

San José State University
College of Science/Computer Science Department
CS 251A, Object-Oriented Analysis, Section 1, Fall Semester, 2017

Course and Contact Information

Instructor:	Pearce
Office Location:	416 MacQuarrie Hall
Telephone:	(408) 924-5065
Email:	jon.pearce@sjsu.edu
Office Hours:	MW 13:30 – 15:00, 16:30 – 17:30
Class Days/Time:	MW, 1500 - 1615
Classroom:	422 MacQuarrie Hall
Prerequisites:	CS 160 or instructor consent

Course Format

Technology Intensive, Hybrid, and Online Courses

Laptops with required software and Internet connectivity are required for all students in this course.

Faculty Web Page

<http://www.cs.sjsu.edu/faculty/pearce/pearce.html>

Course Description

Catalog description

Emphasizes the important concepts, activities, and artifacts of the analysis phase of object-oriented software development. CASE tools and UML are used to model application domain data, workflows, system requirements, deployment, and life cycles.

Section description

The emphasis of this course is building requirements and domain models for planned software systems. Models are created in UML using CASE tools and design patterns. The course is organized around the principles and patterns of Domain-Driven Design (DDD), which holds that the domain model should also be the implementation model. In other words, the domain model serves two purposes: it faithfully represents the application domain and it can be implemented without awkward hacks.

Course Learning Outcomes

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

1. Create UML models using a CASE tool.
2. Create use case models for planned software systems
3. Create faithful models of moderately complex application domains.
4. Distill domain models into implementation models

Required Texts/Readings

Textbook

There is no text for this course. Lecture notes will be posted at:

<http://www.cs.sjsu.edu/faculty/pearce/modules/lectures/ooa2/index.htm>

Other Readings

My lectures draw substantially from the following books:

Domain-Driven Design, Tackling Complexity in the Heart of Software; Eric Evans; Addison-Wesley; 2004.

Patterns, Principles, and Practices of Domain-Driven Design; Scott Millett with Nick Tune; Wrox; 2013.

Analysis Patterns: Reusable Object Models; Martin Fowler; Addison-Wesley; 1997.

Other technology requirements / equipment / material

Star UML 2; <http://staruml.io/>

Eclipse IDE for Java Developers; <http://www.eclipse.org/downloads/>

Course Requirements and Assignments (subject to change with fair notice)

Assignments

There will be two types of assignments: labs and projects. Labs usually consist of multiple problems and are done outside of class. Projects are single problems requiring detailed solutions done by a team. A tentative list of assignments can be found here:

- [CS 251A Assignments \(Fall 2017\)](#)

Final Examination

There will be a comprehensive final exam on Wednesday, December 13, from 1215 – 1430. The exam will be posted and submitted through Canvas. Students will use their laptops to create UML diagrams and write code. Access to notes and Internet is permitted, but all forms of communication are forbidden (except with the proctor).

Grading Information

Assignments will be submitted through Canvas. Rubrics will be used to grade the assignments. Models will typically be judged on accuracy, completeness, and implementability. There will also be a team project, which will be assigned after the midterm.

Determination of Grades

- Final Exam: 30%
- Midterm: 20%

- Team Project: 20%
- Individual Assignments: 30%

Note: The grade totals and percentages posted on Canvas do not reflect the weights given above and should be ignored.

Late assignments are accepted by prior arrangement with the instructor and only for compelling reasons.

Assuming a standard distribution of point totals I will use the following scale for assigning final grades:

A	85% - 100%
B	70% - 84%
C	55% - 69%
D	40% - 54%
F	0% - 39%

Classroom Protocol

Students are expected to bring their laptops to class.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Course Schedule

The tentative course schedule below is subject to change. Notification of changes will be made in class.

Date	Day	Topic
23-Aug	Wed	Overview of Software Engineering
28-Aug	Mon	Overview of OOD
30-Aug	Wed	Overview of OOP
4-Sep	Mon	Labor Day
6-Sep	Wed	Overview of OOA
11-Sep	Mon	Use Case Models
13-Sep	Wed	Use Case Models
18-Sep	Mon	Use Case Models
20-Sep	Wed	UML class diagrams
25-Sep	Mon	UML class diagrams
27-Sep	Wed	UML class diagrams
2-Oct	Mon	Domain Modeling
4-Oct	Wed	Analysis Patterns
9-Oct	Mon	Analysis Patterns
11-Oct	Wed	Analysis Patterns
16-Oct	Mon	Midterm Review?

18-Oct	Wed	Midterm?
23-Oct	Mon	Enterprise Resource Planning
25-Oct	Wed	Enterprise Resource Planning
30-Oct	Mon	UML Meta Model
1-Nov	Wed	Process Modeling
6-Nov	Mon	Process Modeling
8-Nov	Wed	Team consultations
13-Nov	Mon	Team consultations
15-Nov	Wed	Team consultations
20-Nov	Mon	Component-Based Development
22-Nov	Wed	Thanksgiving
27-Nov	Mon	Component-Based Development
29-Nov	Wed	Project Presentations
4-Dec	Mon	Project Presentations
6-Dec	Wed	Project Presentations
11-Dec	Mon	Final Review
13-Dec	Wed	CS251A Final / 12:15 - 14:30