

MP202: Mechanics

Brian Dolan

February 5, 2008

Textbooks:

1. A.P. Arya, *Introduction to Classical Mechanics*, 531 ARY
2. N.C. Barford, *Mechanics*, 531 BAR
3. D. Kleppner and R.J. Kolenkov, *An Introduction to Mechanics*, 531 KOL
4. R.P. Feynman, R.B. Leighton and M. Sands, *The Feynman Lectures on Physics Vol. 1: Newton's equations (chapter 9), Forces (chapter 12), Harmonic Oscillator (chapter 21), Differential equations (chapter 25)*
5. T.W.B. Kibble and F.H. Berkshire, *Classical Mechanics*, 531 KIB
6. H. Goldstein, *Classical Mechanics*, 531 GOL

Topics:

- Newton's Laws
- Motion with friction
- Harmonic oscillator
- Equations of motion in 2 and 3 dimensions
- Projectiles with air resistance
- Motion of a system of particles
- Rigid body motion
- Lagrange's Equations
- Hamilton's Equations