

Instructor: Xiaohua Li
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Lecture Time: Tu & Th 1:00 p.m.-2:30 p.m. room D215 (section .001)
Tu & Th 4:00 p.m.-5:20 p.m. room B158 (section .002)
Instructor Office Hours: Open Office Policy. MWF, 1:00pm-2:00pm

TA Office Hours: will be posted in blackboard later

Required Textbook: Engineering Mechanics: Dynamics, 13th Edition,
Pearson, 2013 R.C. Hibbeler
ISBN-13: 978-0-13-291127-6

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 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 kinetic problems involving planar translation and rotation of rigid bodies.

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	25%	70-79.9%	C
Exam 2	25%	60-69.9%	D
Final/Exam 3(non-comprehensive)	25%	< 60%	F
<u>Attendance (5/6)</u>	<u>5%</u>		
Total	100%		

Homework Policy:

1. Homework should be turned in on the due day before the lecture starts. **NO late homework will be collected, NO EXCEPTIONS**
2. 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
3. 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
4. Homework can be turned in earlier than the due day
5. Homework dropped in the instructor’s departmental mailbox will NOT be collected
6. Homework slid through the door into the instructor’s office will NOT be collected
7. Homework dropped in the “homework dropbox” in front of the department door will NOT be collected
8. Homework turned in other than the due day or outside classroom must be turned in to instructor either IN PERSON or through EMAIL.
9. If homework is turned in through email, it should be scanned (or a picture by smart phone) and emailed to instructor before the class ends (2:20p.m. for section #1 and 5:20pm for section #2)
10. Homework should be stapled, instructor or TA will not be responsible for lost loose homework
11. 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.**
- (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 to homework or examples. 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.
- (7) Formula sheets must be turned in with the exam papers (in the case of formula sheets were 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, NO EXCEPTIONS**
- (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):
Sept. 29th, 2015, Tuesday, 1:00 p.m.-2:20 p.m. room D215 (Section 1 class)
Sept. 29th, 2015, Tuesday, 4:00 p.m.-5:20 p.m. room B158 (Section 2 class)
- Exam #2** (tentative; depends on when chapter 15 is finished; Covers Ch 14 & 15):
Oct. 27th, 2015, Tuesday, 1:00 p.m.-2:20 p.m. room D215 (Section 1 class)
Oct. 27th, 2015, Tuesday, 4:00 p.m.-5:20 p.m. room B158 (Section 2 class)
- Exam #3** (UNT official final exam schedule, Covers Ch 16 &/17):
Dec. 10th, 2015, Thursday, 11:00 a.m.-1:00 p.m. room D215 (Section 1 class)
Dec. 10th, 2015, Thursday, 2:00 p.m.-4:00 p.m. room B158 (Section 2 class)

Official Academic Calendar: Fall 2015

Date	Event
August 24, 2015	First Class Day
September 7, 2015	Labor Day (no classes: university closed)
November 26-29, 2015	Thanksgiving Break (no classes: university closed)
November 28-December 4, 2015	Pre-final Week

MEEN 2302.001/.002 Mechanics II (Dynamics)**Schedule Overview**

(Subject to change)

Week	Date	Lecture Topics
#1	Aug.24 th - Aug.28 th	Overview of syllabus Ch.12.1-12.2: Rectilinear Motion
#2	Aug.31 st – Sept.4 th	Ch.12.4-12.5: General Curvilinear Motion Ch.12.7: Curvilinear Motion: Normal and Tangential components
#3	Sept.7 th – Sept.11 th	Ch.12.8: Curvilinear Motion: cylindrical/polar components Ch.12 Homework and Example session
#4	Sept.14 th – Sept.18 th	Ch.13.1-13.4 Equation of Motion: Rectangular Coordinates Ch.13.5 Equation of Motion: Normal and Tangential Coordinates
#5	Sept.21 st – Sept.25 th	Ch.13.6 Equation of Motion: Cylindrical/polar Coordinates Ch. 13 Homework and Example session
#6	Sept.28 th – Oct.2 nd	Sept. 29 th , Tuesday, Exam #1: covers Ch 12 and 13 Oct. 1 st , Thursday, Career Fair 10am-3pm. No Class. Dress up and bring your resume
#7	Oct. 5 th – Oct.9 th	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	Oct. 12 th – Oct.16 st	Ch.15.1-Ch.15.2 Impulse and Momentum Ch.15.3 Conservation of linear Momentum for a System of Particles
#9	Oct. 19 th – Oct.23 rd	Ch.15.3 Conservation of linear Momentum: continue Ch.15 Homework and Example session
#10	Oct.26 th – Oct.30 th	Oct 27 th , Tuesday, Exam #2: covers Ch 14 and 15 Ch.16.1-16.2 Planar Motion of a Rigid Body; Translation;
#11	Nov.2 nd – Nov.6 th	Ch.16.3 Rotation about a fixed Axis; Ch.16.4 Absolute Motion analysis
#12	Nov 9 th – Nov.13 th	Ch.16.5: Relative motion Analysis: Velocity; Instantaneous center Ch.16.5: Instantaneous center of zero velocity
#13	Nov.16 th – Nov.20 th	Ch.16.5: Relative motion Analysis: Acceleration Ch. 16 Homework and Example session
#14	Nov.23 rd – Nov. 27 th	Ch.17.1-17.2 Planar Kinetic Equations of Motion Nov. 26 th , Thursday, Thanksgiving Holiday. No Class.
#15	Nov. 30 th – Dec. 4 th	Ch.17.5 Equations of Motion: General Plane Motion Review class
#16	Final	For section #1 (1-220 class): 11:00 am – 1:00 pm; D215 Dec. 10 th Thursday For section #2 (4-520 class): 2:00 pm – 4:00 pm; D215

Document History: Dr. Xiaohua Li, Prepared on 8/18/2014; last updated on 8/17/2015

Link for **Fall 2015 Final Exams - Discovery Park**
<http://registrar.unt.edu/exams/final-exam-schedule/fall>

Fall 2015 Final Exams - Discovery Park

Pre-finals week is Saturday, November 28 - Friday, December 4.

* **Evening Classes:** have their final exams on the earliest usual class time this week.

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