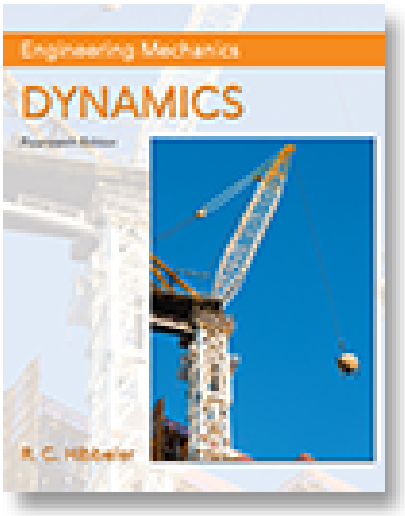
MECH 2340 **Dynamics** **Summer 2017**

Class Reference Number (CRN): 34793



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

Office: A226

Office Hours: 10:45-11:15 am & 1:30- 2:00 pm MTWR

Email: msabed@nmsu.edu

Class Meeting Schedule: 9:30-10:35 am MTWRF

Class Location: Under Graduate Learning Center

Prerequisites: Mechanics of Materials

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

Topics covered

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

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

Lectures Videos Link:
https://www.youtube.com/watch?v=yNllWETrDF0&list=PLLbvVfERDon3nP0JRpAzze-1KfUiou4AK

GRADING PLAN

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

- Exams 60%
- Homework 10%
- Quizzes 10%
- Project 20%

There will be 3 in class exams. All exams must be taken at the scheduled time and date set by the instructor unless prior arrangements are made. ***No makeup exam will be given under any circumstances.***

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: MEABED49001

Homework will be assigned through MasteringEngineering. Late homework will be penalized by 33% deduction per day after the deadline. You have 6 trials to submit the correct answer.

Grading Scale

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

- A ≥88.5
- B ≥78.5 but <88.5
- C ≥68.5 but <78.5
- D ≥58.5 but <68.5
- F <58.5

GENERAL POLICIES:

Academic misconduct will be dealt with according to the regulations specified in the 2015-2016 UTEP Undergraduate Catalog.

ACES & Tutoring Center

Students are reminded of the tutoring services available in the ACES and the library. These services are provided to you by the University. Check the schedules and make use of the services.

Attendance and Tardiness

Attendance is mandatory. Absence can be checked by the instructor through quizzes, exams, roll calling, randomly picked names for problem solving in class, or other mechanisms. **You could receive an F grade if you miss more than three classes without the instructor's consent.** The instructor appreciates all efforts to attend the class. There will be no penalty for being late. **However, exams and quizzes may be given at the beginning of the classes. No additional time will be allowed for late attendees**.

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.

CELL PHONES AND PAGERS OFF OR ON VIBRATE !!!!!!!!!!!!!!!!!!!!!!!!

Policy on Cheating

Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts@ (Regents= Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22). Scholastic dishonesty harms the individual, all students, and the integrity of the university, policies on scholastic dishonesty will be strictly enforced.

Classroom Policy:

During the tests, you have to follow the classroom rules as listed below:

1. Use your own calculator, pencil, and eraser.
2. It is not allowed to use or carry any electronic device in your pockets or hands (such as cell phone ,iPad and iPod).
3. It is not allowed for any student to leave the classroom for any reason (such as going to restroom) unless he/she finished his/her exam.

COURSE TOPICS AND SCHEDULE

Lecture No.	Date	Topics	Reading	Notes
L1	06/12M	Statics Review	12.1-12.2	
L2	06/13 T	Rectilinear Kinematics: Continuous Motion	12.1-12.2	
L3	06/14 W	Rectilinear Kinematics:	12.2	
L4	06/15 R	Continuous Motion and Erratic Motion	12.3	
L5	06/16 F	Rectilinear Kinematics: Erratic Motion	12.3	
L6	06/19 M	Curvilinear Motion	12.4-12.5	
L7	06/20 T	Curvilinear Motion	12.5	
L8	06/21W	Projectile	12.6	
L9	06/22 R	Projectile	12.6	
L10	06/23 F	Absolute Dependent Motion Analysis of two Particles	12.9	

L11	06/26 M	Absolute Dependent Motion Analysis of two Particles	12.9	
L12	06/27T	**Exam#1**		
L13	06/28 W	Equations of Motion	13.1-13.3	
L14	06/29 R	Equations of Motion: Rectangular Coordinates	13.4	
L15	06/30 F	Equations of Motion: Rectangular Coordinates	13.4	
L16	07/03M	Equations of Motion: Normal and Tangential Coordinates	13.5	
L17	07/04 T	**UTEP Closed**		
L18	07/05 W	Equations of Motion: Normal and Tangential Coordinates	13.5	
L19	07/06 R	The Principle of work and Energy & System of Particles	14.1	
L20	07/07 F	Work on Project (no class)		Deadline for dropping classes with "W"
L21	07/10 M	The Principle of work and Energy & System of Particles	14.1-14.3	
L22	07/11 T	The Principle of work and Energy & System of Particles	14.3	
L23	07/12 W	Principle of Linear Impulse and Momentum	15.1	
	07/13 R	Exam#2 Review		
	07/14 F	**Exam#2**		
	07/17 M	Conservation of Linear Momentum for systems of	15.2-15.3	

		Particles		
L24	07/18 T	Angular Momentum, Moment of A Force and principle of Angular Impulse and momentum	15.5-15.7	
L25	07/19 W	Angular Momentum, Moment of A Force and principle of Angular Impulse and momentum	15.5-15.7	
	07/20 R	Moment Of Inertia	17.1	
L26	07/21 F	**Project Due Date**	17.1	
L27	07/24 M	Planar Kinetic Equations of Motion: Translation	17.2-17.3	
L28	07/25 T	Planar Kinetic Equations of Motion: Translation	17.3	
L29	07/26 W	Planar Kinetic Equations of Motion: Translation	18.1-18.4	
L30	07/27 R	Kinetic Energy, Work, Principle of Work and Energy	18.4	
L31	07/28 F			
L32	07/31 M	**Exam#3**		
L33	08/01 T	Planar Kinetics of A Rigid Body: Conservation of Energy	19.1-19.2	
L34	08/02 W	Linear and Angular Momentum	19.2	
L35	08/03 R	Conservation of Momentum	19.3	

Note: The above schedule is tentative and is subjected to change.