ME 302 A1: ENGINEERING MECHANICS II

Instructor: Prof. Kamil L. Ekinci (ekinci@bu.edu)
Graduate TA: Kevin Leahy (kjleahy@bu.edu)
Office: ENG 401
Office Hours: F 4-5 pm
Discussion/Drop-in Hrs: Tue. TBA, ENG 410

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

Supplemental Resources:
Handouts will be given during 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:	10% (quizzes given weekly)
Exam 1:	25% (on 10/14/2015 during class)
Exam 2:	30% (on 11/18/2015 during class)
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.**

Attendance Policy:
You are required to attend every class. Attendance will be taken. You must arrive to class on time.

Electronics Policy:
You are encouraged to use a scientific calculator. You are not allowed to use any other electronics, including cell phones, lap top computers and so on, during class.

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 A1 Syllabus
Fall 2015

WK	DATES	READING	TOPIC
1	9/2		Review of Particle Kinematics
2	9/9	CH 3	Rigid Body Kinematics
3	9/14 9/16	CH 3	Rigid Body Kinematics
4	9/21 9/23	CH 4	Rigid Body Kinematics
5	9/28 9/30	CH 4	Particle Dynamics
6	10/5 10/7	CH 6	Moment of Inertia
7	10/13 10/14	CH 6	**Tuesday is Monday schedule.** **Exam on 10/14**
8	10/19 10/21	CH 5	Rigid Body Dynamics
9	10/26 10/28	CH 5	Generalized Coordinates
10	11/2 11/4	CH 5	Work and State Functions Hamilton's Principle
11	11/9 11/11	CH 6	Lagrangian Dynamics
12	11/16 11/18	CH 6	**Exam on 11/18**
13	11/23		Lagrangian For Rigid Bodies
FALL RECESS			
13	11/30 12/2	CH 8	Small Oscillations
14	12/7 12/9	CH 8	Small Oscillations

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