MECH 3305 – Computer-Aided Design

This course is offered in an **asynchronous, online format**. You will be able to access lectures, take exams, and take quizzes from home by accessing the eLearning webpage of this course. The due dates and times for all grade-related items are posted in eLearning. Instructions for remote access of UTD computers for use of the CAD software used in this course is provided in eLearning.

Professor Contact Information

Dr. Oziel Rios
Office Hours: ***Virtual*** on Microsoft Teams and ***In-Person*** by appointment
Office Phone: 972-883-4690
Email: oziel.rios@utdallas.edu

When sending an email, make sure to use your UTD email and include the class and section number (e.g., MECH 3305.0W1). General questions will be addressed in eLearning discussion board. Only grade-related questions should be emailed.

TA Contact Information

Name: See eLearning
Office Hours:
Email:

When sending emails, make sure to include the class and section number (e.g., MECH 3305.001). General questions will be addressed in eLearning discussion board. Only grade-related questions should be emailed.

Course Pre-Reqs, Co-Reqs and Other Restrictions

Pre-requisite(s): MECH 1208 – Intro to Mechanical Engineering II
ENGR 2300 – Linear Algebra for Engineers
Pre or Co-requisite: CS 1325 – Intro to Programming (or CE/CS/TE 1337)
Co-requisite: MECH 3105 – Computer Aided Design Laboratory
Other Restrictions: None

Course Description and Learning Outcomes

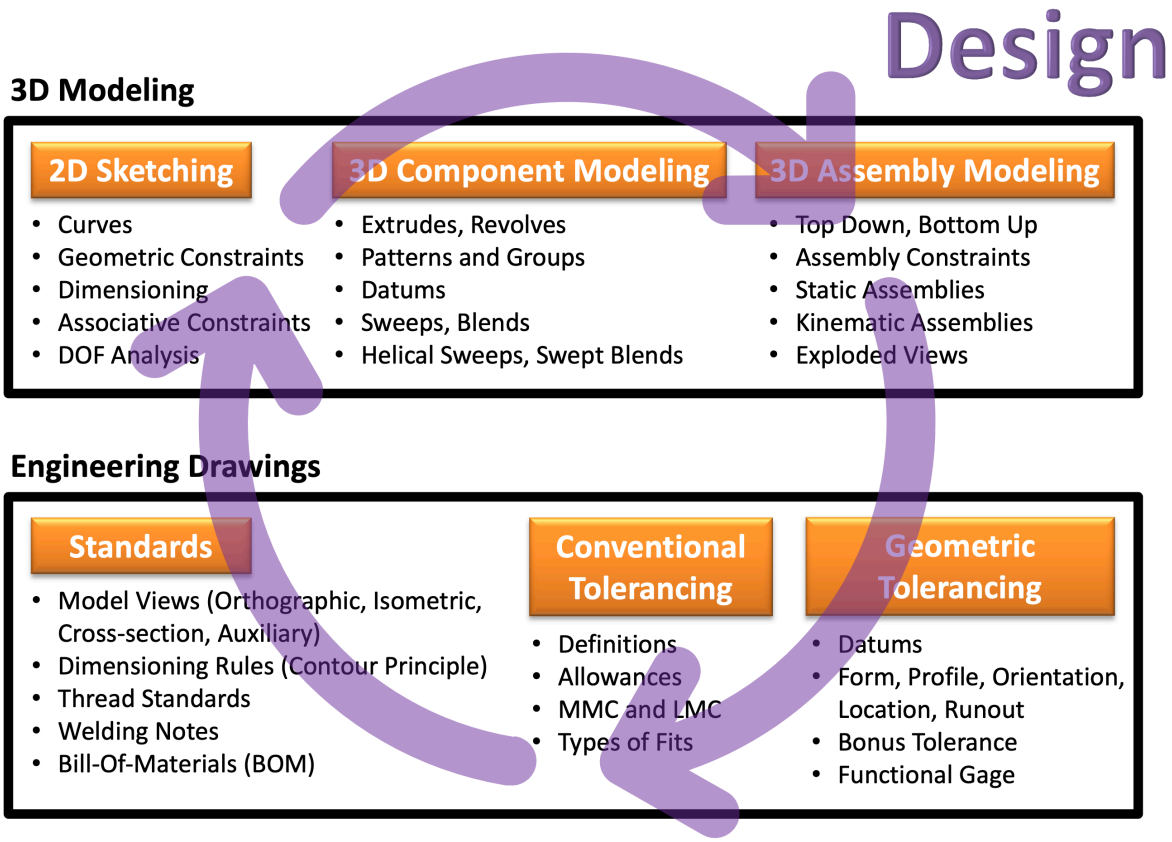
Description: Lecture course. Course material includes an introduction to Computer-Aided Design (CAD) tools and their applications to geometric design and analysis of mechanical components and assemblies. CAD software will be used to generate sketches, curves, surfaces, solids, assemblies, and engineering drawing suitable for different manufacturing processes. Innovative team-oriented projects are integrated into the course.

Learning Outcomes:

1. Be able to create 3D geometric models, assemblies, and engineering drawings that are suitable for manufacturing.
2. Be able to determine degrees of freedom of sketches and assemblies.
3. Be able to generate fabrication packages to represent mechanical assemblies ready for traditional and emerging manufacturing processes.
4. Be able to function effectively in teams on projects.

Topics Covered:

1. Role of CAD in mechanical design
2. Sketching
3. Solid modeling
4. Engineering drawings
5. Assembly modeling
6. Parametric curves and surfaces



Textbooks and Materials

There is ***no required textbook*** for this course. Videos will be provided in eLearning. Once they are made available, you will be able to watch them at your own pace as many times as you need for the remainder of the semester.

The videos will be arranged into the following Learning Modules.

1. Introduction to CAD
2. Sketching
3. Solid Modeling
4. Assembly Modeling
5. Engineering Drawings
6. Conventional Tolerancing
7. Geometric Tolerancing
8. Advanced Solid Modeling

Access to **CREO Parametric 8.0** CAD software is available in the CAD lab computers. You can download a student version of this software from the following website:

https://www.ptc.com/en/academic-program/products/free-software (select 'CREO for University Students')

Make sure to use your UTD email when creating your profile. Please note that we cannot provide support for installing software on personal computers. If you can't install the software on your personal computer, you need to use the computers available in the open access computer lab. The instructions to do this are found in eLearning.

If you are unable to install the software on your personal computer, follow the instructions provided in eLearning to remote access a UTD computer.

Grading Policy

Final grades will be evaluated as follows:

Learning Module Quizzes	**14%**
Assignments	**36%**
Exams	**30%**
Team Project	**20%**

After viewing all videos in a learning module, take a quiz in eLearning by the due date. After the quiz due date (provided in eLearning), the quiz will close and all grades are final.

The exams will be available in eLearning on the dates and time provided in eLearning.

You have one (1) week (7 calendar days) days to appeal any grade (contact the professor or TA). The days will be counted starting from the day the item in question is returned or the grade has been provided in eLearning.

Final letter grades will be assigned according to the following ranges. This guideline is subject to change at the discretion of the instructor.

A+	97 ≤ x	C+	77 ≤ x < 80
A	93 ≤ x < 97	C	73 ≤ x < 77
A-	90 ≤ x < 93	C-	70 ≤ x < 73
B+	87 ≤ x < 90	D+	67 ≤ x < 70
B	83 ≤ x < 87	D	63 ≤ x < 67
B-	80 ≤ x < 83	D-	60 ≤ x < 63
		F	60 > x

Course Policies

Comet Creed

"As a Comet I pledge honesty, integrity and service in all that I do."

Email

Email must be sent from your UTD email account to UTD email address of the professor or TA. Emails received after 5pm or on weekends will not be read until the following weekday.

Lecture Videos and Quizzes

Videos will be provided in eLearning. Once they are made available, you will be able to watch them at your own pace as many times as you need for the remainder of the semester. After you have viewed all videos in a learning module, take a quiz in eLearning.

Recordings and the content of quizzes may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Assignments and Project

The assignments and project must be submitted to eLearning by the time indicated on the assignment or as indicated by the instructor. Late assignments and project deliverables will be accepted with the following penalties:

- 1 calendar day (24 hrs) or less late will result in a ***15% deduction*** of total grade.
- 2 calendar days (48 hrs) or less late will result in a ***30% deduction*** of total grade.
- 3 calendar days (72 hrs) or less late will result in a ***45% deduction*** of total grade.
- Deliverables more than 3 days late will receive a grade of ***zero (0)***.

Important notes:

- Points deducted due to incorrect work will be in addition to the late point deductions.
- The late times are counted during weekdays and weekends.

- Submissions of late work should be made using the deliverable links in eLearning. Do not email late work.

In case you miss a deadline and have a proper excuse, it is your responsibility to provide the instructor with proper documentation (doctor's notice, etc.). Issues with your WIFI or personal computer can't be verified.

Exams

The content of exams may not be published, reproduced, or shared with anyone other than the instructor or TA, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

In case you miss an exam and have a proper excuse, it is your responsibility to provide the instructor with proper documentation (university sponsored event, doctor's notice, etc.). Make-up exams must be scheduled within one (1) week (7 calendar days) of original exam date.

Rules for Exams

1. The exams will make use of CREO Parametric. You should download a student version to your personal computer (see 'Textbook and Materials') or you can remote access to a university computer (see instructions in eLearning).
2. The exams will be taken at home. You will be allowed to use lecture videos and on-line resources during the exams, but ***you should work individually (don't communicate with your peers)***. Please address any questions to the instructor or TA.
3. The exam will be found in the eLearning section of our class.
4. Make sure to start the exam once it becomes available in eLearning so any issues can be reported and worked out with the instructor or TA. Waiting until the "last minute" is not acceptable and not a valid reason to request an extension or make-up exam.
5. The exams must be completed within the time frame specified and must be submitted in eLearning.

File History of Assignments, Project Files, and Exams

We will only grade files created using CREO Parametric (see 'Textbook and Materials' for version). We will not grade files with a missing file history. If you are using a university computer, the file history contains your NetID. If you are using a personal computer, you must make sure the name in the file history matches your name (e.g. 'Oziel Rios'). No nicknames or other words will be allowed. Make sure to check the file history before submitting the files. Discrepancies in the file history will be investigated.

Academic Dishonesty

Academic dishonesty will not be tolerated and will result in a grade of **F** in this course.

University Policies

Academic Integrity: The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Academic Dishonesty*:* Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes plagiarism, cheating, fabrication, and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment.

Academic dishonesty will not be tolerated. All suspected cases of academic dishonesty will be sent to the Dean of Students (see http://www.utdallas.edu/deanofstudents/managing/). If it is determined that academic dishonesty occurred you will receive a grade of **F** in this course.
Sharing Confidential Information: Students considering sharing personal information in email, in person, or within assignments or exams should be aware that faculty members and teaching/research assistants are required by UT Dallas policy to report information about sexual misconduct to the UT Dallas Title IX Coordinator. Per university policy, faculty have been informed that they must identify the student to the UT Dallas Title IX Coordinator. Students who wish to have confidential discussions of incidents related to sexual harassment or sexual misconduct should contact the Student Counseling Center (972-883-2527 or after hours 972-UTD-TALK or 972-883-8255), the Women's Center (972-883-8255), a health care provider in the Student Health Center (972-883-2747), the clergyperson (or other legally recognized religious advisor) of their choice, or an off-campus resource (i.e., rape crisis center, doctor, psychologist). Students who are sexually assaulted, harassed, or victims of sexual misconduct, domestic violence, or stalking, are encouraged to directly report these incidents to the UT Dallas Police Department at 972-883-2222 or to the Title IX Coordinator at 972-883-2218. Additional information and resources may be found at http://www.utdallas.edu/oiec/title-ix/resources.

Student Accessibility: It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow one week advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at studentaccess@utdallas.edu.

Technical Support: If you experience any issues with your UT Dallas account, contact the UT Dallas Office of Information Technology Help Desk: assist@utdallas.edu or call 972-883-2911 UT Dallas provides eLearning technical support 24 hours a day/7 days a week. The services include a toll free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service. Please use this link to access the UTD eLearning Helpdesk: http://www.utdallas.edu/elearning/eLearningHelpdesk.html.

Student Conduct and Discipline: The University of Texas System (Regents' Rule 50101) and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UT Dallas online catalogs (http://catalog.utdallas.edu).

For a full list of university policies, please visit http://go.utdallas.edu/syllabus-policies.

THE INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE AT THE DISCRETION OF THE PROFESSOR.