Instructor: Xiaohua Li
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Lecture Time: Tu & Th 11:30 a.m.-12:50 p.m. room D201 (section .001)
     MWF 10:30 a.m.-11:20 a.m. room B192 (section .002)
Instructor Office Hours: Open Office Policy. MWF, 11:30 a.m.-1:30 p.m. or by appointment

Supplemental Instruction TA Hours: will be posted in blackboard later

Required Textbook: Engineering Mechanics: Dynamics, 14th Edition,
     Pearson, 2015 R.C. Hibbeler
     ISBN-13: 978-0133915389

Course Description:

3 hours. Basic theory of engineering mechanics, using calculus, involving the 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.

Prerequisite(s): MATH 1720 and ENGR/MEEN 2301.

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will:
1. Express dynamic quantities as vectors in terms of Cartesian components, polar coordinates, and Normal-tangential coordinates.
2. Compute mass moments of inertia for systems of particles and rigid bodies.
3. Solve kinematic problems involving rectilinear and curvilinear motion of particles.
4. Solve kinetic problems involving a system of particles using Newton's Second Law.
5. Apply the principles of work and energy and conservation of energy to the solution of engineering problems involving particles and systems of particles.
6. Apply the principles of impulse and momentum and conservation of momentum to the solution of engineering problems involving particles and systems of particles.
7. Solve kinematic problems involving the translation and rotation of a rigid body.
8. Solve kinematic problems involving general planar motion of a rigid body.

ABET Student Learning Outcomes (SO)

a   Ability to apply mathematics, science and engineering principles.
b   Ability to design and conduct experiments, analyze and interpret data.
c   Ability to design a system, component, or process to meet desired needs.
d   Ability to function on multidisciplinary teams.
e   Ability to identify, formulate and solve engineering problems.
f   Understanding of professional and ethical responsibility.
g   Ability to communicate effectively.
h   The broad education necessary to understand the impact of engineering solutions in a global and societal context.
i   Recognition of the need for and an ability to engage in life-long learning.
j   Knowledge of contemporary issues.
k   Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

CLO	ABET Student Outcomes (SO)										
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	X		X		X						
2	X		X		X						
3	X		X		X						
4	X		X		X						
5	X		X		X						
6	X		X		X						
7	X		X		X						
8	X		X		X						

Grades:

Homework (10)	10%	≥ 90%	A
Quizzes (highest 3/4)	10%	80-89.9%	B
Exam 1 (Ch 12 &13)	25%	70-79.9%	C
Exam 2 (Ch 14 &15)	25%	60-69.9%	D
Final/Exam 3 (Ch 16)	25%	< 60%	F
Attendance (5 out of 6)	5%		
Total	100%		

Homework Policy:

1. "Homework Day": the day new homework will be assigned (post in Blackboard) and old homework will be collected;
   Section.001 (Tuesday/Thursday section): Thursday
   Section.002 (MWF section): Friday
2. Homework should be turned in on the due day before the lecture starts. **NO late homework will be collected, NO EXCEPTIONS**
3. Definition of "**late**": when class is over and instructor steps outside the classroom, homework turned in thereafter will be considered as "**late**" and will not be collected
4. Solutions to Homework will be posted in Blackboard after 11:20 am Friday
5. Having no textbook is not a valid excuse for not doing homework. It is the student's responsibility to acquire textbook for his/her study
6. Homework can be turned in earlier than the due day
7. Homework dropped in the instructor's departmental mailbox will NOT be collected
8. Homework slid through the door into the instructor's office will NOT be collected
9. Homework dropped in the "homework dropbox" in front of the department door will NOT be collected
10. Homework turned in other than the due day or outside classroom must be turned in to instructor either IN PERSON or through EMAIL.
11. If homework is turned in through email, it should be scanned (or pictured by a smart phone) and emailed to instructor before the class ends (12:50p.m. for section #1 and 11:20am for section #2)
12. Homework should be stapled, instructor or TA will not be responsible for lost loose homework
13. Exceptions (late homework will be collected): medical emergence (student and important ones), transportation/traffic emergency; religious holidays/duty, jury duty and military duty. **Documentary evidences** must be submitted.

Exams and Quizzes:
   (1) Quizzes are open book and open notes
   (2) Exams are closed book and closed notes with formula sheets only.
   (3) Using Smart phone and/or Internet during the exam is prohibited.
   (4) Formula sheets could be maximum 5 pages on top of instructor's handouts (if any), A4 or letter size, both sides
   (5) Student is responsible for preparing his/her own formula sheet
   (6) Formula sheets could include anything **BUT**: **solutions of any kind/format** (symbolic or numerical) to homework or examples. Students who failed to follow this rule will score zero in the exam and the cheating matter will be reported to MEE department and the University.
   (7) Formula sheets must be turned in with the exam papers (in the case of formula sheets are not checked by the instructor during the exam). Student who failed to follow this rule will score zero in the exam and this cheating matter will be reported to MEE department and university
   (8) **There will be NO make-up quiz, Exceptions**: medical emergence (student and important ones), transportation/traffic emergency; religious holidays/duty, jury duty and military duty. **Documentary evidences** must be submitted.
   (9) There will be NO make-up exam. Exceptions: medical emergence (student and important ones), transportation/traffic emergency; religious holidays/duty, jury duty and military duty. **Documentary evidences** must be submitted.

Disability Accommodations: If you need academic accommodations for disability you must have document which verifies the disability and makes you eligible for accommodations, then you can schedule an appointment with the instructor to make appropriate arrangements.

Academic Dishonesty:
There is a zero tolerance policy. Cheating of whatsoever will result in an automatic 'F' in this course and the matter will be turned over to the appropriate student disciplinary committee.

IMPORTANT EXAM DATES
Exam #1 (tentative; depends on when chapter 13 is finished; Covers Ch 12 & 13**):**
   For Section #1: Feb. 23rd, Tuesday
   For Section #2: Feb. 22nd, Monday

Exam #2 (tentative; depends on when chapter 15 is finished; Covers Ch 14 & 15**):**
   For Section #1: Apr. 5th, Tuesday
   For Section #2: Apr. 4th, Monday

Exam #3 (UNT official final exam schedule, dates are fixed. Covers Ch 16**):**
   For Section #1: May. 10th, Tuesday, 10:30 a.m.-12:30 p.m.
   For Section #2: May. 7th, Saturday, 8:00 a.m.-10:00 a.m.

Date	Event
January 18, 2016	MLK Day (no classes; university closed)
January 19, 2016	First Class Day
March 14-20, 2016	Spring Break (no classes)
April 30-May 6, 2016	Pre-finals Week
May 5, 2016	Last Class Day
May 6, 2016	Reading Day (no classes)
May 7-13, 2016	Finals
May 13, 2016	Doctoral and Master's Commencement
May 13-14, 2016	Undergraduate Commencement

MEEN 2302.001/.002 Mechanics II (Dynamics)
Schedule Overview (Subject to change)

Week	Date	Lecture Topics
#1	Jan.18th - Jan.22nd	Overview of syllabus Ch.12.1-12.2: Rectilinear Motion
#2	Jan.25th - Jan.29th	Ch.12.4-12.5: General Curvilinear Motion Ch.12.7: Curvilinear Motion: Normal and Tangential components
#3	Feb.1st – Feb.5th	Ch.12.8: Curvilinear Motion: cylindrical/polar components Ch.12 Homework and Discussion session
#4	Feb.8th – Feb.12th	Ch.13.1-13.4 Equation of Motion: Rectangular Coordinates Ch.13.5 Equation of Motion: Normal and Tangential Coordinates
#5	Feb.15th – Feb.19th	Ch.13.6 Equation of Motion: Cylindrical/polar Coordinates Ch.13 Homework and Discussion session
#6	Feb.22nd – Feb.26th	Exam #1 for Section #1: Feb. 23rd, Tuesday, covers Ch 12 and 13 Exam #1 for Section #2: Feb. 22nd, Monday, covers Ch 12 and 13 Feb. 25th, Thursday, Career Fair 10am-3pm. No Class (for section #1 only). Dress up and bring your resume
#7	Feb.29th – Mar.4th	Ch.14.1-14.3 Work, Energy and Principle of Work and Energy Ch.14.4-14.6 Power, efficiency and Conservation of Energy
#8	Mar.7th – Mar.11th	Ch.15.1-Ch.15.2 Impulse and Momentum Ch.15.3 Conservation of linear Momentum for a System of Particles
#9	Mar.14th – Mar.18th	Spring Break. University closed. NO Classes/Lectures
#10	Mar.21st – Mar.25th	Ch.15.3 Conservation of linear Momentum: continue Ch.15.5 Angular Momentum, Principle of Angular Momentum
#11	Mar.28th – April 1st	Ch.15.7 Conservation of Angular Momentum Ch.15 Homework and Discussion session
#12	April 4th – April 8th	Exam #2 for Section #1: Apr. 5th, Tuesday, covers Ch 14 and 15 Exam #2 for Section #2: Apr. 4th, Monday, covers Ch 14 and 15 Ch.16.1-3 Planar Motion of a Rigid Body; Translation; Rotation about a fixed Axis;
#13	April 11th – April 15th	Ch.16.4 Absolute Motion analysis Ch.16.5: Relative motion Analysis: Velocity; Base point method
#14	April 18th – April 22nd	Ch.16.5: Relative motion Analysis: Velocity; Instantaneous center Ch.16.5: Relative motion Analysis: Velocity; Instantaneous center
#15	April 25th – April 29th	Ch.16.5: Relative motion Analysis: Acceleration Ch.16.5: Relative motion Analysis: Acceleration; Comprehensive
#16	May 2nd – May 6th	Ch. 16 Homework and Discussion session Pre-final week. Reviews lectures;
#17	May 7th – May 13th	Exam week

Spring 2016 Final Exams - Discovery Park

Pre-finals days are Wednesday, May 4 - Thursday May 5.
Reading Day is May 6 and no classes will meet.

Saturday, May 7	
This class...	**Has a final exam at this time...**
All Saturday classes &All INET Classes withOn Campus Finals	Contact Department
MWF 10:30 a.m.	**8:00 a.m. - 10:00 a.m.**
MWF 1:30 p.m.	10:30 a.m. - 12:30 p.m.
MWF 4:30 p.m.	1:30 p.m. - 3:30 p.m.
F 2:30 p.m. - 5:20 p.m.	1:30 p.m. - 3:30 p.m.
Monday, May 9	
This class...	**Has a final exam at this time...**
MWF 8:30 a.m.	8:00 a.m. - 10:00 a.m.
MWF 11:30 a.m.	10:30 a.m. - 12:30 p.m.
MWF 2:30 p.m.	1:30 p.m. - 3:30 p.m.
M 2:30 - 5:20 p.m.	1:30 p.m. - 3:30 p.m.
MW 2:30 p.m. - 3:50 p.m.	1:30 p.m. - 3:30 p.m.
Tuesday, May 10	
This class...	**Has a final exam at this time...**
TR 8:30 a.m.	8:00 a.m. - 10:00 a.m.
TR 11:30 a.m.	**10:30 a.m. - 12:30 p.m.**
TR 2:30 p.m.	1:30 p.m. - 3:30 p.m.
T 2:30 p.m. - 5:20 p.m.	1:30 p.m. - 3:30 p.m.
Wednesday, May 11	
This class...	**Has a final exam at this time...**
MWF 9:30 a.m.	8:00 a.m. - 10:00 a.m.
MWF 12:30 p.m.	10:30 a.m. - 12:30 p.m.
MWF 3:30 p.m.	1:30 p.m. - 3:30 p.m.
W 2:30 p.m. - 5:20 p.m.	1:30 p.m. - 3:30 p.m.
MW 4:00 p.m. - 5:20PM	1:30 p.m. - 3:30 p.m.
Thursday, May 12	
This class...	**Has a final exam at this time...**
TR 10:00 a.m.	8:00 a.m. - 10:00 a.m.
TR 1:00 p.m.	10:30 a.m. - 12:30 p.m.
TR 4:00 p.m.	1:30 p.m. - 3:30 p.m.
R 2:30 p.m. - 5:20 p.m.	1:30 p.m. - 3:30 p.m.

Document History: Dr. Xiaohua Li, 1/12/2016