

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

**Course and Contact Information**

<b>Instructor:</b>	Virginia Lehmkuhl-Dakhwe PhD
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<b>Office Hours:</b>	Thursdays 3:00-4:30 pm
<b>Class Days/Time:</b>	TTh 1:30-2:45 pm
<b>Classroom:</b>	Duncan Hall (DH) 450
<b>Prerequisites:</b>	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.

Course materials such as syllabus, handouts, media files, notes, assignment instructions, etc. can be found on the Canvas learning management system course website. You are responsible for regularly checking with the messaging system through MySJSU and through email to learn of any updates.

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

**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

### Textbook

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

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

**Submission of Assignments for grading will be through Canvas. Assignments are due at 1:00 pm on the due date. Assignments submitted after 1:00 pm on the due date and before 1:00 pm the following day will be marked down 20%. Assignments will be marked down an additional 20% each day thereafter.**

### Course requirements and Assignments will include:

**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 and Exams (40%):** Two in-class tests (10% each) and a cumulative Final Exam (20%) 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.

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

## Grading Policy

**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.**

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

## 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

### General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90-5 at <http://www.sjsu.edu/senate/docs/S90-5.pdf>. More detailed information on a variety of related topics is available in the SJSU catalog, at <http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

### Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's Catalog Policies section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The Late Drop Policy is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at <http://www.sjsu.edu/advising/>.

### Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- "Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material."
  - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- "Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated

material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

### **Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

### **Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at [http://www.sjsu.edu/president/docs/directives/PD\\_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

### **Student Technology Resources**

Computer labs for student use are available in the [Academic Success Center](http://www.sjsu.edu/at/asc/) at <http://www.sjsu.edu/at/asc/> located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

### **SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10<sup>th</sup> and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit [Peer Connections website](http://peerconnections.sjsu.edu) at <http://peerconnections.sjsu.edu> for more information.

## **SJSU Writing Center**

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the [Writing Center website](http://www.sjsu.edu/writingcenter) at <http://www.sjsu.edu/writingcenter>. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to



scan this code.)

## **SJSU Counseling Services**

The SJSU Counseling Services is located on the corner of 7<sup>th</sup> Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit [Counseling Services website](http://www.sjsu.edu/counseling) at <http://www.sjsu.edu/counseling>.

# CS 85C, Python Programming for Non Majors, Section 01, Spring, 2016

The course schedule is subject to change with fair notice.

## Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	1/28	Introduction to Computing & Programming, Introduction to JES (Chapters 1 & 2) <i>Introduction to the Portfolio Assignment</i>
2	2/2	Programming in JES (Chapter 2) <i>Problem Set 1 Due (1:00 pm in Canvas)</i>
2	2/4	Creating and Modifying Text (Chapter 3) <i>Problem Set 2 Due (1:00 pm in Canvas)</i>
3	2/9	Introduction to modifying pictures and Modifying Pictures using Loops (Chapter 4) <i>Problem Set 3 Due (1:00 pm in Canvas)</i>
3	2/11	Picture Techniques with selection (Chapter 5) <i>Problem Set 4 Due (1:00 pm in Canvas)</i>
4	2/16	Life Science (Case Study 1) <i>Problem Set 5 Due (1:00 pm in Canvas)</i>
4	2/18	Life Science (Case Study 1)
5	2/23	<b>Test 1</b> <i>Life Science Case Study Assignment Due (1:00 pm in Canvas)</i>
5	2/25	Picture Techniques – Modifying Pixels by Position (Chapter 6)
6	3/1	Modifying Sound using Loops (Chapter 7) <i>Problem Set 6 Due (1:00 pm in Canvas)</i>
6	3/3	Modifying Sound Samples in a Range (Chapter 8) <i>Problem Set 7 Due (1:00 pm in Canvas)</i>
7	3/8	Making Sounds by Combining Pieces (Chapter 9) <i>Problem Set 8 Due (1:00 pm in Canvas)</i>
7	3/10	Building Bigger Programs (Chapter 10) <i>Problem Set 9 Due (1:00 pm in Canvas)</i>
8	3/15	Event-Driven Programming (Case Study 2) <i>Problem Set 10 Due (1:00 pm in Canvas)</i>
8	3/17	Event-Driven Programming (Case Study 2)
9	3/22	Manipulating Text with Methods and Files (Chapter 11) <i>Event-Driven Programming Case Study Assignment Due (1:00 pm in Canvas)</i>
9	3/24	<b>Test 2</b> <i>Problem Set 11 Due (1:00 pm in Canvas)</i>
10	3/29 Break	
10	3/31 Break	

Week	Date	Topics, Readings, Assignments, Deadlines
11	4/5	Advanced Text Techniques: Web and Information (Chapter 12)
11	4/7	Making Text for the Web (Chapter 13) <i>Problem Set 12 Due (1:00 pm in Canvas)</i>
12	4/12	Creating and Modifying Movies (Chapter 14) <i>Problem Set 13 Due (1:00 pm in Canvas)</i>
12	4/14	What makes Programs and Computers fast? (Chapter 15) <i>Problem Set 14 Due (1:00 pm in Canvas)</i>
13	4/19	Functional Programming (Chapter 16) <i>Problem Set 15 Due (1:00 pm in Canvas)</i>
13	4/21	Object Oriented Programming (Chapter 17) <i>Problem Set 16 Due (1:00 pm in Canvas)</i>
14	4/26	Object Oriented Programming I <i>Problem Set 17 Due (1:00 pm in Canvas)</i>
14	4/28	Object Oriented Programming II
15	5/3	Object Oriented Programming III
15	5/5	Programming in Python (Case Study 3)
16	5/10	Programming in Python (Case Study 3)
16	5/12	<i>Present Portfolio</i> <i>Submit Portfolio for grading</i> <i>Programming in Python (Case Study 3) Assignment Due (1:00 pm in Canvas)</i>
Final Exam	5/19	12:15-2:30 pm <b>Cumulative Final</b>