

San José State University
Computer Science Department
CS160, Software Engineering, Section 1, Fall, 2017

Course and Contact Information

Instructor:	Hema Nair (Srikanth)
Office Location:	Duncan Hall Room 282
Telephone:	(408) 924-5060
Email:	Hema1900@gmail.com OR hema.nair@sjsu.edu
Office Hours:	TR 1:15 PM – 1:30 PM (by appointment)
Class Days/Time:	Section 1: TR 12pm -1.15 PM
Classroom:	MH 222
Prerequisites:	Prerequisite: CS 146, CS 151 (with a grade of "C-" or better in each); CS 100W (with a grade of "C" or better)

Course Description

Software engineering principles, software process and process models, requirements elicitation and analysis, design, configuration management, quality control, project planning, social and ethical issues. Required team-based software development, including written requirements specification and design documentation, oral presentation, and tool use. Prerequisite: CS 146, CS 151 (with a grade of "C-" or better in each); CS 100W (with a grade of "C" or better) or instructor consent. Computer Science and Software Engineering Majors only.

Course Objectives:

- Learn end-to-end practical software engineering approach to developing enterprise applications.
- Learn to work collaboratively and professionally in a software development project as it happens in the real job setting.
- Understand Software Engineering as a profession. Course prepares students for their first job in the industry.
- Learn about (High-level overview) changes in software technologies including Cloud Computing.

Course Learning Outcomes (CLO)

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

1. CLO 1 – Understand different types of Software Development Life Cycle.
2. CLO 2 – Understand and Document Different Software Testing Phases.
3. CLO 3 – Understand aspects of Cloud Computing
4. CLO 4 – Define and write a Requirements Document while understanding and documenting dependencies, and security requirements
5. CLO 5 – Architecture and Write a Design Document
6. CLO 6 – Implement System Requirements Iteratively
7. CLO 7 – Understand Agile software process while working in a team project.

8. CLO 8 – Create a comprehensive black box test plan, write and execute white box tests, automate test cases.
9. CLO 9 – Perform design, development, and QA for a sizable team project.
10. CLO 10 – Manage Project risks and Understand Release Management Process

Textbook

Optional: An Introduction to Software Engineering, by Laurie Williams; Edition 1. (ISBN-10: 9780989864015)

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>.

Project: A team project will be completed in groups of four or five students. This course is based on reality, so the project will be as real-world as we can make it.... which might intentionally cause you some heartache (such as ill-defined AND/OR changing requirements). Remember, it's for your own good as in reality customers change mind and requirements evolve continually.

Time: This class requires a lot of work outside of class meeting times. You are expected to spend, on average, 8 to 15 hours per week outside of class preparing and working on assignments.

NOTE that University policy F69-24 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.

Minimum Grade Requirement: To pass CSC160, you must have a passing grade in all aspects of course grading. Passing grade requires a weighted average of 60% or higher on the following elements below. The final "letter" grade will be determined from a curve at the end of the semester. However, Grade of “A” can be attained by having a weighted average of 90% or above, Grade of “B” by attaining average between 80-90%; Grade “C” with average between 70-80% and “D” averaging 60-70%. Details will be explained during first day of class.

Grading Policy

- Team Project: 50%
 - Requirements Document for a Cloud Application: 15%
 - High level Test Plan for a Cloud Application: 15%
 - Documentation/Execution of Test Cases: 10%
 - Bug Reporting and Analysis: 10%
- Project and Research Paper Presentation: 10%
- Mid term Exam: 15%
- Quizzes [Three during semester during randomly chosen days]: 10%
- Peer Evaluation: 5%
- Research paper (10%)

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/>

CS160, Software Engineering, Section 1, Fall 2017, Tentative Course Schedule (subject to change)

Event	Date	Class Time	Topics, Readings, Assignments, Deadlines
First Day	08/24/2017	Sec 1: 12.00–1.15	Introduction and Overview
Week 1	08/29/2017	“	Software Development life cycle Models
Week 2	09/05/2017	“	Project Kickoff and Demo on Cloud Application
Week 3	09/12/2017	“	Requirements Engineering; Scrum Meetings & Presentation
Week 4	09/19/2017	“	Software Testing Overview; Scrum Meetings & Presentation
Week 5	09/26/2017	“	Pair Programming Overview; Scrum Meetings & Presentation
Week 6	10/03/2017	“	Mid term exam review/ Exam; Scrum Meetings & Checkpoints
Week 7	10/10/2017	“	Software Inspections and Reviews; Scrum Meetings & Checkpoints
Week 8	10/17/2017	“	Software Design & Class Feedback; Scrum Meetings & Checkpoints
Week 9	10/24/2017	“	White box testing; Scrum Meetings & Checkpoints
Week 10	10/31/2017	“	Black box testing; Scrum Meetings & Checkpoints
Week 11	11/07/2017	“	Risk Based Testing/Exploratory Testing; Scrum Meetings & Checkpoints
Week 11	11/09/2017	“	Professor Out of Office; HW is watching Video on Secure Engineering and Sending Summary to Professor as Group
Week 12	11/14/2017	“	Bug Reporting; Release/Iteration Planning; Scrum Meetings & Checkpoints
Week 13	11/21/2017	“	System Testing, Software Metrics; Scrum Meetings & Checkpoints
Week 14	11/28/2017	“	Software Maintenance; Final Checkpoint meetings w/Customer, Professor
Week 15	12/05/2017	“	Review of Project Presentations; Scrum Meetings & Checkpoints
Last Day	12/07/2017	“	Final deliverables, Demo to customer