# ENGR 2302 – Engineering Mechanics: Dynamics
## Course Syllabus

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| **Semester / Year** | Summer 2025 |
| **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** | 461 |
| **Instructor name** | Dr. Ermias Koricho |
| **Contact Information** | Email: ekoricho@uttyler.edu, Office: HEC, Room A220 |
| **Class Type / Instruction Mode / Location** | Online Lecture |
| **Class Time** | TBA |
| **Office hours** | TBA or by appointment |
| **No. of Credits** | 3 |
| **Required Textbook** | Engineering Mechanics: Dynamics, 15th edition, Russell C. Hibbeler |
| **Optional References** | N/A |
| **Additional requirements** | 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. |
| **Evaluation Method** | **Quizzes**         **15 %**<br>**Homework**      **10 %**<br>**First Exam**      **25 %**<br>**Second Exam**    **25 %**<br>**Final Exam**      **25 %** |
| **Grading Policy / Scale** | Letter grades: 90-100: A, 80-89: B, 70-79: C, 60-69:D, 0-59: F<br>Note: **89.4 == B** |
| **Important events / dates** | Census Date: 7/10/2025<br>Last day to withdraw from one or more Second 5-Week courses: July 29th<br>Final grade rosters open for Second 5-Week Session 9: August 5th<br>Summer Commencement: August 9th<br>Final exams: As Assigned by UT Tyler for the Final Exam (TBD)<br>End of Second 5-Week Session: August 9th<br><br>https://www.uttyler.edu/schedule/files/2024-2025/academic-calendar-2024-2025-accelerated-programs.pdf<br><br>**Quizzes**: Expect a quiz every week based on the materials covered on the previous week. |

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| **Attendance / Makeup policy / other rules** | Regular attendance is required. In case you have to miss a class, it is your responsibility to keep up with the online class work and be informed of all announcements made in the canvas. Students are expected to actively engage with the course materials and activities. **Homework Assignments:** homework will be assigned according with the topics covered in lectures. Assignments are considered very important for the understanding of the course material. Completing your homework independently is an absolute necessity to do well in this course. **Canvas:** Course syllabus, course material such as handouts and example problems with solutions, homework, assignments, homework solutions, review material, exam solutions will all be posted on Canvas. Please review all the material posted on Canvas on a regular basis. |
| **Course Learning Objectives / ABET & PEOs Relation** | By the end of this course, students will 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. |

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| **University Policies** | https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information.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.