

Physics 103

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Physics 103 Course Outline

- ▶ Kinematics (Chapters 2–3)
 - ▶ Time, Position, Velocity, Acceleration
 - ▶ Vectors
- ▶ Newton's Second Law (Chapters 4–5)
 - ▶ Acceleration is proportional to net force
 - ▶ Free-body diagram
- ▶ Conservation Laws (Chapters 6–8)
 - ▶ Energy (Chapter 6)
 - ▶ Work-ME theorem
 - ▶ Conditions under which mechanical energy is conserved
 - ▶ Momentum (Chapter 7)
 - ▶ Conditions under which momentum is conserved
 - ▶ Rotational Motion (Chapter 8)
- ▶ Two Advanced Topics
 - ▶ Oscillations and Waves (Chapter 11)
 - ▶ Temperature and Heat (Chapters 13–14)

5 most important ideas in this course

- ▶ Newton's second law
- ▶ Work-ME theorem
 - ▶ Conditions for ME conservation are encoded
 - ▶ Conservation of ME is a special case
- ▶ Conservation of momentum
- ▶ Rotational version of Newton's second law
- ▶ Work-KE theorem