

**San José State University**  
**College of Science/Department of Computer Science**  
**CS251A, Object-Oriented Analysis, Fall 2015**

**Course and Contact Information**

<b>Instructor:</b>	Jon Pearce
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<b>Telephone:</b>	(408) 924-5065
<b>Email:</b>	jon.pearce@sjsu.edu
<b>Office Hours:</b>	TR 13:30 – 15:00, W 15:00 – 16:30
<b>Class Days/Time:</b>	TR 15:00 – 16:15
<b>Classroom:</b>	422 MacQuarrie Hall
<b>Prerequisites:</b>	C- or better in CS 160 or instructor consent

**Course 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.

**Course Learning Outcomes (CLO)**

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

1. Create UML class, use case, and activity diagrams using a modeling tool
2. Analyze UML models programmatically
3. Create detailed use-case models
4. Create detailed analysis models
5. Use analysis patterns to create reusable domain models

**Required Texts/Readings**

**Textbook**

Lecture note and other course materials will be posted on [course page](http://www.cs.sjsu.edu/faculty/pearce/modules/courses/F15/cs251a/index.htm)  
<http://www.cs.sjsu.edu/faculty/pearce/modules/courses/F15/cs251a/index.htm>

**Other Readings [Optional]**

Rumbaugh, Jacobson, Booch; *The Unified Modeling Language Reference Manual*; Addison-Wesley, 1999.  
Fowler; *Analysis Patterns- Reusable Object Models*; Addison-Wesley, 1998.

## **Other equipment / material requirements (include if applicable)**

Students should bring laptops to class. The following software should be installed:

Eclipse  
Node JS  
Star UML 2

## **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](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

Most assignments require students to build models of software systems using UML and Star UML 2. Some assignments require students to write code in Java and JavaScript. There is also a culminating project in which teams of students will specify and then implement a project management tool.

These assignments enable all of the CLOs. The actual assignments and their due dates are posted below. Assignment weights are proportional to the maximum number of possible points assigned to each assignment. These points can be found on Canvas.

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

## **Grading Policy**

Grades will be determined by programming assignments and culminating project (50%), one midterm (20%), and a final exam (30%).

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

## **Classroom Protocol**

Students should bring laptops to class and be prepared to work together on in-class labs.

## **University Policies**

### **General Expectations, Rights and Responsibilities of the Student**

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See [University Policy S90–5](http://www.sjsu.edu/senate/docs/S90-5.pdf) at <http://www.sjsu.edu/senate/docs/S90-5.pdf>. More detailed information on a variety of related topics is available in the [SJSU catalog](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html), at <http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html>. In general, it is recommended that students begin by seeking clarification or discussing

concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

### **Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

### **Consent for Recording of Class and Public Sharing of Instructor Material**

[University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- “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.”
  - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

### **Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

### **Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at [http://www.sjsu.edu/president/docs/directives/PD\\_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

# CS 251A / Object-Oriented Analysis, Fall 2015, Course Schedule

Note: All assignments are posted at

<http://www.cs.sjsu.edu/faculty/pearce/modules/courses/F15/cs251a/assignments/index.htm>.

## Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1		Overview: Software Engineering, OOD, and OOP
2		Process Modeling Assignment 1 due 9/3
3		Use Case Modeling Assignment 2 due 9/10
4	9/10	Use Case Modeling Assignment 3 due 9/22
5	9/18	Analysis Models: Class Diagrams Assignment 4 due 10/1
6	9/25	Analysis Models: Collaborations Assignment 5 due 10/14
7	10/8	Analysis Models: The Entity-Control-Boundary Pattern and the Use Case Controller Pattern.
8	10/17	Project Management Project Control Panel ( <a href="http://www.cs.sjsu.edu/faculty/pearce/modules/courses/F15/cs251a/pcp.htm">http://www.cs.sjsu.edu/faculty/pearce/modules/courses/F15/cs251a/pcp.htm</a> )
9	10/20	Midterm
10		Team meetings
11	11/10	Presentation of PCP Analysis Model
12	11/19	Analysis Patterns Assignment 6 due Dec 8
13		Analysis Patterns
14		Analysis Patterns
15		Presentation of PCP Implementations
16		Final Review
Final Exam		Dec 15: CS251A final exam, 1445 - 17:00

