PHY 242
Technical Physics II (PHYS 2326)

Course Description

This course covers the principles of sound, electricity, magnetism, and optics.

Course Corequisite

Technical Physics II Laboratory (PHY 242L)

Course Prerequisites

Calculus I (MTH 233)
Technical Physics I (PHY 241)

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:

- Solve problems using principles derived from Maxwell's Equations.
- Construct and analyze and DC and AC circuits.
- Demonstration an understanding of fundamental wave motion as applied to mechanical and electrical waves.
- Solve problems involving geometrical and physical optics.

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

- Mechanical Waves
- Electromagnetic Waves
- Electric Forces
- Magnetic Forces and Fields
- Geometric Optics
- Physical Optics

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.