

Fall Semester 1396/2017

IN THE NAME OF ONE WHO TAUGHT THE MIND TO THINK

Sharif University of Technology
School of Mechanical Engineering

COURSE TITLE: Engineering Mechanics: Dynamics, Course #; 28-567

DAYS & TIME: Sundays & Tuesdays: 10:30-12:15

OFFICE HOURS: Tuesdays: 3:30-5:00 PM., Tel: (021) 6616-5541

INSTRUCTOR: Ali Meghdari, Ph.D., Professor,
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Website: <http://meghdari.sharif.edu>

TEXT BOOK: Engineering Mechanics: Dynamics, By: J.L. Meriam & L.G. Kraige, John-Wiley & Sons, and Lecture Notes.

TOPICS:

1. Introduction, and Review of Terminologies
2. Kinematics of Particles: Rectilinear Motion, Planar and Space Curvilinear Motion, Rectangular Coordinates, Polar Coordinates, Relative Motion, Constrained Motion.
3. Kinetics of Particles: Newtonian Laws, Equations of Motion, Rectilinear Motion, Curvilinear Motion, Work & Energy, Linear and Angular Impulse and Momentum Principles, Impact, and General Force and Relative Motion.

Mid-Term Examination: (Tuesday: Azar 7th, 1396)

4. Planar and Spatial Kinematics of Rigid Bodies: Rotation, Translation, Absolute Motion, Relative Velocity and Acceleration, Instant Center, Motion in Moving/Kinematics Reference Frame.
5. Planar and Spatial Kinetics of Rigid Bodies: General Equations of Motion, Work and Energy Relations, Newton and Euler's Equations of Motion, Impulse-Momentum Equations.

Final Examination: (Final Week, 1396)

GRADING:

Homework:	(5% of the Final Grade)*
Quizzes	(15% of the Final Grade)
Mid-Term Exam:	(40% of the Final Grade)
Final Exam:	(40% of the Final Grade)

* Homework will be assigned and is due every session! Also, 5 to 10 short pop quizzes will be given sometimes during the semester.