



Mechanical Engineering (MECH) 100L - Graphics 1 Laboratory Course Syllabus – Fall 2023

INSTRUCTOR: Mr. Tristen Svendsen
Campus Office: O'Connell 416
Campus Phone: 530-898-5346
Email: tsvendsen@csuchico.edu

Office Hours: Available on Canvas
Posted outside of OCNL 416

CLASS MECH 100L-01 OCNL 438

CO-REQUISITES: MECH 100 Online

Course Description and Goals

This course is an introduction to engineering graphics, which includes overviews of the following concepts: orthographic projection, auxiliary views, isometric views, dimensioning, tolerancing, drawing standards, working standards, and solids modeling.

Course Content Objectives

Upon the successful completion of this course, students will gain understanding of the following:

- Create ANSI standard orthographic drawings with all necessary components in accordance with current industry standards using SolidWorks CAD software.
- Understand the principles of mechanical component design.
- Understand the principles of solid modeling.
- Understand the drawing standards for the department.
- Understand the use of dimensioning, tolerancing, and basic GD&T in drawings.
- Understand the principles and connection of design to sustainable engineering and manufacturing.

Student Learning Outcomes

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

- Develop a working knowledge of the manufacturing and mechanical design processes.
- Apply ANSI drafting standards in the creation of mechanical drawings using SolidWorks tools.
- Implement the appropriate types and styles of drawing views given the assigned models.
- Illustrate an ability to design a system or component; to meet the assigned needs given environmental, social, political, ethical, health and safety, manufacturability, and sustainability-based inputs.
- Understand professional and ethical responsibility.
- Have the ability to communicate effectively both digitally and interpersonally.
- Show an ability to function on multidisciplinary teams
- Use SolidWorks tools to accurately illustrate design intent.

Course Usage of Canvas

Copies of the course syllabus and all assignments will be found on Canvas. You are responsible for **regularly checking** the online resources, which is accessed through the Chico State Portal at <http://portal.csuchico.edu>. Support materials for the course will be provided via the portal and it is expected that you will either have hardcopies or electronic access to the materials during in-class activities.

Required Texts and Equipment

Textbook

Beginner's Guide to SolidWorks 2022 – Level 1, A. Reyes, SDC Publications, 2021.
ISBN 978-1630574659

Used copies of the 2021 & 2020 editions of this text are acceptable to use.

SolidWorks Software

The version of SolidWorks which is used in the lab is also available to download at no cost to your laptop or desktop. To do so, follow the instructions, "Downloading SolidWorks", on Canvas for the course. We now have the ability to remotely access our labs from home. This method allows you to run SolidWorks on a Mac. Instructions are SolidWorks Info link on the lab Canvas page.

Equipment

We have measuring equipment for use only in the Lab. It is advisable to buy a set of Digital Calipers of adequate quality for use outside of the Lab. They can be purchased locally at Harbor Freight, Home Depot, and online at your preferred vendor. It is not necessary to spend over \$50.00, but you will want quality **metal** construction (>\$25).

Classroom Protocol

It is expected that students are in-class prior to each class, as the class will start promptly at the scheduled time. Any homework class assignments are due at the start of the class and must be submitted in person or on Canvas.

The use of technology is encouraged for in-class coursework and activities, however extra-curricular activities (phone calls, texting, email, web surfing, etc.) are not allowed during class. Students violating this policy will be asked to leave as they are potentially distracting to their colleagues who are engaged in learning.

Communication

If you need to meet or contact the instructors outside of class hours please attend office hours or email tsvendsen@csuchico.edu. For lecture-based concerns, it is also suggested that you seek out your lecture instructor for assistance.

In the event that I need to contact the class members for matters between class meetings (schedule, assignment, or class changes, etc.), it will be done via your university email account linked to the Portal. University policy requires students to monitor campus email accounts and it is suggested that you set up email forwarding if you have another preferred email account.

Dropping and Adding

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found <http://www.csuchico.edu/catalog/>. You should be aware of the deadlines and penalties for adding and dropping classes. I do not handle adding into the course, you need to see or email our MMEM Administrative Support Coordinator, Martha Lane (mlayne@csuchico.edu), to do so. You are the only one responsible for dropping the class.

Assignments and Grading Policy

Assignments are due according to the class schedule and are subject to change depending on course progress through the semester. Changes to the schedule will be announced during class or via the communication protocol described above.

Homework assignments are due at the start of the class. Every assignment has its deadline and lateness policy. Homework is due at the beginning of the lab but is accepted up to **11:59 PM that day** (10% grade deduction). An In-Class assignment is due before the end of the day of that it was assigned. The deadline for the RE Project is fixed—a late submission receives a zero grade.

Drawing and Part files are submitted to Canvas. Often, they will be separate submissions. **Failure to submit the Part file to Canvas results in a zero grade for that assignment.** It is your responsibility to upload the proper file to Canvas before the assigned deadline. I advise you to download your submission to check for errors with your submission.

Assigned readings or movie viewings are to be completed before class. Class discussion period will be used to review topics covered within the reading, clarify student questions, and expand on the topics through real-world applied examples.

Course Grade Breakdown:	Grading Schema:
In-Class	<u>25%</u>
Homework	<u>25%</u>
Midterm Exam	<u>15%</u>
RE Project (Final)	<u>20%</u>
Quizzes	<u>7.50%</u>
Certification Test	<u>7.50%</u>
	100%

>=	93	90	87	83	80	77	73	70	67	60	0
	A	A-	B+	B	B-	C+	C	C-	D+	D	F

Certified SolidWorks Associate Certification (CSWA)

This is an industry standard certification that will be the final for the course. This is a 3-hour test and will be conducted in the Lab section during the week before finals (dead week). Students will get one (1) test voucher to take the certification test. The score that the student receives on the certification test will be the score they receive for their final. This certification must be passed prior to attempting any other SolidWorks Certifications.

General Information

1. Absences are allowed only for illness (doctor's note required) or other serious reasons with permission prior to the class.
2. All cellular phones should be turned off in the lab.
3. Class announcements regarding tests, class cancellations, etc., will be done via the student WildcatMail email account as required per University policy. If the student has another preferred email provider, the student may set up automatic forwarding of the student WildcatMail to that address via www.csuchico.edu/itss
4. The student should expect to **spend at least 4 hours per week** outside of class for lab assignments.
5. All lab CAD assignments must use the department CAD standards for drawings format for title block, revision table and Bill of Material table in the drawing. The standard templates are available on Lab's Canvas site.
6. ECC students may download SolidWorks 2020/21 to a laptop or desktop. Note: SolidWorks only works in a Windows environment, so installing it on an Apple is possible but difficult and installing it on a Chromebook is not possible.
7. Students can work together on CAD assignments but copying another student's work is not allowed. *University policies, due process, and sanctions for academic dishonesty are followed.*

COVID-19 Face Mask Requirement

Reminder: The CSU strongly encourages students to be fully vaccinated against COVID-19 while attending classes on campus. Policies and requirements regarding COVID-19 are subject to change pursuant to campus, local, state and/or federal guidelines.

For more information about the state mandate, please visit the [Chico State COVID-19 News & Information](#) page.

University Policies and Campus Resources

Academic integrity

Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: <http://www.csuchico.edu/sid/integrity.shtml>.

IT Support Services

Computer labs for student use are located on the first and fourth floor of the Meriam Library, Room 116 and 450, Tehama Hall Room 131, and the Bell Memorial Union (BMU) basement. You can get help using your computer from IT Support Services; contact them through their website, <http://www.csuchico.edu/itss>. Additional labs may be available to students in your department or college.

Student Services

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. Student services information can be found at: <http://www.csuchico.edu/current-students>.

Americans with Disabilities Act

If you need course adaptations or accommodations because of a disability or chronic illness, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

Accessibility Resource Center

<http://www.csuchico.edu/arc>

530-898-5959

Student Services Center 170

arcdept@csuchico.edu

Student Learning Center

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at <http://www.csuchico.edu/slc>. The University Writing Center has been combined with the Student Learning Center.