The University of Texas at Austin
OnRamps

MECHANICS, HEAT, AND SOUND

GENERAL PHYSICS TECHNICAL COURSE I

Mechanics, Heat, and Sound introduces big ideas in physics, such as Newtonian mechanics, which describes objects changing their state of motion because of forces causing them to accelerate. Taken together, the topics reinforce the general idea that the behavior of many objects in the world can be described precisely with simple mathematics.

This is an algebra-based (non-calculus) course in mechanics that fulfills a general physics requirement. Proficiency in algebra and geometry is assumed. Students will practice problem-solving and analyzing physical situations involving motion, force, energy, rotations, heat, oscillations, waves, and sound. They will explore concepts in small groups, develop ideas, and explain them. The course lays the groundwork for college majors including engineering, physics, chemistry, or mathematics. Students will experience high-quality curriculum designed by the faculty at UT Austin. Students can earn three hours of UT credit with feedback and assessment provided by UT course staff.

Find out more »

MECHANICS, HEAT, AND SOUND

BIG IDEAS

MECHANICS

Kinematics (description of motion), dynamics (forces, causes of motion), energy (kinetic and potential), gravitation, rotational motion, statics, and elasticity

OSCILLATIONS, WAVES, AND SOUND

Simple harmonic oscillator, traveling waves, standing waves, sound intensity, interference, and diffraction

HEAT

Heat conduction, heat capacity, laws of thermodynamics, and engines

TRANSFERABILITY

- PHYS 1301

PRE-REQUISITES

- Algebra I
- Algebra II
- Geometry
- Trigonometry or Precalculus (recommended)

LEARN MORE

For more information, call **512.475.7877**
or visit us online at **onramps.org**