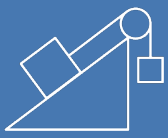


MECHANICS, HEAT, AND SOUND

GENERAL PHYSICS TECHNICAL COURSE

Mechanics, Heat, and Sound introduces big ideas in physics, such as Newtonian mechanics (including motion, force, energy, and rotation), as well as solid and fluid mechanics, oscillations, waves, sound, and heat. Taken together, the topics reinforce the general idea that the behavior of many systems 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. This course lays the conceptual groundwork for STEM majors. Students will experience high-quality curriculum designed by the faculty at The University of Texas at Austin (UT Austin). Students can earn up to four hours of UT Austin credit, with feedback and assessment provided by UT Austin course staff.

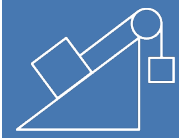
General Physics Laboratory I—the course's lab component—engages students in both guided and open inquiry investigations of physical principles. It is designed to instill foundational scientific reasoning, data collection, and analytical skills.

OnRamps

LEARN MORE »

PHYSICS I

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 oscillation, traveling waves, standing waves, sound intensity, interference, and diffraction

HEAT

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

LABORATORY

Experimental design and planning, data collection, measurement of uncertainty, analysis, and data representation

OTHER SKILLS

Scientific reasoning, evaluation of concepts in physics, scientific communication, and collaboration

TRANSFERABILITY

4 College Credits (3 for lecture, 1 for lab)

UT Course Codes: PHY 302K + PHY 102M

TCCNs: PHYS 1301 + PHYS 1101

PRE-REQUISITES

Algebra I

Geometry

Recommended:

Algebra II or Precalculus

TECHNOLOGY

Desktop, Laptop, Chromebook, or Tablet Access

PEDAGOGY

Peer Instruction