PHY 241
Technical Physics I (PHYS 2325)

Course Description

This course covers the principles of mechanics and heat.

Course Corequisite

Technical Physics I Laboratory (PHY 241L)

Course Prerequisite

Calculus I (MTH 233 - at least a Corequisite)

Specific Course Requirements

Textbook Requirements

See current semester textbook list at http://www.physics.sfasu.edu/docs/books.pdf

Course Objectives

By the end of the course, a successful student will be able to:

- Demonstrate the ability to apply Newton's laws to the study of mechanical systems.
- Describe the laws of thermodynamics.
- Solve mechanics and thermodynamics problems using conservation principles.

Student Learning Outcomes

- To understand and apply method and appropriate technology to the study of physical science
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry, and to communicate findings, analyses, and interpretation both orally and in writing.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Course Content

- Linear and Rotational Motions
- Newton's Laws of Motion
- Work-Energy Principles
- Momentum-Impulse Principles
- Gravitational Processes
- Oscillatory Motion
- Hydrostatics and Hydrodynamics
- Heat and Thermodynamics

Course Assessment

The lecture part of the course requirements and method of evaluation are set by the individual instructor for the course. The method of evaluation is frequently based on outside exercises (homework) and scores from in-class and/or take-home examinations. In the determination of the final grade for both the lecture and the lab, the laboratory grade carries a weighting factor of one whereas the lecture part of the final grade carries a weighting factor of three. The same grade is recorded for both the lecture and the laboratory.