

ME 302 A2: ENGINEERING MECHANICS II
LECTURE: T-TH 2-4 PM PHO 211

Instructor: Prof. Kamil L. Ekinici
Office: ENG 408
Office Hours: M 6-7 pm (ENG 410)
Email: ekinci@bu.edu

GTF: No GTF

Textbook:

Williams JH, *Fundamentals of Applied Dynamics*, John Wiley and Sons, Inc., 1996.

Supplemental Resources:

Handouts will be given in class.

Course Topics:

Kinematics of particles and rigid bodies

- Inertial reference frames; coordinate systems; orbital elements & trajectories
- Intermediate noninertial reference frames

Direct/Algebraic approach to kinetic analysis (Newtonian)

- linear and angular momenta, moments of inertia
- Work/energy relationship

Indirect approach to kinetic analysis (Lagrangian)

- Hamilton's principle, Lagrange's equation

Grading:

Quizzes + Projects:	15% (quizzes given weekly)
Exams 1:	20%
Exams 2:	30%
Final Exam:	35% (comprehensive; will be given on the date determined by registrar.)

Make-up Policy:

No make-ups will be given. If you miss an exam without a valid excuse, you will get a zero. If you have to miss an exam with an excuse, you will be graded based upon the rest of your portfolio.

NO MAKE-UPS, NO EXTENSIONS, NO EXCEPTIONS.

Assignments:

- (1) Homework problems will be assigned and solutions made available on Blackboard usually on Thursdays. **Please check promptly.** The homework problems and lectures will serve as the basis for quizzes to be given the week after homework is assigned.
- (2) The project will serve as a platform for students to apply principles learned in class to real-world scenarios. Further information will be given during the semester.

ME 302 A2 Syllabus Fall 2011

WK	DATES	READING	TOPIC
1	9/6 9/8		Review of Particle Kinematics
2	9/13 9/15	CH 3	Rigid Body Kinematics
3	9/20 9/22	CH 3	Rigid Body Kinematics
4	9/27 9/29	CH 4	Rigid Body Kinematics
5	10/4 10/6	CH 4	Particle Dynamics
6	10/11 10/13	CH 6	Exam on 10/11 Moment of Inertia
7	10/18 10/20	CH 6	Moment of Inertia
8	10/25 10/27	CH 5	Rigid Body Dynamics
9	11/1 11/3	CH 5	Generalized Coordinates
10	11/8 11/10	CH 5	Work and State Functions Hamilton's Principle
11	11/15 11/17	CH 6	Lagrangian Dynamics
FALL RECESS			
12	11/29 12/1	CH 6	Exam on 12/1 Lagrangian For Rigid Bodies
13	12/6 12/8	CH 8	Small Oscillations

Note: Syllabus will be updated as the semester goes by.