MECH 236 - Engineering Mechanics: Dynamics

Fall 2024

Text:

- Hibbeler, R.C., <u>Engineering Mechanics-Dynamics</u>, <u>13th Edition</u>, Prentice Hall, 2010, ISBN 978-0-13-291127-6 or 0-13-291127-2
 - 2. <u>NCEES, Fundamentals of Engineering Supplied-Reference Handbook,</u> <u>8th Edition</u>, (optional, free from: https://ncees.org/engineering/fe/)

Instructor: Prof. Y. Ding, 264 Colton hall, 973-642-7046, ding@njit.edu

Prerequisite: Mech 235 (or Mech 234 for EE, CoE, IE, ME majors). Provides an understanding of the mathematics of the motion of particles and rigid bodies, and of the relation of forces and motion of particles.

WEEK	TOPIC	ARTICLES	Format
1	Kinematics of Particles,	12-1,2,4,5,6	In person
2	Kinematics of Particles	12-7,9,10	In person
3	Force & Acceleration	13.1 - 13.3	
4	Force & Acceleration	13.4 - 13.5	
5	Exam-1, in person only	Detailed on canvas	In person
6	Energy & Work	14.1 - 14.6	
7	Momentum	15.1 - 15.3	In person
8	Impact, Kinematics of Rigid Bodies	15.4, 16.1 - 16.4	
9	Exam-2, in person only	Detailed on canvas	In person
10	Rigid body: Relative Velocity	16.5	
11	Rigid body: Instant Center	16.6	In person
12	Exam-3, in person only	Detailed on canvas	In person
13	Rigid Bodies Acceleration	16.7	
14	Kinetics of a Rigid Body	17.1 – 17.3	
15	Kinetics of a Rigid Body	17.4	In person
16	Final Exam (ch17 only)		

CLASS SCHEDULE:

In person: week of 9/2, 9/9, 9/30, 10/14, 10/28, 11/11, 11/18, 12/9. Others are on zoom (link on canvas). Notice that first 2 weeks in person, then 2 weeks zoom. Then alternate week. 11/18 pattern change to avoid exam in Thanksgiving week.

TUTORIAL HELP:

Tutorial schedule (in person and zoom link) is on canvas under "pages".

GRADING:		The grade	The grade schedule:		
Homework	16 %	A = 90+	C = 70+		
Exam-1	21 %	B + = 85	D = 60 +		
Exam-2	21%	B = 80 +	F = 59 or less		
Exam-3	21%	C+ = 75+	W		
Final Exam	21%				
Total	100%				

Incomplete is given in rare instances where the student is unable to attend or otherwise do the work of the course due to illness, etc. The grade must be made up in the next semester by completing all of the missed work.

EXAMs:

Generally, calculator is needed for all exams. Other electronic devices, storage media, or accessories of any kind, are NOT allowed during any exam.

HOMEWORK:

To obtain full credit, you must submit the work on time and in the proper form. A minimum of 70% of the homework must be submitted to receive a passing grade in the course. Late homework will get reduced points (5% off for each day). The followings are required for homework:

- 1. On the top of the first page, PRINT your name, class day and time (e.g. Tuesday 2pm), date.
- The problems must be presented in numerical order as assigned. If more than one problem on the same page, <u>a clear dividing line is required between problems</u>. (Do not write one problem on two pages). Writings are to be neat, clear and legible.
- 3. Draw neat, clear free body diagrams as required. Use a straight edge if needed.
- 4. Box the final answer(s) with unit(s) (and direction if needed).
- 5. All hw submission will be on canvas. Do not email HW.

Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:

http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu