



Class Reference Number (CRN): 26232

Instructor: Methaq S. Abed, Ph.D., P.E.

Office: Engineering Annex, A104.

Office Hours: Virtual office hours will be conducted through blackboard from 2:30 to 4:30 pm TR, you are welcome anytime to send your questions via email and allow me 24 to 48 hrs to reply. Please enter your name and your class name like (MECH2340) when you enter the online session.

Email: msabed@utep.edu

Class Meeting Schedule: Online

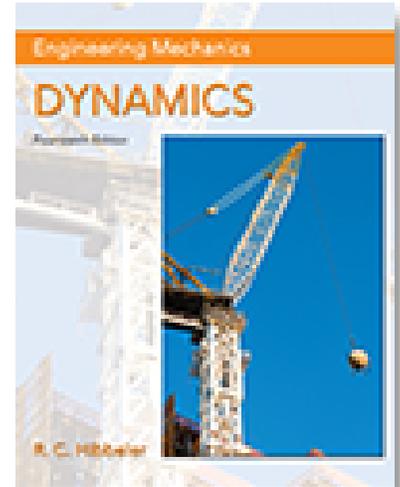
Prerequisites: Mechanics of Materials.

Text Book: Mechanics Dynamics by R. C. Hibbeler, 14th edition.

Course Objective:

At the end of this class, the typical students should be well prepared in the following areas:

- Determine the kinematic quantities (position, displacement, velocity, and acceleration) of a particle traveling along straight and curved paths.
- Apply the equation of motion using the rectangular coordinates, or the normal and tangential coordinates.
- Apply the principle of work and energy to a particle or system of particles.
- Calculate the linear momentum of a particle and the linear impulse of a force.
- Determine the mass moment of inertia of a rigid body or a system of rigid bodies.
- Apply the three equations of motion for a rigid body in planar motion.
- Analyze the planar kinetics of a rigid body undergoing rotational motion.
- Analyze the planar kinetics of a rigid body undergoing general plane motion.
- Define the various ways a force and couple do work.
- Apply the principle of work and energy to a rigid body.
- Determine the potential energy of conservative forces.



**Topics covered**

1. Kinematics of a Particle (Chapter 12)
2. Kinematics of a Particle: Force and Acceleration (Chapter 13)
3. Kinematics of a Particle: Work and Energy (Chapter 14)
4. Kinematics of a Particle: Impulse and Momentum (Chapter 15)
5. Planar Kinematics of a Rigid Body (Chapter 16)
6. Planar Kinematics of a Rigid Body: Force and Acceleration (Chapter 17)
7. Planar Kinematics of a Rigid Body: Work and Energy (Chapter 18)

This course satisfies the fundamental dynamics components of the general engineering program.

Lectures Videos Link:

<https://www.youtube.com/watch?v=yNIIWETrDF0&list=PLLbvVfERDon3nP0JRpAzze-1KfUiou4AK>

GRADING PLAN

The final grade for the course will be based on the breakdown given below:

- Exams 60%
- Homework 15%
- Quizzes 10 %
- Project 15 %

There will be three exams. *No makeup exam will be given under any circumstances. If you miss any of the tests, that would be your lowest to be dropped. The exams' grade will be calculated based on the average of the two highest tests.* The lowest test grade will be dropped.

To comply with the University's new rules due to coronavirus that hits the nation now, exams 2 and 3 will be given online through masteringengineering.

**Homework:**

All students are required to register for the course through **masteringengineering**.

<http://www.pearsonmylabandmastering.com/northamerica/masteringengineering/students/get-registered/index.html>

Course ID: MEABED4315083

Homework will be assigned through Mastering Engineering. Late homework will be penalized by a 50% deduction per day after the deadline. You have six trials to submit the correct answer.

Exams Date:

Exam #2: Tuesday, March 31st

Exam #3: Tuesday, May 5th

Drop/Withdrawal Deadline: Friday, April 3rd, 2020.

Project Due Date: Thursday, May 7th.

The submission for the project will be online. There will be one submission per group. If anyone is hard for him or her to communicate with the team, then he/she can submit the project as individual.

Grading Scale

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

- A ≥ 88
- B ≥ 75 but < 88
- C ≥ 60 but < 75
- D ≥ 50 but < 60
- F < 50

ACES & Tutoring Center

Please note there are tutoring services available in the ACES center. Tutoring is free to you; the Department pays them. If tutors are not used, the Department may stop funding them. Check the schedule of the tutors and make use of the services. For more details visit the

ME Advising Blackboard -> cc mech acadav: MECH Academic Advising -> Tutoring & Resources

At the link you can find tutor schedules, location of the ACES center and the list of tutors available. For more information send email to METutors@utep.edu



Allowed Calculators

The following will be the only calculators allowed in exams:

- Casio: All fx-115 models. Any Casio calculator must contain fx-115 in its model name.
- Hewlett Packard: The HP 33s and HP 35s models, but no others.
- Texas Instruments: All TI-30X and TI-36X models. Any Texas Instruments calculator must contain either TI-30X or TI-36X in its model name.

Harassment Policy

The department has a zero-tolerance policy for harassment. Engagement in any behavior considered harassment would be reported to the proper authorities. In addition to generally understood forms of harassment, the department also treats the following behavior as harassment:

- Repeated emails and/or calls regarding subjects that have already been addressed. Once a decision has been made, or a question answered, a student who continues to ask the same question will be given a warning by the recipient of the email/call. If the student continues, the behavior will be reported. Questions that seek understanding of course material are not harassment, but repeated questions about a grade or an administrative decision are.
- Grades are NOT negotiable, ever. If you believe a grading mistake has been made, you must follow the process described in the UTEP catalog. Any request for a grade elevation that is NOT based on a mistake is considered harassment and will be reported immediately.