UTTyler ENGINEERING

Department of Mechanical Engineering
Phone: +1.903.566.7003
Fax: +1.903.566.7148
Uttyler.edu/engineering

MENG 3303 – Dynamics of Machinery
Course Syllabus

Semester / Year	Spring 2026
Catalog Description	Analysis of the kinematics and forces in mechanical mechanisms and assemblies. Three hours of lecture per week.
Prerequisites	C or Better in all the following: ENGR 2302 - Dynamics
Section Number	051
Instructor Name	Dr. Ermias Gebrekidan Koricho
Contact Information	Email: ekoricho@uttyler.edu Phone: 903-730-3895 Office: A220
Class Type / Instruction Mode / Location	Face-to-face / Lecture / Houston Engineering Ctr 0B210
Class Time	Tu/Th 2:00PM - 3:20PM
Office Hours	Tu/Th 11:30 AM – 01:00 PM or by appointment
No. of Credits	3 credits (Lecture)
Required Textbook	Design of Machinery-An Introduction to the Synthesis and Analysis of Mechanisms and Machines, 6th Ed. – R.L. Norton (Lecture)
Optional References	Motion Simulation and Mechanism Design with SolidWorks Motion 2019, SDC – K.H. Chang (SW Tutorial Sessions)
Additional Rules and Requirements	Handouts and manuals posted on Canvas. A software package will be selected for use as a learning support tool and the course includes a project as a major component. AI tools are allowed to support students' learning and productivity, provided that their use aligns with academic integrity standards. When required, students must disclose their use of AI. Since the mechanical engineering program is designed to prepare students for professional practice, all submitted work (e.g., homework, lab reports, projects, presentations) is expected to meet professional standards. Work that does not reflect professional quality may be subject to grade reductions, even if professionalism is not explicitly listed in the grading rubric.
Evaluation Method	Mid-term Exam 25% Final Exam 30% Design Workshop 20%, Tutorial Flipped Classes (Class Discussion) 10% Quizzes and Homework 10% Course Participation & Attendance 5%
Grading Policy / Scale	Letter grades, scale: A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60

Important Events / Dates	Census date: 01/26/2026 First drop for non-payment: 02/04/2026 Exam date: Mid-term (February 26, 2026), Final Exam (April 28, 2026) Last date to withdraw: 03/30/2026
Attendance / Makeup policy / other rules	• Regular attendance is imperative if you want to do well in this course. Therefore, regular attendance is highly recommended. In case you have to miss a class, it is your responsibility to keep up with the class work and be informed of all announcements made in the class on HomeWorks, tests etc. No makeup exams will be authorized without providing an official document showing that your absence is in line with university rules. • Late submissions of assignments/ Homework (e.g. if due at 11:59:00 pm, then any time after such as 11:59:30 pm is late) will result in **10 % deduction per day** from the graded score. • **Canvas should be the primary mode of contacting the instructor** so check the Canvas announcements and discussion board to check for information about the course. In addition, university provided patriots email should be the official communication method, and you should check your email regularly. Use the above email address or Canvas messaging if you want to email the instructor. Please use MENG 3303- your section, your question or concern title in the email subject line. Please allow the instructor at least one to two business days to respond to your email. Emails with improper language will not be answered. Emails with same concerns or questions from multiple students will be answered/covered during class time. • The syllabus is subject to change during the semester as deemed necessary. Students will be notified for any major changes.
Course Learning Objectives / ABET & PEOs Relation	By the end of this course, students will be able to: 1. Recognize different mechanisms and determine the degree of freedom. 2. Analyze a linkage for paths, velocity, and acceleration. 3. Understand the basics of cam mechanisms and apply to a cam-follower design. 4. Apply practical approach to optimum involute spur gears and gear trains design. 5. Apply acquired knowledge and skills during the course and previous courses to solve a design problem requiring resourcefulness.
Tentative Topics / Course Plans	1. Fundamentals of kinematics and dynamics of linkages and mechanisms 2. Kinematic analysis and synthesis of linkages: position, velocity, and acceleration analyses 3. Cam design 4. Gear design and gear trains Frequency domain control design
University Policies	https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information-rev122025.pdf

Note:
The instructor reserves the right to modify the syllabus at any time during the semester to accommodate unforeseen circumstances, enhance the learning experience, or ensure the course objectives are met. Any changes will be communicated promptly to all students.