San José State University
Computer Science Department
CS 85C, Python Programming for Non Majors, Section 01, Fall, 2016

Course and Contact Information:

Instructor:	Virginia Lehmkuhl-Dakhwe PhD
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Office Hours:	Tuesdays 3:00-4:30 pm
Class Days/Time:	TTh 1:30-2:45 pm
Classroom:	Duncan Hall (DH) 450
Prerequisites:	This course is intended for students who have no prior programming experience.

Course Format:

Class time will be spent both in both "lecture" and "lab" mode contexts. You will be expected to participate according to relevant guidelines associated with each mode. Please see "Classroom Protocol" for details.

You will be encouraged to use your own wireless-network ready laptop in all classes. Exams will be in-class, hand-written, closed book.

Canvas Learning Management System and Messaging:

Course materials such as syllabus, handouts, media files, notes, assignment instructions, etc. can be found on the Canvas Leaning Management System course login website at http://sjsu.instructure.com. You are responsible for regularly checking with the Canvas messaging system to learn of any updates.

Course Description:

This course is designed to teach computer programming to non-Computer Science majors. It situates computer programming within interesting, relevant, and practical contexts. Students will learn how to manipulate images and videos, explore digital music, build databases and Web pages and automate data analysis in the life sciences and other applications. The course will cover fundamental programming constructs such as data structures and algorithms, iterations, functions, and other core concepts.

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: Manipulate images, videos, digital music, Web pages, and other data sets in JES (Jython Environment for Students) using fundamental program constructs.

3. CLO 3: Analyze and explain the behavior of Python programs.

4. CLO 4: Apply fundamental programming constructs in life and physical science contexts.

Required Texts/Readings:

Guzdial & Ericson. *Introduction to Computing and Programming in Python, 4/E,* 2016.   ISBN13: 978-0134025544.

Other Readings:

Additional course readings may be assigned and will be provided by the instructor.

Course Requirements and Assignments:

Problem Sets (30%): Problem Sets that reinforce lecture and practical skills will be assigned during most class sessions. Problem Sets will be submitted via Canvas for grading. Each Problem Set is tied to a class period. If you arrive to the relevant class period on-time, sign-in, complete and submit on-time the "check-in" survey for the class, and remain in-class for the duration of the class period, you will be able to select the 5 of 12 Problem Set questions that will be graded for that Problem Set. Please indicate the questions that you wish to have graded by placing an asterisk "*" next to the question response number. If you arrive late or are absent for the relevant class period, as evidenced by failing to sign-in and completing the survey on-time, the instructor will select the 5 questions that will be graded for that Problem Set. Please note that you will be responsible for knowing/understanding content in all Problem Set questions.

Case Study Assignments (10%): Specific assignments related to the Case Studies presented throughout the semester will be assigned.

Tests (20%): Two in-class tests (10% each) will be given.

Portfolio Assignment (20%): A portfolio of work compiled throughout the course will be presented and submitted for grading. Please see the Portfolio Assignment description in Canvas for details.

Final Examination or Evaluation (20%): A cumulative Final Exam will be given.

Grading Information:

Grade calculation will be based on the following: Problem Sets (30%), Case Study Assignments (10%), Tests and Exams (40%), and Portfolio Assignment (20%).

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

Late assignments: Assignments submitted after their specified due date will be deducted 20% total points for the assignment for each day past the due date/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.

Grade Scale:

Point Range	Letter Grade
95.0-100	A
90.0-94.9	A-
87.0-89.9	B+
84.0-86.9	B
80.0-83.9	B-
77.0-79.9	C+
74.0-76.9	C
70.0-73.9	C-
67.0-69.9	D+
64.0-66.9	D
60.0-63.9	D-
<60.0	F

No Extra Credit Assignments will be given.

Classroom Protocol:

1. Regular class attendance is highly recommended and strongly encouraged. Please refer to the "Problem Set" assignment description information on how your class attendance will impact grading of Problem Set assignments.
2. During class time, DH 450 is used as a dual-purpose room. Depending on the schedule, it is a regular lecture room or it can be a computer laboratory. During class time, we will alternate between "Lecture" and "Lab" modes. Students are expected to act accordingly, based on the current use of the room. **During "Lecture" mode**, students are expected to listen and follow the lecture. The classroom is noisy because of the large number of computers. Be considerate to your classmates and follow the lecture. Do not use your computer or talk to your neighbor. **During "Lab" mode**, this is when the space is used as a computer lab and you may work collaboratively on problem sets and share your ideas and solutions with your classmates. A typical class will begin with a short lecture (Lecture mode) followed by time for you to work on a problem set (Lab mode).
3. Please arrive to class on-time so that you benefit fully from the course experience and you do not disturb classmates and the instructor while class is in session.
4. Students are responsible for knowing all materials covered in class lectures, readings, assignments, and other course-related work.
5. Please do not use mobile phones during class time. Laptops, tablets and other devices should only be used for course-related purposes.

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 at http://www.sjsu.edu/gup/syllabusinfo/

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The course schedule is subject to change with fair notice.

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	8/25	Introduction to Computing & Programming, Introduction to JES (Chapters 1 & 2) *Introduction to the Portfolio Assignment*
2	8/30	Programming in JES (Chapter 2) *Problem Set 1 Due (1:00 pm in Canvas)*
2	9/1	Creating and Modifying Text (Chapter 3) *Problem Set 2 Due (1:00 pm in Canvas)*
3	9/6	Introduction to modifying pictures and Modifying Pictures using Loops (Chapter 4) *Problem Set 3 Due (1:00 pm in Canvas)*
3	9/8	Picture Techniques with selection (Chapter 5) *Problem Set 4 Due (1:00 pm in Canvas)*
4	9/13	Life Science (Case Study 1) *Problem Set 5 Due (1:00 pm in Canvas)*
4	9/15	Life Science (Case Study 1)
5	9/20	**Test 1** *Life Science Case Study Assignment Due (1:00 pm in Canvas)*
5	9/22	Picture Techniques – Modifying Pixels by Position (Chapter 6)
6	9/27	Modifying Sound using Loops (Chapter 7) *Problem Set 6 Due (1:00 pm in Canvas)*
6	9/29	Modifying Sound Samples in a Range (Chapter 8) *Problem Set 7 Due (1:00 pm in Canvas)*
7	10/4	Making Sounds by Combining Pieces (Chapter 9) *Problem Set 8 Due (1:00 pm in Canvas)*
7	10/6	Building Bigger Programs (Chapter 10) *Problem Set 9 Due (1:00 pm in Canvas)*
8	10/11	Event-Driven Programming (Case Study 2) *Problem Set 10 Due (1:00 pm in Canvas)*
8	10/13	Event-Driven Programming (Case Study 2)

Week	Date	Topics, Readings, Assignments, Deadlines
9	10/18	Manipulating Text with Methods and Files (Chapter 11) *Event-Driven Programming Case Study Assignment Due (1:00 pm in Canvas)*
9	10/20	**Test 2** *Problem Set 11 Due (1:00 pm in Canvas)*
11	10/25	Advanced Text Techniques: Web and Information (Chapter 12)
11	10/27	Making Text for the Web (Chapter 13) *Problem Set 12 Due (1:00 pm in Canvas)*
12	11/1	Creating and Modifying Movies (Chapter 14) *Problem Set 13 Due (1:00 pm in Canvas)*
12	11/3	What makes Programs and Computers fast? (Chapter 15) *Problem Set 14 Due (1:00 pm in Canvas)*
13	11/8	Functional Programming (Chapter 16) *Problem Set 15 Due (1:00 pm in Canvas)*
13	11/10	Object Oriented Programming (Chapter 17) *Problem Set 16 Due (1:00 pm in Canvas)*
14	11/15	Object Oriented Programming I *Problem Set 17 Due (1:00 pm in Canvas)*
14	11/17	Object Oriented Programming II
15	11/22	Object Oriented Programming III
15	11/24	Thanksgiving
16	11/29	Programming in Python (Case Study 3)
16	12/1	Programming in Python (Case Study 3)
17	12/6	Programming in Python (Case Study 3)
17	12/8	***Present Portfolio*** ***Submit Portfolio for grading*** *Programming in Python (Case Study 3) Assignment Due (1:00 pm in Canvas)*
Final Exam		Friday, December 16 (12:15 – 2:30 pm) **Cumulative Final**