

# INTRODUCTION TO CLASSICAL PHYSICS

Division - D4, Lecture: LA 202, Mon-Thur 3.30-5pm  
Tut : Wed (10 batches, find your Rm)

Instructor :  
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# Outline of the Course

- ① A brief review of vectors, and coordinate systems, with an emphasis on plane polar coordinates.
- ② Velocity, acceleration, and kinematic equations in plane-polar coordinates.
- ③ Noninertial frames of reference and pseudo forces such as centrifugal and Coriolis forces.
- ④ Central Force motion: central force motion as a one-body problem, planetary motion, and Kepler's laws.
- ⑤ Special Theory of Relativity

# Suggested Textbooks

- An Introduction to Mechanics, by Daniel Kleppner and Robert Kolenkow, Second Edition, Cambridge University Press.
- If the second edition is not available, one can buy the first edition which is published in India by McGraw Hill Education, and is not very expensive.
- For revision of concepts:
  - Fundamentals of Physics, by David Halliday, Robert Resnick, and Jearl Walker, John Wiley & Sons, 10th Edition.
  - University Physics, by Hugh D. Young and Roger A. Freedman, Pearson, 13th Edition.
  - Physics for Scientists and Engineers with Modern Physics by John W. Jewett and Raymond A. Serway, 7th Edition, Cengage India.

# Attendance Requirements

I expect all of you to attend 80% of the lectures and 100% of the tutorials