

San José State University
CS160, Software Engineering, Sections 1, 2, and 4, Fall, 2015

Course and Contact Information

Instructor:	H. Chris Tseng
Office Location:	MH213
Telephone:	(408) 924-7255
Email:	chris.tseng@sjsu.edu
Office Hours:	Tue/Thur.:6:45AM-7:30 AM, 10:15 AM -10:30 AM and by appointment or email
Class Days/Time:	7:30 AM – 8:45 AM, Tue. and Thur. (sec. 1)/9:00-10:15 AM (sec. 2), Tue. and Thur./7:30 AM – 8:45 AM (sec. 4), Mon. and Wed.
Classroom:	MH233
Prerequisites:	CS 146, CS 151 (with a grade of "C-" or better in each); CS100W (with a grade of C or better) or instructor consent.

Course Description

Software engineering principles, 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. (See prerequisites description on top of this page).

Learning Outcomes

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

- SLO 1 (a) An ability to apply knowledge of computing and mathematics to solve problems
- SLO 2 (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- SLO 3 (c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- SLO 4 (d) An ability to function effectively on teams to accomplish a common goal
- SLO 5 (f) An ability to communicate effectively with a range of audiences

SLO 6 (h) Recognition of the need for and an ability to engage in continuing professional development

SLO 7 (i) An ability to use current techniques, skills, and tools necessary for computing practice

SLO 8 (j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices

SLO 9 (k) An ability to apply design and development principles in the construction of software systems of varying complexity

(The above learning outcomes (a) – (k) are provided by ABET for CS program under the URL <http://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-computing-programs-2015-2016/#outcomes>. Learning outcomes related to CS160 are listed above.)

Course Learning Outcomes (CLO)

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

1. CLO 1 challenges of software engineering and the roles of process and methodologies;
2. CLO 2 functional specifications and use cases;
3. CLO 3 software design development and documentation;
4. CLO 4 UML, class, sequence diagrams;
5. CLO 5 software project test plan;
6. CLO 6 code walk through;
7. CLO 7 software project schedule;
8. CLO 8 tracking issues and progress;
9. CLO 9 software build process;
10. CLO 10 software revision control.

Required Texts/Readings

Textbook

This course supports Textbook Alternatives Project (TAP) and requires no purchased textbook. Instructor will provide material from online and his own.

Other Readings (reference)

Software Engineering: A Practitioner's Approach, 8th Ed., Roger S. Pressman, McGraw Hill, 2014 at <http://www.amazon.com/Software-Engineering-Practitioners-Roger-Pressman/dp/0078022126/tag=sjsucs-20>.

Other equipment / material requirements (include if applicable)

You will be required to have a wireless-network ready laptop computer to take online quizzes in the class. You will also need to use your own laptop with wireless access to submit your software assignment inside SJSU campus. Your laptop needs to have wireless capability and you need to register a free wireless account at <http://www.sjsu.edu/sjsuone/>. For information on typical laptop requirement see Wireless Requirements update announcement under <http://www.cs.sjsu.edu/>. The instructor is not responsible for providing either laptops or alternatives.

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>.

a. Projects:

A final team project will be provided for you to practice software engineering principles.

This team project will be a collaborated group project. You are free to choose your own partners but you cannot change your partners in the middle of the project. Progressive design and implementation of the term project will be done through assignments as part of the learning objectives. This is aligned with Student Learning Outcomes 1, 2, 4, 5, 6, and 7.

b. Exams:

There will be one midterm and one final. These are aligned with Student Learning Outcomes 1, 2, 3, 7, 8, and 9.

c. Quizzes:

There will be 6-8 quizzes and each will be counted as a HW. Some of the quizzes are part of the online lesson activities. These are aligned with Student Learning Outcomes 1, 2, 3, 7, 8, and 9.

d. Homework:

There will be 3-4 HWs. Intermediate milestones of your team project will also be counted as HW grades. These are aligned with Student Learning Outcomes 1, 2, 3, 7, 8, and 9.

e. Tentative course exam and HW due dates:

(Please note that this is “subject to change with fair notice”)

HW/Quiz/Practice problems: One of these will be assigned every 2-3 class meetings.

Midterm: Tuesday, Oct. 13, 2015

Final: (Per SJSU final schedule) (sec. 1) 7:15 AM, Tuesday, December 15, 2015 / (sec. 2), 7:15 AM, Thursday, December 10, 2015/ (sec. 4) 7:15 AM, Monday, December 14, 2015

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:

HW assignments and quizzes	25 %
Midterm	25 %
Final Team Project	30 %
Final Exam	20%

Grading information:

Grades will be assigned as described below. These intervals, however, may change (i.e. either way!) according to the performance of the class as a whole. C- is a passing grade.

- A: [93, 100]
- A-: [90, 93)
- B+: [87, 90)
- B: [83, 87)
- B-: [80, 83)
- C+: [75, 80)
- C: [70, 75)
- C-: [65, 70)
- D+: [60, 65)
- D: [55, 60)
- D-: [50, 55)
- F: [0, 50)

Policies

Penalty (if any) for late or missed work:

No credit will be given for assignments turned in late. No makeup exams or quizzes will be given.

Incomplete grade will only be assigned to students with sudden events such as medical or personal emergency.

Written proof is needed in all cases.

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

You are expected to attend classes. If you cannot attend, it is your responsibility to get a copy of the lecture notes and class announcements from a reliable classmate. The instructor reserves the right to ignore frivolous or inappropriate e-mail inquiries.

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/. 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 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.

CS160, Software Engineering, Fall 2015

(Please note that the course calendar is “subject to change with fair notice”)

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	8/20/2015-8/28/2015	Software and Software Engineering (reading: instructor slides and online material)
1	8/20/2015-8/28/2015	Software and Software Engineering (reading: instructor slides and online material)
2	8/31/2015-9/4/2015	Software and Software Engineering (reading: instructor slides and online material)
2	8/31/2015-9/4/2015	Software and Software Engineering (reading: instructor slides and online material)
3	9/7/2015-9/11/2015	Process Models (reading: instructor slides and online material)
3	9/7/2015-9/11/2015	Process Models (reading: instructor slides and online material)
4	9/14/2015-9/18/2015	Agile Development (reading: instructor slides and online material)
4	9/14/2015-9/18/2015	Agile Development (reading: instructor slides and online material)
5	9/21/2015-9/25/2015	Understanding Requirements (reading: instructor slides and online material)
5	9/21/2015-9/25/2015	Understanding Requirements (reading: instructor slides and online material)
6	9/28/2015-10/2/2015	Requirements Modeling: Flow, Classes, and Behavior (reading: instructor slides and online material)
6	9/28/2015-10/2/2015	Requirements Modeling: Flow, Classes, and Behavior (reading: instructor slides and online material)
7	10/5/2015-10/9/2015	Usability design (reading: instructor slides and online material)
7	10/5/2015-10/9/2015	Usability design (reading: instructor slides and online material)
8	10/12/2015-10/16/2015	Midterm Review
8	10/12/2015-10/16/2015	Midterm
9	10/19/2015-10/23/2015	Pattern-based Design (reading: instructor slides and online material)

Week	Date	Topics, Readings, Assignments, Deadlines
9	10/19/2015-10/23/2015	Pattern-based Design (reading: instructor slides and online material)
10	10/26/2015-10/30/2015	Management Concepts (reading: instructor slides and online material)
10	10/26/2015-10/30/2015	Management Concepts (reading: instructor slides and online material)
11	11/2/2015-11/6/2015	Management Scheduling (reading: instructor slides and online material)
11	11/2/2015-11/6/2015	Management Scheduling (reading: instructor slides and online material)
12	11/9/2015-11/13/2015	Software Quality Concepts (reading: instructor slides and online material)
12	11/9/2015-11/13/2015	Software Quality Concepts (reading: instructor slides and online material)
13	11/16/2015-11/20/2015	Software Testing Strategies (reading: instructor slides and online material)
13	11/16/2015-11/20/2015	Software Testing Strategies (reading: instructor slides and online material)
14	11/23/2015-11/27/2015	Testing Methods for WebApps (reading: instructor slides and online material)
14	11/23/2015-11/27/2015	Testing Methods for WebApps (reading: instructor slides and online material)
15	11/30/2015-12/4/2015	Advanced Verification Methods (reading: instructor slides and online material)
15	11/30/2015-12/4/2015	Advanced Verification Methods (reading: instructor slides and online material)
16	12/7/2015-12/8/2015	Review
Final Exam		<u>Per SJSU final schedule</u> 7:15 AM, Tuesday, Dec. 15 (sec. 1)/ 7:15 AM, Thursday, Dec. 10(sec. 2), 2015/ 7:15 AM, Monday, December 14, 2015(sec. 4). All final exam will be in in MH 233.