Course Description :

Covers classical mechanics and thermodynamics. Includes kinematics, Newton's laws of motion, work, energy, momentum, rotational kinematics, dynamic and static equilibrium, elasticity, gravitation, fluids, simple harmonic motion, calorimetry, ideal gas law, and the laws of thermodynamics. Part I of II. This is a UCGS transfer course. Prerequisite: MTH 161 or MTH 167 with a grade of C or better. Lecture 3 hour. Laboratory 3 hours. Total 6 hours per week. 4 credits.

General Course Purpose:

PHY 201 is the first semester of a two-semester algebra-based introductory physics with laboratory sequence. It provides students with a broad understanding of the general concepts and principles of the physical universe, and prepares the students for their future careers through development of skills in problem solving, critical thinking and quantitative reasoning, and an understanding of the methods of scientific inquiry and experiments. x

Identify and use appropriate equations of motion to describe motion in one dimension

- Differentiate among mass, weight, and apparent weight
- Draw free-body diagrams for a given physical system
- Describe general characteristics of static and kinetic friction
- Apply Newton's laws to a variety of

- Explain and apply Pascal’s and Archimedes’ principles
- Describe and apply equation of continuity and Bernoulli’s equation to fluids in motion
- Apply Poiseuille's law and Torricelli's theorem

Thermodynamics

- Describe various temperature scales and convert among different temperature scales
- Define and calculate linear and volume thermal expansion
- Identify the properties of an ideal gas
- Define the ideal gas law and how it relates pressure, volume and temperature
- Apply the ideal gas law to physical situations
- Define heat capacity and latent heats, calculate energy needed to change temperature of a substance and of phase change
- Apply calorimetry principle to thermal system
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