Department of Mechanical Engineering
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ENGR 2302 – Engineering Mechanics: Dynamics
Course Syllabus

Semester / Year	*Fall 2023*
Catalog Description	*Motion of particles, rigid bodies, and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.*
Prerequisites	*C or better in ENGR2301 or CENG2301 Engineering Mechanics: Statics*
Section Number	*001*
Instructor name	*Dr. A. Ibrahim*
Contact Information	*Email: aibrahim@uttyler.edu, Office: RBN 3008*
Class Type / Instruction Mode / Location	*F2F* *Ratliff Building North 03041 (RBN 03041)*
Class Time	*Mo/We 8:00 am - 9:20 am*
Office hours	*Mo/W 9:20 am - 10:45 am or by appointment*
No. of Credits	*3*
Required Textbook	*Engineering Mechanics: Dynamics, 15th edition, Russell C. Hibbeler*
Optional References	*N/A*
Additional requirements	*N/A*
Evaluation Method	***Quizzes 25 %*** ***First Exam 25 %*** ***Second Exam 25 %*** ***Third Exam 25 %***
Grading Policy / Scale	*Letter grades: 90-100: A, 80-89: B, 70-79: C, 60-69:D, 0-59: F* *Note: **89.4 == B***
Important events / dates	*Census date: September 1st, 2023.* *Last date to withdraw from one or more 15-week courses: October 30, 2023 (https://www.uttyler.edu/schedule/files/2023-2024/academic-calendar-2023-2024-main-20230328.pdf)* ***First Exam Monday September 25th*** ***Second Exam Monday October 23nd*** ***Third Exam Wednesday November 29th***
Attendance / Makeup policy / other rules	*Attendance is **required,*** ***Missing 3 classes ==> F*** *No makeup exams will be authorized without providing an **official** document showing that your absence is in line with university rules.*

Course Learning Objectives / ABET & PEOs Relation	*At the end of this course, students should be able to:* *1. Set up and solve particle kinematics problems using rectilinear and curvilinear, planar and three-dimensional, coordinate systems.* *2. Set up and solve kinetics of particles problems, planar and three-dimensional, using Newton's second law, work and energy, and impulse and momentum methods.* *3. Set up and solve kinematics of rigid bodies problems in planar coordinate systems.* *4. Set up and solve kinetics of rigid bodies problems using Newton's second law, work and energy, and impulse and momentum methods.*
Tentative Topics / Course Plans	*1. Kinematics of a Particle.* *2. Kinetics of a Particle: Force and Acceleration.* *3. Kinetics of a Particle: Work and Energy.* *4. Kinetics of a Particle: Impulse and Momentum.* *5. Planner Kinematics of a Rigid Body.* *6. Planner Kinematics of a Rigid Body: Force and Acceleration.*
University Policies	*https://www.uttyler.edu/academic-affairs/files/syllabus_information_2021.pdf*