SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Object-Oriented Design

CS 151

Spring 2026 Section 06 In Person 3 Unit(s) 01/22/2026 to 05/11/2026 Modified 01/22/2026

Contact Information

Instructor: Telvin Zhong

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Lecture: Tuesdays and Thursdays 6 -7:15 PM @ MacQuarrie Hall 422

Office Hours: Friday 1-2 PM by zoom: https://sjsu.zoom.us/j/3850445803 or by appointment.

Feel free to email me at any time - your instructors are here to help you succeed!

Course Description and Requisites

Design of classes and interfaces. Object-oriented design methodologies and notations. Design patterns. Generics and reflection. Exception handling. Concurrent programming. Graphical user interface programming. Software engineering concepts and tools. Required team-based programming assignment.

Prerequisite(s): MATH 42, CS 46B, and [(CS 48 or CS 49J) if CS 46B was not in Java], each with a grade of "C-" or better; Allowed Declared Majors: Computer Science, Applied and Computational Math, Software Engineering, or Data Science; or instructor consent.

Letter Graded

Classroom Protocols

- This course is an in-person class. Do your best to be on time. If you miss a class, contact your classmates and review the lecture slides to not fall behind since most weeks build on previous weeks.
- Attendance is encouraged to succeed in this course. While slides will be published for study, they are NOT meant to be a complete resource for succeeding on exams. There will be topics and problems on the exams not directly referenced in the slides. Anything verbally discussed during class, including topics or details not included on the slides, is eligible to appear on exams.
- Students are prohibited from recording class activities including lectures, office hours, advising sessions, etc. Materials created by the instructor for this course 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 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.

- Information in the syllabus is subject to change. If this happens, it will be announced both in class and on Canvas. Students are responsible for regularly checking Canvas announcements for important class updates.

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 Goals

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

Object-Oriented Design

Follow a systematic object-oriented design methodology.
Develop use cases, perform noun/verb analysis, interpret, and produce CRC cards.
Interpret and produce UML diagrams.
Understand object-oriented concepts.
Use design patterns.
Practice SOLID design principles.

Advanced Java Language

Implement Java fundamental concepts of OOP.
Implement Java constructs such as: Interfaces, Abstract classes, Nested classes, ...
Implement Java standard Object methods.
Implement Java type system, lambda expression, serialization, Java generics, ...
Implement exception handling.
Implement threads and thread-safe data structures.

GUI Programming

Use JavaFX to create graphical user interface (GUI) for desktop applications.

Course Materials

This course does not have any required textbook. Exams are designed based on the contents of in-person lecture.

Supplemental Reading:

Cay Horstmann, "Object-Oriented Design & Patterns," 3rd edition

https://horstmann.com/oodp3

Course Requirements and Assignments

Prior Java knowledge is not a prerequisite for this course but students must be comfortable with programming fundamentals.

Projects:

- Projects will be done in groups of 3-4 and will account for around half of your grade.
- We will host projects in private repositories on Github. Having a Github account and basic familiarity with git is recommended.
- Projects will be graded based on the code in the repo on midnight of the due date. Late contributions will not be considered.
- More details will be given when the first project is assigned.

Exams:

- There will be one midterm exam and one comprehensive final examination.

Grading Information

From	Grade
97	A+
93	A
90	A-
87	B+
83	B
80	B-
77	C+
73	C-
70	C-
67	D+

63	D
60	D-
0	F

There will be opportunities for extra credit throughout the semester. In return, the above grading scheme is final and grades will not be rounded.

Breakdown

Midterm	30%
Final Exam	30%
Project 1	10%
Project 2	15%
Project 3	15%

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

Section 06: Tuesdays and Thursdays 6 -7:15 PM @ MacQuarrie Hall 422

Midterm - March 12 (6:00 - 7:20 PM)

Final - May 14th (5:30 - 7:30 PM)

Makeup Final Exam: May 20th

Makeup exams will **only** be given in cases of directly conflicting final exams, illness (documented by a doctor), or in other cases of documentable and extreme emergencies.