SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Introduction to Programming Section 03

CS 46A

Fall 2023 4 Unit(s) 08/21/2023 to 12/06/2023 Modified 08/22/2023

Class Day/Time: TuTh 4:30PM - 5:45PM

Location: Boccardo Business Center 202

Contact Information

Instructor: Dr. Sayma Akther

Email: sayma.akther@sjsu.edu
Office: MH 213
Phone: (408) 924-2511

Office Hours

Wednesday, 2:00 PM to 4:00 PM, MH 213

If the office hours don't work for you, don't worry. Feel free to email me, and we can schedule a Zoom meeting at a more convenient time for you.

Graders:

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Course Description and Requisites

Basic skills and concepts of computer programming in an object-oriented approach using Java. Classes, methods and argument passing, control structures, iteration. Basic graphical user interface programming. Problem solving, class discovery and stepwise refinement. Programming and documentation style. Weekly hands-on activity.

Lecture 4 hour/lab 3 hours.

Prerequisite(s): Math Enrollment Category M-I, M-II, or M-III, or MATH 1 with a grade of C- or better; and a major of Computer Science, Applied and Computational Math, Software Engineering, Forensic Science: Digital Evidence, or Undeclared; or instructor consent.

Letter Graded

Classroom Protocols

To ensure a positive and productive learning environment, here are some important points to keep in mind:

Materials and Updates

- **Find course materials on Canvas at http://sjsu.instructure.com.**
- **Regularly check MySJSU and your email for updates.**

Recording and Privacy

- **Recording any class activities, including lectures, is only allowed with the instructor's permission.**
- **You are not permitted to share or distribute class recordings.**
- **Instructor-generated materials (like syllabi, lectures, and presentations) are protected by copyright.**
- **Violation may result in referral to Student Conduct and Ethical Development office.**

Respectful Behavior

- **Treat your fellow classmates with respect and kindness.**
- **Avoid interruptive or disruptive behavior during class.**
- **Limit electronic device usage to relevant learning activities.**
- **The full code of conduct is available on Canvas.**

Plagiarism and Cheating

- **Don't use someone else's code without proper acknowledgment.**
- **Collaborate on coding techniques, not copying.**
- **Violations lead to zero credit or disciplinary action.**

Program Information

Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

Course Learning Outcomes (CLOs)

By the end of this course, students will have achieved the following skills:

1. **Break down and elucidate the functionality of programs involving essential program structures.**
2. **Craft concise programs that incorporate core program structures, encompassing standard conditional and iterative control systems.**
3. **Detect and rectify both syntax and logic errors within brief programs.**
4. **Choose between arrays or array lists based on problem requirements and devise short programs utilizing them.**
5. **Devise and execute a class rooted in object attributes and functions.**
6. **Generate instances using a class and set in motion methods within them.**
7. **Formulate Javadoc comments for methods and classes.**
8. **Leverage interfaces and inheritance to outline shared traits among classes, and fabricate programs that leverage this shared functionality.**
9. **Navigate through an integrated development environment alongside a debugger for effective programming.**

Course Materials

Required Textbook: Big Java - Early Objects

Author: Cay S. Horstmann
Publisher: Wiley
Edition: 7th Edition
ISBN: 9781119499442, 1119499445

Optional TextBook: Java Programming - From the Ground Up

Author: Ralph Bravaco, Shai Simonson
Publisher: McGraw-Hill Education
Edition: 1st Edition
ISBN: 9780071271264, 0071271260
Optional

Technology Requirements

Laptop: This course requires the student to have a personal computer with internet access for all classes, labs, and exams.

Programming Language: Java
Java environment: JDK (https://www.oracle.com/java/technologies/downloads/ (https://www.oracle.com/java/technologies/downloads/))
IDE (integrated development environment): IntelliJ IDEA (https://www.jetbrains.com/idea/ (https://www.jetbrains.com/idea/))

Online Platform: CodeCheck (https://horstmann.com/codecheck/index.html) will be the platform for evaluating your programs and creating reports for exams, assignments and participation exercises.

Library Liaison

Yuqi He, Ph.D., MLIS
Engineering & Data Services Librarian
University Library
San Jose State University
(408) 808-2044

Course Requirements and Assignments

Meeting the Course Requirements and completing the Assignments are essential for successfully progressing in the course.

Reading Quizzes (5%)

A reading quiz is expected to be submitted by midnight on the day of each lecture. The two lowest scores will be omitted from consideration.

Poll Anywhere (5%)

Earn full credit for each lecture by answering at least half of the questions. The two lowest scores will be disregarded. These questions are designed to function as a review, aiding both you and the instructor in evaluating your progress in the class.

Participation Exercises (5%)

Two exercises will be assigned per lecture and may be provided at any point during the class. Typically, these exercises will be explained in the class session and are expected to be completed by the conclusion of the lecture day. If additional time is required to finish the exercises outside of class, they should be submitted on Canvas before midnight of the following day. These exercises serve the purpose of motivating you to study and review the concepts and materials covered in the lecture.

Labs (15%)

Every Friday, the lab is like a practice session to reinforce what you learn in class and to help you with the work you do for the course. This includes things you prepare before class, the exercises you participate in, and the homework. Passing the lab is important to pass the whole course. If you miss more than two labs, you won't pass the lab part or the CS 46A course. The lowest three lab scores will be dropped.

Homework (15%)

Expected to be submitted on most Sundays prior to midnight as indicated in the schedule.

Midterm Exams (30%)

There will be two in-class exams. The first exam will cover lectures from one to ten, while the second one will cover lectures from eleven to nineteen. Exams cannot be rescheduled, unless due to illness with a doctor's note or a verifiable serious emergency.

Final Exam (25%)

The final exam must be taken on the scheduled day and will cover material from all the lectures.

✔ Grading Information

Grade	Range (%)
A+	97 and above
A	93-96
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	Below 60

🏛 University Policies

Per University Policy S16-9 (PDF) (http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on the Syllabus Information (https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

📅 Course Schedule

Please be aware that this schedule is subject to modifications with appropriate prior notification. Any alterations will be communicated during class and published on the Canvas course platform.

Week	Date	Topics	Readings and Assignments
1	8/22	Introduction	
	8/24	Our First Java Programs	Ch 1: 1.1-1.6
2	8/29	Style and Methods	Ch 1: 1.7, Ch 2: 2.1
	8/31	Variables, Methods, and Objects	Ch 2: 2.2-2.5
3	9/5	Documentation	Ch 2: 2.6-2.8
	9/7	Implementing Classes	Ch 3: 3.1-3.4
4	9/12	Classes and Methods	Ch 3: 3.5-3.7
	9/14	Numbers, Arithmetic, and I/O	Ch 4: 4.1-4.3.1
5	9/19	I/O with Scanner Objects	Ch 4: 4.3-4.5
	9/21	If Statements and Logical Operators	Ch 5: 5.1-5.3
6	9/26	Nested If Statements	Ch 5: 5.4-5.8
	9/28	Midterm Exam #1	
7	10/3	While Loops	Ch 6: 6.1-6.2
	10/5	For Loops	Ch 6: 6.3
8	10/10	Do Loops	Ch 6: 6.4-6.5
	10/12	More Loops	Ch 6: 6.6-6.7
9	10/17	Nested Loops	Ch 6: 6.8-6.10
	10/19	ArrayLists & Arrays	Ch 7: 7.1-7.2
10	10/24	Arrays	Ch 7: 7.3-7.4
	10/26	2D Arrays	Ch 7: 7.5-7.6
11	10/31	Array Lists	Ch 7: 7.7-7.8
	11/2	Midterm Exam #2	
12	11/7	Designing Classes	Ch 8: 8.1-8.3
	11/9	Static Variables & Methods	Ch 8: 8.4-8.5
13	11/14	Packages and Unit Tests	Ch 8: 8.6-8.7
	11/16	Inheritance	Ch 9: 9.1-9.3
14	11/21	Thanksgiving Holiday: no class	
	11/23	Thanksgiving Holiday: no class	
15	11/28	Polymorphism	Ch 9: 9.4-9.5
	11/30	Interfaces	Ch 10: 10.1-10.3

16	**12/5**	**Review & Practice**	
	12/7	**Preparation: no class**	
17	**12/12**	**Final Exam**	