

San Jose State University
Mechanical Engineering Department

All lectures and Friday lab will be synchronously online (live at the same day/time as scheduled)

ME 20	Design & Graphics	Fall 2021
Faculty: Prof. Ken Youssefi, (Course Coordinator)	Email: kyoussefi@aol.com , or kourosh.youssefi@sjsu.edu Office: E-116B Office hours: M 10-11 and W 1:30-2:30 via zoom	

Final Exam: Friday Dec. 10, upload design project to Canvas by 11:59 pm.

Lab. instructors: Rohan Khasgiwala rohan.khasgiwala@sjsu.edu, Yu Xian Lim yuxian.lim@sjsu.edu,
Rohit Dantkale

Wed.	1:30 – 4:15 (section 4, 42081), in-person, E213, Instructor: George
Thursday	1:30 – 4:15 (section 5, 42061), in-person, E213, Instructor: George
Friday	9:00 – 11:45 (section 6, 42948), online (sync), Instructor: Rohan

Course Description

Introduction to graphical communication tools used by engineers. Orthographic projections, section and axillary views and dimensioning standards. Development of visualization and technical sketching skills in conjunction

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practical. Other course structures will have equivalent workload expectations as described in the syllabus.

Prerequisites: Co-requisite E10 for engineering majors

Required Text: Bertoline, Hartman and Ross “Fundamentals of Solid Modeling & Graphics Communication”, 7th ed., 2019, McGraw-Hill, custom bound version for Mechanical Engineering Dept. ME20 (soft cover). Available in SJSU bookstore. ISBN # 9781307317565.

Recommended Text: SolidWorks tutorial,

You need to download a free copy of **SolidWorks 2021/2022**, the download instruction is in Canvas in Modulus under Project.

Design Project: refer to the separate handout

Homework: homework assignments are posted on Canvas with the due date. Late homework, will not be accepted.

Laboratory assignments: Lab work will include solid modeling (3D) using SW. Try to finish the lab assignments during the lab period. **Lab assignments must be uploaded to Canvas. Refer to Canvas for the due date. Canvas upload will be closed after the due date. No assignment will be accepted after the due date.** Lab period will also be used for the design project.

Department Policy on Computer Lab Use: Use of the department and college computer labs is a privilege that can be lost by abuse. The following are grounds for loss of lab privileges:

- x Unauthorized copying of software, either from the computer, or using the computer.
- x Installation of any software, media, or files that are not specifically required to do your class activities. You may not install messenger, music, gaming, or any other software program on computers in the lab.
- x Abuse of computers or hacking or modifying the operating system, user interface, or desktop in any way.

Loss of your computer lab privileges would mean that it will be up to you to arrange to meet your lab requirements outside of the campus computer labs.

Grading: Lab works & Homework 30%, Exams (two) 50% , Project 20%

Lab section scores (SW exam) will be adjusted by the course coordinator in the event of large discrepancies between sections' scores.

Letter grade distribution

A+	98-100%	B+	84-86%	C+	71-73%	D+	57-59%
A	90-97%	B	77-83%	C	63-70%	D	49-56%
A-	87-89%	B-	74-76%	C-	60-62%	D-	46-48%
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Course Goals

The course goals are:

- x To help students visualize three dimensional objects.
- x To introduce students to technical freehand sketching (pictorials).
- x To introduced students to the principal of orthographic projections.
- x To introduce students to technical drawings; shop, assembly, and exploded.
- x To introduce students to proper dimensioning and tolerancing.
- x To introduce students to computer-aided design tools, 2D and 3D (solid modeling).
- x To introduce the students to engineering design process through a design project and lab. work.

Student Learning Objectives

The students should be able to:

- x Freehand sketch a 3D view of an object (isometric, oblique and perspective).
- x Draw the standard two dimensional views (top, front and profile) of an object.
- x Draw section and auxiliary views
- x Apply the proper dimensions and tolerances to parts.
- x Prepare professional (formal) 2D views for fabrication.
- x Draw three dimensional objects using SolidWorks (solid modeling software).
- x Understand the engineering design process and the implementation of different design phases.

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 Americans with Disabilities Act: If you need course adaptations or

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Technology Requirements

Students are required to have an electronic device (laptop, desktop or tablet) with a camera and built-in microphone. SJSU has a free equipment loan program available for students: <https://www.sjsu.edu/learnanywhere/equipment/index.php>

Students are responsible for ensuring that they have access to reliable Wi-Fi during tests. If students are unable to have reliable Wi-Fi, they must inform the instructor, as soon as possible or at the latest one week before the test date to

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.

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 work/exam and explain the problem you are facing. Your instructor may not be able to respond immediately or provide technical.

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/>

Academic Dishonesty

Students who are suspected of cheating 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.