

# Greensheet

CS 151: Object-Oriented Design  
Spring 2023, **Section 05**

San José State University  
Department of Computer Science

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## Instructor Info

Instructor	Ahmad Yazdankhah	My name is difficult to pronounce!
Office Location	Online	
Email	<a href="mailto:ahmad.yazdankhah@sjsu.edu">ahmad.yazdankhah@sjsu.edu</a>	Please email me via Canvas
Website *		Our official educational web tool is <a href="https://sjsu.instructure.com/">Canvas</a> available at <a href="https://sjsu.instructure.com/">https://sjsu.instructure.com/</a>
Phone		Canvas email is the best way to communicate with me!
Office Hours	TR 18:00 – 19:00	Online, by appointment

\* Course materials such as handouts, notes, assignment instructions, etc. can be found on [Canvas Learning Management System](https://sjsu.instructure.com/) available at <http://sjsu.instructure.com>. **Students are responsible for regularly checking** with its messaging system (or other communication system as indicated by the instructor) to learn of any updates.

## Class Info

	Section 05
Meeting Time	MW 16:30 – 17:45
Classroom	DH 450
Course Type	In-Person

## Catalog Description

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.

### Prerequisites

MATH 42, CS 46B, and CS 49J (or equivalent knowledge of Java) (with a grade of "C-" or better in each); Allowed Declared Majors: Computer Science, Applied and Computational Math, Software Engineering, or Data Science; or instructor consent.

The Department of Computer Science strictly enforces prerequisites.

**If you are not already pre-enrolled**, you must attend the first day of the class and let your instructor know and fill out the provided document. If the class is not full, the permission codes will be provided to the requesters **based on the priorities**. More information will be given in the first day of the class.

Please note that **any student who does not show up during the first two class meetings, may be dropped by the instructor.**

## Required Text

This course does not need a required textbook. My lecture notes contain all required materials.

## Further Readings

1. Cay Horstmann, "Object-Oriented Design & Patterns," 3rd edition:  
A watermarked edition will be provided in the Canvas.  
The resources can be found at: <http://horstmann.com/oodp3/>
2. Stephen Gilbert and Bill McCarty, "Object-Oriented Design in Java," Sams  
ISBN-13: 978-1571691347
3. The references at the end of each lecture note.

## Course Learning Outcomes (CLO)

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

1. 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 several design patterns
  - Practice SOLID design principles
2. Advanced Java Language
  - Be master on implementing Java fundamental concepts of OOP
  - Be familiar with Java constructs such as: Interfaces, Abstract classes, Nested classes, ...
  - Implement Java standard Object methods
  - Be familiar with Java type system, lambda expression, serialization, Java generics, ...
  - Implement exception handling
  - Implement threads and thread-safe data structures
3. GUI Programming
  - Use JavaFX to create graphical user interface (GUI) for desktop applications

## Examinations and Assignments

- Every week, there would be a short quiz.
- There would be two midterms, and a final exam.
- There would be a term project and several individual assignments.
- All examinations would cover from the beginning of the semester.
- All examinations would be closed-all-materials.
- There won't be any makeup for the exams.

### Grading Information

Assignments	10%
Term Project	25%
Quizzes	20%
Midterm #1	10%
Midterm #2	15%
Final	20%
<b>Total</b>	<b>100%</b>

### Nominal Grading Scale

From	To	Grade
97	100	A plus
93	96.99	A
90	92.99	A minus
87	89.99	B plus
83	86.99	B
80	82.99	B minus
77	79.99	C plus
73	76.99	C
<b>70</b>	<b>72.99</b>	<b>C minus</b>
67	69.99	D plus
63	66.99	D
60	62.99	D minus
0	59.99	F

To practice time management, late submissions will lose 20% of the total assignment score and an additional 20% for each 24-hour afterward.

## Course Requirements and Workload

- A computer with microphone and camera is required for the online activities (lecture meetings, office hours, online exams, etc.).
- Java is the standard programming language for this course. Having enough knowledge about it is essential for this course.
- Success in this course is based on the expectation that students will spend at least 6 – 10 hours per week for:
  - working on the assignments,
  - preparation for the exams (quizzes, midterms, and final),
  - working on the term project.
- More details about student workload can be found in [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) available at <http://www.sjsu.edu/senate/docs/S16-9.pdf>.

## Course Format

This course will be taught in in-person format. **The lectures will be recorded and provided before the lecture time** and students should watch it before attending the class. In each lecture meeting, the lecture will be summarized, last week assignment and quiz will be solved, and students' questions will be responded.

## Class Protocol

- Be on time! Coming late is disruptive.
- My classes are always interactive. So, participate in the class' activities as much as you can.
- Cell phones should be in silent mode and should be kept in your pocket or backpack and should NOT be used during the lectures.
- Laptops should remain closed until I inform you that it is needed for a particular activity unless it's being used for taking notes.
- Instant messaging, e-mailing, texting, tweeting, etc. are strictly forbidden in my class.
- Attendance is highly recommended, but is not mandatory, except for exam times.

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

- 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.

## University Policies

Per [University Policy S16-9](#), 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 [Syllabus Information web page](#) available at (<https://www.sjsu.edu/curriculum/courses/syllabus-info.php>). Make sure to visit this page to review and be aware of these university policies and resources.

# Course Schedule

**Note:** This is a tentative schedule and is subject to change but with fair notice.

Day	Date	Lec #	Topics	Exams
1	01/25	0	Greensheet; A big picture of the course	
2	01/30	1	Enter OOP (Part 1)	
3	02/01	2	Enter OOP (Part 2)	Quiz 0
4	02/06	3	Software Development Lifecycle (Part 1)	
5	02/08	4	Software Development Lifecycle (Part 2)	Quiz 1
6	02/13	5	Software Development Lifecycle (Part 3)	
7	02/15	6	Software Development Lifecycle (Part 4)	Quiz 2
8	02/20	7	OOP Fundamentals (Part 1): Abstraction, Inheritance	
9	02/22	8	OOP Fundamentals (Part 2): Encapsulation, Interfaces	Quiz 3
10	02/27		Review, Study Guide, Q & A	
11	03/01		Exam: Mid 1	Quiz +
12	03/06	9	OOP Fundamentals (Part 3): Polymorphism	
13	03/08	10	Java Constructs (Part 1); abstract class, nested class	Quiz 4
14	03/13	11	Java Constructs (Part 2); Anonymous class, Lambda expressions	
15	03/15	12	GUI Programming (Part 1)	Quiz 5
16	03/20	13	GUI Programming (Part 2)	
17	03/22	14	GUI Programming (Part 3)	Quiz 6
18	03/27		Spring Recess	
19	03/29		Spring Recess	
20	04/03	15	OOD Guidelines (Part 1): Design Patterns	
21	04/05	16	OOD Guidelines (Part 2): Design Patterns	Quiz 7
22	04/10		Review, Study Guide, Q & A	
23	04/12		Exam: Mid 2	Quiz ++
24	04/17	17	OOD Guidelines (Part 3): SOLID Principles	
25	04/19	18	Implementation Guidelines (Part 1)	Quiz 8
26	04/24	19	OOD Guidelines (Part 4): SOLID Principles	
27	04/26	20	Advanced Java (Part 1)	Quiz 9
28	05/01	21	Advanced Java (Part 2)	
29	05/03	22	Advanced Java (Part 3)	Quiz 10
30	05/08	23	Implementation Guidelines (Part 2)	
31	05/10		Review, Study Guide, Q & A	

<b>Final exam</b>	<b>Section 05 (MW 16:30 – 17:45)</b>
<b>Date and Time</b>	Wed, May 17 @ 14:45
<b>Venue</b>	Online or In-Person