

San José State University
College of Science/Computer Science Department
CS 160, Software Engineering, Section 02, Spring, 2024

Course and Contact Information

Instructor(s): Brian Tsao
Office Location: Online
Email: brian.tsao@sjsu.edu
Office Hours: MW 7:00 PM – 8:00 PM (by appointment)
Class Days/Time: TuTh 6:00 PM – 7:15 PM
Classroom: MacQuarrie Hall 225
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.

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 <https://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 – Understand the different stages in a software development lifecycle.
2. CLO 2 – Apply agile practices throughout software development.
3. CLO 3 – Create features, scenarios, and stories for project planning.
4. CLO 4 – Prepare specifications and documentation for a software project.
5. CLO 5 – Design and implement a product from end to end.
6. CLO 6 – Use reliable programming and testing to ensure product quality.
7. CLO 7 – Identify common security and privacy concerns.

Required Texts/Readings

Textbook (Optional)

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

ISBN-13: 978-0135210642

ISBN-10: 013521064X

Readings

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 (2 midterms), one semester long group project with presentation, and homeworks. 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.

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.

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.

Exams

Exams will be used to evaluate understanding of the material throughout the semester. It will consist of multiple choice, true/false, and/or short answer questions.

There will be no final exams. Instead final presentations will be conducted in place of the exam during the exam hours.

Participation

Participation quizzes will be carried throughout the semester. These quizzes will be credit/no credit and mainly contain questions related to the lectures that benefit you in the future in your career as software engineer.

Grading Information

Participation	50 points	5%
HW	150 points	15%
Exams	200 points	20%
<u>Group Project</u>	<u>600 points</u>	<u>60%</u>

Total 1000 points 100%

<i>Grade</i>	<i>Points</i>	<i>Percentage</i>
<i>A plus</i>	<i>960 to 1000</i>	<i>96 to 100%</i>
<i>A</i>	<i>930 to 959</i>	<i>93 to 95%</i>
<i>A minus</i>	<i>900 to 929</i>	<i>90 to 92%</i>
<i>B plus</i>	<i>860 to 899</i>	<i>86 to 89 %</i>
<i>B</i>	<i>830 to 859</i>	<i>83 to 85%</i>
<i>B minus</i>	<i>800 to 829</i>	<i>80 to 82%</i>
<i>C plus</i>	<i>760 to 799</i>	<i>76 to 79%</i>
<i>C</i>	<i>730 to 759</i>	<i>73 to 75%</i>
<i>C minus</i>	<i>700 to 729</i>	<i>70 to 72%</i>
<i>D plus</i>	<i>660 to 699</i>	<i>66 to 69%</i>
<i>D</i>	<i>630 to 659</i>	<i>63 to 65%</i>
<i>D minus</i>	<i>600 to 629</i>	<i>60 to 62%</i>

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 at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Classroom Protocol

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.

University Policies

Per [University Policy S16-9](#), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on [Syllabus Information web page](#) (<https://www.sjsu.edu/curriculum/courses/syllabus-info.php>). Make sure to visit this page to review and be aware of these university policies and resources.

CS 160 Software Engineering, Spring 2024, Course Schedule

Course Schedule

Week	Date	Topics, Readings	Assignments, Deadlines	Notes
1	1/25	Intro. to Software Engineering		First day
2	1/30 - 2/1	1/30 Software products (Ch 1) 2/1 Waterfall/Agile intro	1/30 HW 1 assigned 2/1 HW 1 due	
3	2/6 - 2/8	Agile: Scrums/Stories/Personas (Ch 2 & 3)	Survey assigned	
4	2/13 - 2/15	2/13 Wrap up agile 2/15 Exam 1	2/15 Survey due	
5	2/20 - 2/22	Software Architectures (Ch 4 & 6) & Projects Overview		Past add/drop date Groups formed
6	2/27 - 2/29	Testing (Ch 9)	2/27 Project design proposal due	Sprint 1 Begin
7	3/5 - 3/7	Code management & DevOps (Ch 10)		
8	3/12 - 3/14			Sprint 1 End
9	3/19 - 3/21	3/19 Sprint 1 Demos 3/21 UI/UX		Sprint 2 Begin
10	3/26 - 3/28	3/26 Security (Ch 7) 3/28 Exam 2		
11	4/2 - 4/4	<i>Enjoy spring break</i>		Spring break
12	4/9 - 4/11	Cloud (Ch 5) & Virtualization		Sprint 2 End
13	4/16 - 4/18	4/16 Sprint 2 Demos 4/18 Git low level object model		Sprint 3 Begin
14	4/23 - 4/25	Distributed Systems		
15	4/30 - 5/2	Internet of things		Sprint 3 End
16	5/7 - 5/9	5/7 Sprint 3 Demos 5/9 Machine Learning		
Final Exam	5/16	Final presentations		5:15 - 7:30 pm