

## Ch. 2: Describing Motion: Kinematics in One Dimension



# Terminology

- **Classical Mechanics** = The study of objects in motion.
  - 2 parts to mechanics.
- **Kinematics** = A description of **HOW** objects move.
  - Chapters 2 & 4 (Ch. 3 is mostly math!)
- **Dynamics** = **WHY** objects move.
  - Introduction of the concept of **FORCE**.
  - Causes of motion, Newton's Laws
  - Most of the course after Chapter 4

For a while, assume ideal point masses (no physical size).  
Later, extended objects with size.

# A Brief Overview of the Course

## “Point” Particles & Large Masses

- Translational Motion = Straight line motion.
  - Chapters 2,3,4,5,6,7,8,9
- Rotational Motion = Moving (rotating) in a circle.
  - Chapters 5,6,10,11
- Oscillations = Moving (vibrating) back & forth in same path.
  - Chapter 1

## Continuous Media

- Waves, Sound
  - Chapters 15,16
- Fluids = Liquids & Gases
  - Chapter 13

Conservation Laws: Energy, Momentum, Angular Momentum

- Just Newton's Laws expressed in other forms!

THE COURSE

THEME IS

NEWTON'S LAWS

OF MOTION!!