SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Object-Oriented Design Section 01

CS 151

Fall 2023   3 Unit(s)   08/21/2023 to 12/06/2023   Modified 08/20/2023

👤 Contact Information

Email	toshi.bhat@sjsu.edu
Office Hours	Tue/Thurs 12:00 PM - 1:00 PM
Office(Tentative)	https://sjsu.zoom.us/j/86443817605
Messaging	Email/canvas

💻 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 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.

Letter Graded

✳ Classroom Protocols

- Students may be dropped from the class by the instructor for either one of the following reasons:
  - Absence for 1st day of class without informing the instructor.
  - Absence for 2nd day of class without informing the instructor.
  - Lack of prerequisites
  - Lack of Java Knowledge(Students are expected to be familiar with Java at a beginner level)

- Cheating will not be tolerable; a ZERO will be given to any cheated assignment/exams, and it will be reported to the Department and the University.
- Do NOT share/post online any course materials, PPT slides, or homework solutions.
- Use of electronic devices during exams is NOT allowed unless stated otherwise.
- You are required to check Canvas for reading/assignments.
- The information on this syllabus is subject to change; changes, if any, will be clearly explained in class, and it is your responsibility to become aware of them.
- Attendance is highly recommended, but is not mandatory, except for exam times.

📊 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

1. Understand the fundamentals of object-oriented design using Java.
2. Be aware of various methodologies and principles in software design and development.
3. Have the ability to design, implement, and document an application using best practices

📊 Course Learning Outcomes (CLOs)

1. Object-Oriented Design:
    - To explore & understand the principles of Object Oriented Programming (OOP)
    - Improve the quality and productivity of system analysis and design by making it more usable.
    - Interpret and produce UML diagrams.
2. GUI Programming:
    - Create a GUI that enables users to communicate with a computer through the use of symbols, visual metaphors, and pointing devices
3. Java Language:
    - Implement Java fundamental concepts of OOP
    - Be familiar with Java type system, serilization and generics.
    - Implement exception handling.

📘 Course Materials

I will not be following any specific textbook for this course. Here are some of the links which might be helpful if you are stuck in assignments:

- Java Documentation
- Stack Overflow
- The references at the end of presentations

Further Readings(Optional)
1. Cay Horstmann, "Object-Oriented Design & Patterns," 3rd edition.
ISBN: 9780471744870
The resources can be found at: http://horstmann.com/oodp3/
2. Eric Freeman, Elisabeth Freeman, with Kathy Sierra and Bert Bates, "Head First design patterns,"
1st ed.
ISBN: 9780596007126

📋 Course Requirements and Assignments

- **Programming Assignments (25 %)**
  There will be several programming assignments involving OO programming, OO design, and UML diagrams. All assignments are individual.
- **Quizzes (10 %)**
  There will intent for these quizzes is to drill down the concepts and prepare student for assignments, project and exams.
- **Project (25 %)**
  A group project with 3-5(tentative) members per group in the last month of the semester involves the OO design and GUI programming.
- **Midterm and Final (20 % each)**

There will be one midterm and one final consisting of MCQs and written answers. Questions can come from quizzes, class notes, slides, assignments, and from discussions in class.

✔ Grading Information

Late Submissions:

Late submissions within 24 hours will have 10% of the final grade deducted. Submissions over 24 hours late will have 20% of the grade deducted. Late submissions over 2 days will not be accepted unless prior consent has been granted by the instructor or in documented cases of emergency.

Extra Credits:

Students are encouraged to finish assignments and quizzes soon. Extra credits will be given to students who don't have late submissions (Unless the student has informed and received permission to submit late, from the instructor in advance).

Grade	From %	To %
A plus	96	100
A	93	95.99
A minus	90	92.99
B plus	86	89.99
B	83	85.99
B minus	80	82.99
C plus	76	79.99
C	73	75.99
C minus	70	72.99
D plus	66	69.99
D	63	65.99
D minus	60	62.99
E	0	59.99

Grade	Percentage
Assignments	25%
Project	25%
Quizzes	10%
Midterm	20%
Final	20%

🏛 University Policies

Per [University Policy S16-9 (PDF) (http://www.sjsu.edu/senate/docs/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)](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

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

1	08/22	Introduction	
2	08/24	Java Recap	Pre-Req Due
3	08/29	Java -Packages, Classes, Introduction to OO design	
4	08/31	OOP Fundamentals Part 1	
5	09/05	OOP Fundamentals Part 1	
6	09/07	OOP Fundamentals Part 2	
7	09/12	OOP Fundamentals Part 2	
8	09/14	UML Diagrams, Design Documentation	
9	09/19	UML Diagrams, Design Documentation	
10	09/21	Revision	
11	09/26	MIDTERM	
12	09/28	Midterm Review, Exception Handling	Project Out
13	10/03	Midterm Review, Exception Handling	
14	10/05	GUI Part 1	
15	10/10	GUI Part 2	
16	10/12	Design Patterns	
17	10/17	Design Patterns	
18	10/19	Software Lifecycle and Testing Part 1	
19	10/24	Software Lifecycle and Testing Part 2	
20	10/26	Project Time	No Classes
21	10/31	Advanced Java(Part 1)	
22	11/02	Advanced Java(Part 2)	

23	11/07	Advanced Java(Part 3)	
24	11/09	Implementation Guidelines Part 1	
25	11/14	Implementation Guidelines Part 2	
26	11/16	Project Presentation	Project Due
27	11/21	Project Presentation	
28	11/23	**Thanksgiving Holiday**	:)
29	11/28	Revision	**Final Project Code Submission**
30	11/30	Revision	
31	12/05	Discusssion	

Final Exam Date	**Wednesday, December 13**	12:15-2:30 PM