

San José State University
Computer Science Department
CS151, Object Oriented Design and Programming, 07, Spring 2021

Course Learning Outcomes (CLO)

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

1. OO Design and principles:
 - a. Introduce a simplified OO analysis and design methodology
 - b. Present the concepts of design patterns and choose the appropriate design patterns to follow to meet your application goals
 - c. Introduce core UML concepts
 - d. Present the concept of a software framework
 - e. Properly document the software system
2. Java Language:
 - a. Make students proficient in the use and creation of interfaces and inheritance hierarchies
 - b. Make students proficient in the Java type system
 - c. Introduce threads and thread safety
 - d. Introduce Java generics
3. GUI Programming:
 - a. Introduce GUI toolkits, including basic widgets, the event handling mechanism, advanced graphics programming and animation.
4. Java reflection:
 - a. Introduce the basic concepts of reflection programming.
 - b. Introduce methods and approaches utilized in Java reflection programming.
5. IO, web, and networking programming:
 - a. Introduce methods and approaches available for IO, web, and network programming.

Optional Texts/Readings (no required text)

This class does not require a mandatory textbook. Google is your friend! Always refer to the Java API specification documentation.

Optional textbook (I will not be teaching by it)

Object Oriented Design and Patterns

Author: Cay Horstmann

A newer version of the book is currently under development. Resources can be found at

<http://horstmann.com/oodp3/>

Other optional readings

Design Patterns in Java | Edition: 2

Author: Steven John Metsker, William C. Wake

ISBN:9780321333025

Publication Date:04/21/2006

Publisher: Addison-Wesley.

Object Oriented Design, CS151, Section 07 Spring 2021

Effective Java (Java Series) | Edition: 2

Author: Joshua Bloch

ISBN:9780321356680

Publication Date:05/18/2008

Publisher: Addison-Wesley

Java Concurrency in Practice

Author: Brian Goetz, Tim Peierls, Joshua Bloch

ISBN:9780321349606

Publication Date:05/23/2006

Publisher: Addison-Wesley

Other technology requirements / equipment / material

Java 8 or higher. IDE is not required but could be helpful - Eclipse or Netbeans. You can choose to use any text editor to write your programs. IDEs simply makes writing your programs easier as IDEs usually have additional features that save time and programming effort (e.g. automatic documentation, automatically prepopulating getters and setters, etc.).

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

- Each student is expected to be present, punctual, and prepared at every scheduled class and lab session. It is assumed that the students already have basic knowledge of digital Boolean logic and fundamentals of programming.
- Attendance is NOT optional though it does not form any part of your grade. Individual participation is also required. There will be no make-ups for missed midterm or assignments, unless any special arrangements is made with the instructor beforehand. The student is responsible for any material he/she may have missed.
- There will be 6-7 homework assignments (some of which might be team based), one final project, one midterm and final exam. All homework should be submitted through Canvas. No scanned copy of handwritten solution is allowed.

Grading Information

Grading calculation will be based on the following:

- Assignments/Problem Sets (40%)
- Quizzes (20%)
- Midterm exam (20%)
- Final Examination (20%)

Incomplete work:

Points will be deducted for incomplete question responses and solutions that are partially functional. Consult individual assignment for details of point allocation for each problem.

Extra credit:

Extra credit options might be available in this class. All and any possible extra credit options will be announced in class and posted in canvas system if and when they become available.

Homework assignment due date:

Submission is allowed till 11:59 pm on due date.

Late assignments:

No late homework will be accepted.

Makeup Exams:

You must

Classroom Protocol (aka how to succeed in this class)

1. Attend all sessions. From past semesters, data shows that there is a positive correlation between attendance and your overall grade.
2. Come to class on time. Students entering the classroom late disrupt the lecture and / or the students already in class who may be engaged in lab or discussion.
3. A laptop/tablet is required in this class. Bring your device to lectures in order to be able to participate in in-class quizzes and activities.
4. If you miss a lecture you are still responsible for any material discussed or assignments given. A large portion of each class will be used for hands-on lab / discussion. All students are expected to participate in class activities. Students who are often absent will find themselves at a disadvantage during the tests.

Course Schedule *Tentative schedule. Subject to change with notice.*

