San José State University
College of Science/Computer Science Department
CS 160, Software Engineering, Section 03, Fall, 2020

Course and Contact Information

Instructor(s):	Teja (Tejaswini) Karra
Office Location:	Online
Email:	Tejaswini.karra@sjsu.edu
Office Hours:	MW 7:30 to 9:00 PM (and by appointment)
Class Days/Time:	MW 4:30 – 5:45 PM
Classroom:	Online class through Canvas and Zoom
Prerequisites:	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.

Course Format

Technology Intensive, Hybrid, and Online Course

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 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 Goals

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

Textbook

Sommerville, Ian. Engineering Software Products: An Introduction to Modern Software Engineering. 1st Edition. Pearson Education, 2020.

ISBN-13: 978-0135210642
ISBN-10: 013521064X

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 three exams (2 midterm and 1 final), one semester long group project, several homework and quizzes. All the exams will be closed book but open notes unless noted. There will be no 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 and how to submit assignments will be given in a separate handout. Your project code 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 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 six sprints. Each sprint will focus on different aspects of the software engineering process.

Homework assignments

In addition to the project work, you are required to do independent assignments. Details on what to submit and 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.

Midterms

The midterms will cover material covered in lectures, homework assignments, and project work. It will consist of multiple choice, true or false, fill in the blank, and/or short answer questions.

Final Exam

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/or short answer questions.

Exams will be proctored in this course through Respondus Monitor and LockDown Browser. Please note it is the instructor's discretion to determine the method of proctoring. If cheating is suspected the proctored videos may be used for further inspection and may become part of the student's disciplinary record. Note that the proctoring software does not determine whether academic misconduct occurred, but does determine whether something irregular occurred that may require further investigation. Students are encouraged to contact the instructor if unexpected interruptions (from a parent or roommate, for example) occur during an exam.

Testing Environment: Setup
- No earbuds, headphones, or headsets visible.
- The environment is free of other people besides the student taking the test.
- If students need scratch paper for the test, they should present the front and back of a blank scratch paper to the camera before the test.
- No other browser or windows besides Canvas opened.
- A workplace that is clear of clutter (i.e., reference materials, notes, textbooks, cellphone, tablets, smart watches, monitors, keyboards, gaming consoles, etc.)
- Well-lit environment. Can see the students' eyes and their whole face. Avoid having backlight from a window or other light source opposite the camera.

Testing Environment: Scan

Before students can access the test questions, they are expected to conduct a scan around their testing environment to verify that there are no materials that would give the student an unfair advantage during the test. The scan will include:
- the desk/work-space
- a complete view of the computer including USB ports and power cord connections
- a 360-degree view of the complete room

Students must:
- Remain in the testing environment throughout the duration of the test.
- Keep full face, hands, workspace including desk, keyboard, monitor, and scratch paper, in full view of the webcam

Grading Information

Your individual grades will be weighted as follows:

HW and Quizzes	100 points	10%
Midterm Exams (2)	200 points	20%
Final Exam	200 points	20%
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	960 to 1000	96 to 100%
A	930 to 959	93 to 95%
A minus	900 to 929	90 to 92%
B plus	860 to 899	86 to 89 %
B	830 to 859	83 to 85%
B minus	800 to 829	80 to 82%
C plus	760 to 799	76 to 79%
C	730 to 759	73 to 75%
C minus	700 to 729	70 to 72%
D plus	660 to 699	66 to 69%
D	630 to 659	63 to 65%
D minus	600 to 629	60 to 62%

Classroom Protocol

All students are expected to attend every Zoom meeting on time. For the first few weeks while everyone gets to know each other, please turn your cameras on. Students are expected to dressed appropriately for a class setting.

This course or portions of this course (i.e., lectures, discussions, student presentations) will be recorded for instructional or educational purposes. The recordings will only be shared with students enrolled in the class through Canvas. The recordings will be deleted at the end of the semester. If, however, you would prefer to remain anonymous during these recordings, then please speak with the instructor about possible accommodations (e.g., temporarily turning off identifying information from the Zoom session, including student name and picture, prior to recording).

Students are not allowed to record without instructor permission Students are prohibited from recording class activities (including class lectures, office hours, advising sessions, etc.), distributing class recordings, or posting class recordings. Materials created by the instructor for the course (syllabi, lectures and lecture notes, presentations, etc.) are copyrighted by the instructor. This university policy (S12-7) is in place to protect the privacy of students in the course, as well as to maintain academic integrity through reducing the instances of cheating. Students who record, distribute, or post these materials will be referred to the Student Conduct and Ethical Development office. Unauthorized recording may violate university and state law. It is the responsibility of students that require special accommodations or assistive technology due to a disability to notify the instructor.

Zoom Classroom Etiquette

- Mute Your Microphone: To help keep background noise to a minimum, make sure you mute your microphone when you are not speaking.
- Be Mindful of Background Noise and Distractions: Find a quiet place to "attend" class, to the greatest extent possible.
  - Avoid video setups where people may be walking behind you, people talking/making noise, etc.
  - Avoid activities that could create additional noise, such as shuffling papers, listening to music in the background, etc.
- Position Your Camera Properly: Be sure your webcam is in a stable position and focused at eye level.
- Limit Your Distractions/Avoid Multitasking: You can make it easier to focus on the meeting by turning off notifications, closing or minimizing running apps, and putting your smartphone away (unless you are using it to access Zoom).
- Use Appropriate Virtual Backgrounds: If using a virtual background, it should be appropriate and professional and should NOT suggest or include content that is objectively offensive or demeaning.

Technical difficulties

Internet connection issues: Canvas autosaves responses a few times per minute as long as there is an internet connection. If your internet connection is lost, Canvas will warn you but allow you to continue working on your exam. A brief loss of internet connection is unlikely to cause you to lose your work. However, a longer loss of connectivity or weak/unstable connection may jeopardize your exam.

Other technical difficulties: Immediately email the instructor a current copy of the state of your exam and explain the problem you are facing. Your instructor may not be able to respond immediately or provide technical support. However, the copy of your exam and email will provide a record of the situation.

Contact the SJSU technical support for Canvas:
Technical Support for Canvas
Email: ecampus@sjsu.edu
Phone: (408) 924-2337
https://www.sjsu.edu/ecampus/support/

If possible, complete your exam in the remaining allotted time, offline if necessary. Email your exam to your instructor within the allotted time or soon after.

Academic Dishonesty

Students who are suspected of cheating during an exam will be referred to the Student Conduct and Ethical Development office and depending on the severity of the conduct, will receive a zero on the assignment or a grade of F in the course. Grade Forgiveness does not apply to courses for which the original grade was the result of a finding of academic dishonesty

University Policiess

Per University Policy S16-9 *(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 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 2020, Course Schedule

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

Course Schedule

Week	Date	Topics, Readings	Sprint Schedule
1	Wed Aug 19	Introduction to Software Engineering	
2	Mon Aug 24	Software products (Ch 1)	
2	Wed Aug 26	Project overview	Sprint 1 - requirements
3	Mon Aug 31	Personas and scenarios (Ch 3)	
3	Wed Sept 2	User stories and features (Ch 3)	
4	Mon Sept 7	***Labor day***	
4	Wed Sept 9	Software architecture (Ch 4)	Sprint 2 – high level design
5	Mon Sept 14	Web programming	
5	Wed Sept 16	User experience design	
6	Mon Sept 21	**Midterm 1** (Ch 1, 3, and 4)	
6	Wed Sept 23	Sprint 2 demos and sprint 3 intro	Sprint 3 – low level design
7	Mon Sept 28	Microservices architecture (Ch 6)	
7	Wed Sept 30	Agile methods and XP (Ch 2)	
8	Mon Oct 5	Scrum and Kanban (Ch 2)	
8	Wed Oct 7	Sprint 3 demos and sprint 4 intro	Sprint 4 - implementation
9	Mon Oct 12	Code management (Ch 10 – slides 10 to 26)	
9	Wed Oct 14	Testing (Ch 9)	
10	Mon Oct 19	Testing (Ch 9)	
10	Wed Oct 21	Test automation	
11	Mon Oct 26	**Midterm 2** (Ch 6, 2, and 9)	
11	Wed Oct 28	Sprint 4 demos and sprint 5 intro	Sprint 5 - testing
12	Mon Nov 2	Security and privacy (Ch 7)	
12	Wed Nov 4	Cloud-based software (Ch 5)	
13	Mon Nov 9	Docker	

Week	Date	Topics, Readings	Sprint Schedule
13	Wed Nov 11	*Veterans day*	
14	Mon Nov 16	Sprint 5 demos and sprint 6 intro	Sprint 6 - devops
14	Wed Nov 18	DevOps (Ch 10) Build automation	
15	Mon Nov 23	Retrospectives	
15	Wed Nov 25	*Thanksgiving break*	
16	Mon Nov 30	**Final Presentations**	
16	Wed Dec 2	**Final Presentations**	Sprint 6 ends
17	Wed Dec 7	Review	
Final Exam	**Tue Dec 9**	**MQH 223 at 2:45 PM to 5:00 PM** (Cumulative but primarily focused on Chapters 7, 5, and 10)	