SJSU SAN JOSÉ STATE UNIVERSITY

College of Science . Computer Science

Introduction to Programming: CS 46B (4 units)

Spring 2026: Section 04 (Lecture) , 16 (Lab)

Contact Information:

Instructor	**Dr. Saeedeh Komijani**
Email	saeedeh.komijani@sjsu.edu
Office	Duncan Hall 282
Class Day/Time	T-Th / 12-1:15pm
Classroom	Boccardo Business Classroom 225
Office Hours	T-Th / 1:30-2:30pm (In person or Zoom) Duncan Hall 282 https://sjsu.zoom.us/j/7522663751

Course Description:

- Fundamental data structures including lists, stacks, queues, and trees, with algorithms for inserting, deleting, searching, and sorting information within them efficiently. Additional topics include Big-O analysis, exceptions, hashing, Java collections framework, generics, iterators, interfaces, recursion, and debugging. Weekly hands-on activities.
- Lecture 2.5 hours/lab 3 hours.
- Letter Graded
- Prerequisite(s): CS 46A or CS 46AX (with grade of C- or better). (If CS 46A was not in Java, then CS46AW also required.) Math Enrollment Category M-I or M-II and satisfactory score on the Precalculus Proficiency Assessment (70 or higher), or MATH 19 with a C- or better, or MATH 18A and MATH 18B with C- or better; Allowed Majors: Computer Science, Data Science, Computer Science and Linguistics, Stats, Applied/Computational Math, Software Engineering or Forensic Science: Digital Evidence.

Course Policies and Expectations:

1. Students may be dropped from the class by the instructor for either of the following reasons:
    - Absence on the first day of class without notifying the instructor by the second day of class
    - Lack of required prerequisites
2. Do not ask for special treatment. The rules for this course apply equally to all students.
3. Cheating and plagiarism will not be tolerated.
    - No alteration or circumvention of the LockDown Browser is permitted.
    - Any violation will be reported to the Department and the University.
4. You will fail the course for:
    - Any cheating or plagiarism on a exam
    - Two instances of cheating or plagiarism on assignments or lab work
5. A score of zero will be given for any assignment involving cheating or plagiarism.
6. Do not share or post any course materials, including lecture slides, homework, or solutions, online.
7. Use of electronic devices during exams is not allowed unless explicitly stated otherwise.
8. You are responsible for regularly checking Canvas for announcements, readings, and assignments. Once the course begins, please use Canvas Inbox to contact the instructor for a faster response, as it is checked more frequently than university email.
9. The information in this syllabus is subject to change. Any updates will be clearly announced in class, and it is your responsibility to stay informed.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7 requires students to obtain the instructor's permission before making any audio or video recordings of the course. Common courtesy and professional behavior require that you inform individuals when they are being recorded. You must receive explicit permission from the instructor to record any class sessions.

Any approved recordings may be used only for your personal study purposes. All recordings and instructor-generated materials are the intellectual property of the instructor, and permission to record does not grant you the right to reproduce, distribute, or publicly share this content.

You may not post, upload, or otherwise share instructor-generated materials for this course, including exam questions, lecture notes, recordings, or homework solutions, on public or private platforms without the instructor's explicit consent.

Attendance

University Policy F69-24 states that students are expected to attend all class meetings, not only because they are responsible for the material discussed, but also because active participation is frequently essential to ensure maximum benefit for all members of the class.

Program Information, Diversity Statement

At San José State University, we are committed to creating a safe and respectful learning environment where students can explore, learn, and grow together. We strive to foster a diverse, equitable, and inclusive community that values, encourages, and supports students from all backgrounds, identities, and experiences.

Course Learning Outcomes

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

1. Use and work with fundamental data structures, including linked lists, stacks, queues, binary search trees, and iterators.
2. Implement Java classes that represent and encapsulate common data structures.
3. Use pre-existing implementations, such as those provided by the Java Collections Framework, appropriately and effectively.
4. Analyze and compare the running time and efficiency of algorithms using Big-O notation.
5. Formulate and reason about preconditions and postconditions for methods and data structures.
6. Distinguish between different types of program defects and apply testing and debugging techniques to identify and correct them.
7. Implement simple sorting algorithms, including Insertion Sort and Selection Sort.
8. Implement and compare searching algorithms, including Sequential Search and Binary Search.
9. Implement simple recursive algorithms, such as binary tree traversals.
10. Work competently with commonly used software development tools, including an IDE, debugger, and testing tools.
11. Design and implement custom data structures when appropriate pre-existing classes are not available or suitable.

Course Materials

The required textbook for this course is Java: Early Objects, available through zyBooks. This course uses the zyBooks version of the text.

To access the zyBooks:

- Click on any zyBooks assignment link in the course Learning Management System (Canvas).
- Do not go directly to the zyBooks website to create a new account.
- Follow the prompts to subscribe.

Optional Textbook:
Big Java: Early Objects
Author: Cay S. Horstmann
Publisher: Wiley
Edition: 7th Edition

Course Requirements and Assignments

This course is delivered in person. All students are required to have access to a wireless laptop (running macOS, Windows, or a UNIX-based operating system) equipped with a camera and microphone, and capable of installing the required software. This device will be needed for all classes, labs, and exams.
Technology used in this course includes Canvas, Java programming, and an Integrated Development Environment (IDE).

Labs

Lab projects provide hands-on opportunities to apply concepts introduced in lecture and to strengthen Java programming skills. Most Fridays will include a scheduled lab session.

- Lab projects will be posted before the lab and are due on the same day at 11:59 PM .
- Students typically complete the lab during the scheduled lab time.
- Lab projects are completed in pairs.
- To receive credit, each group must participate in a short exit interview covering lab material and quiz questions with the lab instructor or a learning assistant.

Lab Attendance and Credit Policies:

- Missing or submitting inadequate lab work four times will result in failure of the course.
- After three missed or inadequate labs, you must schedule a meeting with the instructor.
- If you cannot attend a lab due to illness, you must notify the lab instructor before your lab section begins to arrange alternatives.
- To make up a missed lab, you must contact the lab instructor and complete the exit interview and/or lab report during office hours.
- Makeup labs earn at most half credit (5/10).
- A makeup lab still counts as a missed lab.

Midterm Exams

- Midterm exams will be given during lectures.
- Makeup midterm exams are granted only in cases of verifiable emergency.
- Midterm exam dates listed in this syllabus are approximate and subject to change.
- Any student who cheats on a midterm exam will fail the course immediately.

Final Exam

- The final exam will be cumulative.
- Makeup final exams are granted only if:
    - There is a verifiable emergency or illness, or
    - The student has more than two final exams within a 24-hour period and notifies the instructor at least two weeks before the last class meeting.
- Any student who cheats on the final exam will fail the course immediately.

Quizzes

Weekly quizzes will be administered throughout the semester. These quizzes are intended to help students stay current with course material and to identify areas of confusion for both students and the instructor.

Technology Requirements

Students must have access to an electronic device (laptop, desktop, or tablet) with a camera and built-in microphone, as well as a reliable Wi-Fi connection.

Students who do not have access to the required technology may use SJSU's free equipment loan program. If you experience technology or connectivity issues, please contact the instructor as soon as possible.

Grading Information

Final grades will not be adjusted or rounded. For example, a final score of 89.99% earns a B+, not an A−. Incomplete grades will not be given.

Late submissions are not accepted, except in cases of verifiable emergencies (e.g., documented medical emergencies or family death certificates).

Grading Scale

- 97.00% – 100% A+
- 94.00% – 96.99% A
- 90.00% – 93.99% A−
- 87.00% – 89.99% B+
- 84.00% – 86.99% B
- 80.00% – 83.99% B−
- 77.00% – 79.99% C+
- 74.00% – 76.99% C
- 70.00% – 73.99% C−
- 67.00% – 69.99% D+
- 64.00% – 66.99% D
- 60.00% – 63.99% D−
- Below 60.00% F

Grade Breakdown

- **Quizzes:** 5%
- **zyBooks Homework:** 10%
- **Lab Work/Exam:** 20%
- **Participation Exercises:** 5%
- **Homework:** 10%
- **Midterm 1:** 15%
- **Midterm 2:** 15%
- **Final Exam:** 20%

Total: 100%

University Policies

In accordance with **University Policy S16-9**, relevant university policies that apply to all courses, including student responsibilities, academic integrity, accommodations, adding and dropping courses, consent for recording of class sessions, and available student services (such as learning assistance, counseling, and other resources), are available on the **Syllabus Information** web page: https://www.sjsu.edu/curriculum/courses/syllabus-info.php

Students are responsible for reviewing this information and being aware of all applicable university policies and resources.

Course Schedule

Week	Lecture Dates	Lecture Topics	HW	Lab Date	Lab Activity
W0	Jan 22	Introduction	—	—	No Lab
W1	Jan 27-29	Class Implementation, Inheritance	HW1	Jan 30	Lab 1
W2	Feb 3-5	Polymorphism, Abstract, OOP	HW2	Feb 6	Lab 2
W3	Feb 10-12	Generics: Type Conversion and Casting	HW3	Feb 13	Lab 3
W4	Feb 17-19	Input/Output; Exceptions	HW4	Feb 20	Lab 4
W5	Feb 24-26	Exceptions; Intro to Unit Testing (JUnit)	HW5	Feb 27	Lab 5
W6	Mar 3-5	Recursion; Recursive Algorithms	HW6	Mar 6	Lab 6
W7	Mar 10-12	Review, **Midterm 1**	HW7	Mar 13	**Exam 1**
W8	Mar 17-19	Big-O Analysis; Sorting and Searching	HW8	Mar 20	Lab 7
W9	Mar 24-26	Memory Management; Linked Lists	HW9	Mar 27	Lab 8
—	—	**Spring Break**	—	—	No Lab
W10	Apr 7-9	Stacks; Queues	HW10	Apr 10	Lab 9
W11	Apr 14-16	Trees; BST	HW11	Apr 17	Lab 10
W12	Apr 21-23	BST; Sets	HW12	Apr 24	Lab 11
W13	Apr 28-30	Java Collections; Hash Tables	HW13	May 1	Lab 12
W14	May 5-7	Comprehensive Review, **Midterm 2**	HW14	May 8	**Exam 2**
Final Exam	Tuesday May 19	**Final Exam – 10:45am-12:45pm**			