On Six
5	02/24	MJ Chapter Four, Lists and Loops Hands-On Six
6	03/01	MJ Chapter Five, Writing our own Function Hands-On Seven
6	03/03	MJ Chapter Five, Writing our own Function Hands-On Seven
7	03/08	**Homework #2 due** MJ Chapter Five, Writing our own Function Hands-On Eight
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	Term Exam 1 answers. Hands-On Nine/Team Building cont.
9	03/24	**Project Team Formation** MJ Chapter Six, Conditional Tests, pages 129 – 139. Hands-On Ten
10	03/29	**Spring Break - No lecture**
10	03/31	**Spring Break - No lecture**
11	04/05	**Homework #3 due** MJ Chapter Six, Conditional Tests, pages 139 – 141 Hands-On Eleven
11	04/07	**Project Proposal Due** Homework #3 answers. MJ Chapter Seven, Conditional Tests, pages 142 – 143 Hands-On Twelve, Hands-On Thirteen
12	04/12	MJ Chapter Eight, Dictionaries, pages 179 – 193 Hands-On Fifteen
12	04/14	MJ Chapter Eight, Dictionaries, pages 179 – 193 [Continuation]. Hands-On Fifteen
13	04/19	**Homework #4 due**
13	04/21	Homework #4 answers Exam review
14	04/26	**Term Exam 2**
14	04/28	Term Exam 2 answers. MJ Chapter Eight, Dictionaries, page 194 Hands-On Sixteen
15	05/03	MJ Chapter Seven, Regular Expressions, pages 151 – 167 Hands-On Fourteen
15	05/05	**Homework #5 due** MJ Chapter Seven, Regular Expressions, pages 151 – 167 [Continuation] Hands-On Fourteen
16	05/10	Homework #5 answers Exam review
16	05/12	**Projects Due**. In-Class Presentations
17	05/17	In-Class Presentations
	05/19	**Final Exam** – Wednesday, May 19 12:15pm - 2:30pm

Important dates:

Monday, February 08: Last day to drop courses without a “W” grade
Monday, February 15: Last day to add classes
Thursday, April 22: Last day to submit a late drop/withdrawal request & late enrollment petition