

San José State University
Computer Science Department
CS 160, Software Engineering, Section 2, Fall, 2019

Course and Contact Information

Instructor:	Tejaswini (Teja) Karra
Office Location:	DH 282
Email:	Tejaswini.karra@sjsu.edu
Office Hours:	MW 7:30 - 9:00 PM (by appointment)
Class Days/Time:	MW 4:30 – 5:45 PM
Classroom:	DH 450
Prerequisites:	CS 146, CS 151 (with a grade of “C-“ or better in each); CS 100W (with a grade of “C” or better)

Course Format

On campus, face-to-face, and online through Canvas

Technology Intensive, Hybrid, and Online Courses

This class is technology intensive and you are required to use a computer to access, submit, and work on your course material.

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on [Canvas Learning Management System course login website](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking the messaging system through MySJSU and Canvas (or other communication system as indicated by the instructor) to learn of any updates.

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.

Course Learning Outcomes (CLO)

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

1. CLO 1 – Design and build a project from end to end
2. CLO 2 – Write a Requirement Document
3. CLO 3 – Write High-level and low-level designs
4. CLO 4 – Iterative Implementation
5. CLO 5 – Understanding Different Stages of Quality Assurance
6. CLO 6 – Install, Packaging, Configuration, and Support
7. CLO 7 – Work in a team project which follows the steps of Agile SW Engineering Methodology
8. CLO 8 – Produce the necessary documents for different steps of the development process

9. CLO 9 – Perform design, development, and QA for a sizable team project

Required Texts/Readings (Required)

Textbook

Somerville, Ian. Software Engineering, 10th Edition. Pearson Education, 2016.

ISBN10: 0133943038

ISBN13: 9780133943030

Other Readings

Other readings may be assigned from articles and journals. The links for these materials will be provided on Canvas.

Course Requirements and Assignments

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

There will be two exams, one group project, several homework and quizzes. All the exams and quizzes will be closed book but open notes unless noted. There will be no laptops, or any personal digital devices allowed. I strongly suggest that you attend each class and take good notes during the semester. There will be **NO** make-up exams and quizzes.

All programming portions of the project/homework assignments and its related documentations must be handed in electronically. Additional information about the project will be given in a separate handout. Your project must be able to compile and execute before you turn it in.

All submissions are due at **midnight** on the due date. The assignments are to be submitted on time and a penalty of 10% per day is applied to late submissions. No assignments will be accepted after a week past its due date.

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.”

Project

Majority of the grade for this class will be based on the class project and it will consist of three releases.

Homework assignments

In addition to the project work, you are required to do two independent assignments designed to prepare you for the project. The first one will be a personality test to better understand yourself and your team members. The second is a webpage version of your resume using pure HTML, CSS, and JavaScript. Details on how to submit these assignments will be provided in class and on Canvas.

Quizzes

Unannounced brief quizzes will be used to assess your understanding of the material covered throughout the semester.

Midterm

The midterm will cover all the material covered in up to the day of the midterm including lectures, homework assignments, and project work. It will consist of multiple choice, true or false, fill in the blank, and short answer questions.

Final Examination or Evaluation

The final exam will be a cumulative of all the material covered in the class including lectures, homework assignments, and project work. It will consist of multiple choice, true or false, fill in the blank, and short answer questions.

Grading Information

Your individual grades will be weighted as follows:

Final Exam	250 points	25%
Midterm Exam	200 points	20%
Quizzes & HW	50 points	5%
Group Project	500 points	50%
Total	1000 points	100%

The final "letter" grade will be determined from the table below.

Grade	Points	Percentage
A plus	970 to 1000	97 to 100%
A	930 to 969	93 to 96%
A minus	900 to 929	90 to 92%
B plus	870 to 899	87 to 89 %
B	830 to 869	83 to 86%
B minus	800 to 829	80 to 82%
C plus	770 to 799	77 to 79%
C	730 to 769	73 to 76%
C minus	700 to 729	70 to 72%
D plus	670 to 699	67 to 69%
D	630 to 669	63 to 66%
D minus	600 to 629	60 to 62%

Classroom Protocol

All students are expected to attend every class on time. At the beginning of the week, each team picks a representative to provide a 5 minute update in scrum meeting format. Use of cell phone during the lecture is not allowed. If you need to answer an emergency call, please leave the class quietly and answer your call outside the class.

University Policies

Per [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant information to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is 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/>". Make sure to visit this page, review and be familiar with these university policies and resources.

CS 160 Software Engineering, Spring 2019, Course Schedule

The schedule below is subject to change. Make sure to check canvas for the latest version.

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	08/21/18	Lecture: Introduction to Software Engineering, Syllabus, Survey Homework assignment: transcripts with prerequisites, personality test, and webpage resume using pure HTML, CSS, and JavaScript (due on 09/04/18)
2	08/26/18	Lecture: Introduction to class project(s) Project: Sprint 1 (requirements) starts Homework assignment: survey and transcripts with prerequisites due
2	08/28/18	Lecture: Requirements (Ch 4) Project: Assign teams and define roles Homework assignment: personality test due
3	09/02/18	<i>No class – Labor day</i> <i>Last day to withdraw without a 'W' grade is 09/03</i>
3	09/04/18	Lecture: Requirements (Ch 4) Homework assignment: webpage resume due
4	09/09/18	Lecture: Intro to web design and architecture, System modeling (Ch 5) Project: Sprint 2 (design) starts
4	09/11/18	Lecture: System modeling (Ch 5)
5	09/16/18	Lecture: Intro to microservices and REST APIs, Architectural design (Ch 6)
5	09/18/19	Lecture: Architectural design (Ch 6) Project: Release 1 due, presentations and retrospective
6	09/23/19	Lecture: Intro to source management, Design and implementation (Ch 7) Project: Sprint 3 (implementation) starts
6	09/25/19	Lecture: Design and implementation (Ch 7)
7	09/30/19	Lecture: Testing (Ch 8)
7	10/02/19	Lecture: Testing (Ch 8)
8	10/07/19	Lecture: Midterm overview Project: Sprint 4 (testing) starts

Week	Date	Topics, Readings, Assignments, Deadlines
8	10/09/19	Midterm
9	10/14/19	Lecture: Midterm review Project: Team work session
9	10/16/19	Project: Release 2 due, presentations and retrospective
10	10/21/19	Lecture: Software lifecycle and processes (Ch 2) Project: Sprint 5 (design/implementation) starts
10	10/23/19	Lecture: Software lifecycle and processes (Ch 2)
11	10/28/19	Lecture: Agile Software Development (Ch 3)
11	10/30/19	Lecture: Agile Software Development (Ch 3)
12	11/04/19	Lecture: Test automation tooling Project: Sprint 6 (testing automation) starts
12	11/06/19	Lecture: Build automation tooling
13	11/11/19	<i>No class – Veterans Day</i>
13	11/13/19	Lecture: Project management and planning (Ch 22 and 23)
14	11/18/19	Lecture: Project management and planning (Ch 22 and 23) Project: Sprint 7 (deployment and maintenance) starts
14	11/20/19	Lecture: Quality management (Ch 24)
15	11/25/19	Project: Team work session
15	11/27/19	<i>No class – Thanksgiving break</i>
16	12/02/19	Project: Presentations
16	12/04/19	Project: Presentations, Release 3 due
17	12/09/19	Wrap up and retrospective
Final Exam	12/16/19	Final exam in DH 450 at 2:45 to 5:00 PM