

MECH 1305: Graphics and Design Fundamentals

Spring 2026

Instructor information

Instructor	Email	Office location & hours
Cristian Banuelos	cbanuelos4@miners.utep.edu	TBD

Teaching Assistant	Email
TBD	TBD

General information

Description

This course provides an overview of fundamental concepts in solid modeling, covers the principles of dimensioning, and introduces the basics of computer-aided engineering (CAE) software (SOLIDWORKS).

Expectations and goals

Students are expected to attend every class and follow along with in class instruction. Students are also expected to complete quizzes, exams, and projects within the deadlines. At the conclusion of this course students should be able to know the basics of CAD software including sketching, modeling, generating drawings, simulation, and assembly. Students should have the skills and knowledge to earn SolidWorks Design Associate (CSWA).

Course materials

Required materials

This course is designed around Dassault Systems SOLIDWORKS. Students are required to bring their laptop with SOLIDWORKS education version installed **AND mouse** to every class. The following are recommended specifications for the laptop by UTEP engineering:

- PC with i5 processor or better
- 256+ GB storage
- minimum 8GB RAM
- dedicated graphics card
- **Windows OS is required to run SOLIDWORKS**
 - SOLIDWORKS does not run natively on MAC, alternative solutions are available but are not recommended by the instructor.

Laptop for Students

Please note that the University offers free laptop rental to all registered students on a first-come, first-serve basis. Semester-long and limited-term laptop checkout available at the Library. Make sure that if you opt in to this option, you do so as soon as possible as engineering laptops run out quickly.

[tsc eqcheckout](#)

Software

Dassault Systems SOLIDWORKS

For complete educational access and to download the software please access the installation guide on Blackboard.

For any issues regarding educational access and software installation, please reach out to Autodesk Support or UTEP Engineering Technology Center (ETC).

***Remember to use UTEP email when registering for instant verification.**

Grading

Your grade for this course will be assessed based on your performance in 4 in-class quizzes (25 pts each), 2 in-class exams (100 points each), and 2 team projects (100 points each).

Exams (2): 200

Quizzes (4): 100

Projects (2): 200

Total Points: 500

The content of a quiz could be the materials covered in previous sessions or assigned reading and practice material. There will be no make-up quizzes. Two exams will be given during the semester. Makeup exams will be given only for school-related travel or University Approved Reasons. **Note that these reasons require students to notify the University and instructor no less than 10 days prior to the absence.** To pass this class the student MUST demonstrate proficiency with the concepts and software.

The final grade will be calculated based on the points you have accumulated as follows:

A > 450 450>B>400 400>C>350 350>D>300 300>F

The instructor reserves the right to revise this grading plan. However, students will be informed immediately of any changes during the semester.

Attendance Policy

Regular attendance is crucial for understanding and succeeding in this course. Active participation in class discussions, activities, and lectures is integral to the learning experience. If a student misses a class without a valid and justified reason, the instructor reserves the right to withhold responses to questions related to the missed material. It is the responsibility of the student to communicate any unavoidable absences in advance and to make arrangements for obtaining missed information from classmates or other reliable sources.

Tentative Course Schedule

Week	Topic	Assessments
Week 1	Introduction	Install Software/Licensing
Week 2	2D Sketches	
Week 3	2D Sketches	
Week 4	3D Modeling	Quiz 1
Week 5	3D Modeling	
Week 6	3D Modeling	Quiz 2
Week 7	Engineering Drawings	
Week 8	Engineering Drawings	Exam 1
Week 9	Spring Break	
Week 10	Assemblies	
Week 11	Assemblies	Quiz 3
Week 12	Simulation	
Week 13	Simulation	Quiz 4
Week 14	Additive Manufacturing	
Week 15	Project	
Week 16	Project	Dragster Race (Dead Day)
Week 17	Final's Week	Final Exam

**The instructor reserves the right to modify the schedule. Students will be notified with ample time if any changes occur.*

Additional information and resources

Study Guide

Active participation in class activities and practice problems will help reinforce your skills with the software. To build proficiency and ensure timely completion of design tasks, students are encouraged to practice beyond scheduled class meetings. Additional resources and practice materials will be made available on Blackboard as the semester progresses or upon request of the instructor.

Reasonable Accommodation Policy

Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate the student's educational opportunities.

Web: <http://www.utep.edu/dso> **Phone:** (915) 747-5148 voice or **TTY Fax:** (915) 747-8712

E-Mail: dss@utep.edu

Quiz and Exam Policy

On the scheduled dates of quizzes and exams, all students must arrive at the session's starting time and be ready to present the assessment. To maintain the integrity of the assessments, students who arrive more than 15 minutes late to the class on those dates will not be allowed to take the assessment and will receive a grade of zero. No exceptions will be made. All students taking an assessment must be present in the classroom. **The instructor reserves the right to assess work with an oral explanation of procedure during any Quiz or Exam. Please note that the Final Exam date is set by UTEP and no make-up exams will be administered, make sure to plan accordingly.**

Policy on Cheating

Students are expected to be above reproach in all-scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts (Regents= Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22). Scholastic dishonesty harms the individual, all students, and the integrity of the university; policies on scholastic dishonesty will be strictly enforced.

Final Exam Schedule

Exams by Meeting Time

Your class meets...	Your final is...	
MWF 7:30 -8:20 am or MW 7:30 – 8:50	Friday, May 15 th	7:00 am – 9:45 am
MWF 8:30 – 9:20 am	Monday, May 11 th	10:00 am – 12:45 pm
MWF 9:30 – 10:20 am or MW 9:00 – 10:20 am	Wednesday, May 13 th	10:00 am – 12:45 pm
MWF 10:30 – 11:20 am or MW 10:30 – 11:50 am	Friday, May 15 th	10:00 am – 12:45 pm
MWF 11:30 am – 12:20 pm	Wednesday, May 13th	1:00 pm – 3:45 pm
MWF 12:30 pm – 1:20 pm or MW 12:00 pm – 1:20 pm	Friday, May 15 th	1:00 pm – 3:45 pm
MWF 1:30 – 2:20 pm or MW 1:30 – 2:50 pm	Wednesday, May 13 th	4:00 pm – 6:45 pm
MWF 2:30 – 3:20 pm or MW 3:00 – 4:20 pm	Monday, May 11 th	1:00 pm – 3:45 pm
MW 4:30 – 5:50 pm	Monday, May 11 th	4:00 pm – 6:45 pm
Mondays 4:30 – 7:20 pm	Monday, May 11 th	4:00 pm – 6:45 pm
Wednesdays 4:30 – 7:20 pm	Wednesday, May 13 th	7:00 pm – 9:45 pm
MW 6:00 - 7:20 pm	Wednesday, May 13 th	7:00 pm – 9:45 pm
Mondays 6:00 pm – 8:50 pm	Monday, May 11 th	7:00 pm – 9:45 pm
Wednesdays 6:00 pm – 8:50 pm	Wednesday, May 13 th	7:00 pm – 9:45 pm
TR 7:30 am – 8:50 am	Thursday, May 14 th	7:00 am – 9:45 am
TR 9:00 am – 10:20 am	Tuesday, May 12 th	10:00 am – 12:45 pm
TR 10:30 am – 11:50 am	Thursday, May 14 th	10:00 am – 12:45 pm