

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY PHY 244 – MODERN PHYSICS LAB (1 CR.)

Course Description

Introduces various methods and procedures used in modern physics experiments. Covers the general experimentation and modeling techniques for topics such as an introduction to the theory of relativity, elementary quantum theory, and its applications to atomic and nuclear physics. Laboratory: 3 hours. Total 3 hours per week.

General Course Purpose

PHY 244 explores the experiments that advanced physics during the first half of the twentieth century. The fundamental physics underlying and permitting these experiments will be presented, discussed, and modeled. This laboratory course is a supplement to the PHY 243 Modern Physics course, the third of the three-semester calculus-based physics sequence.

Course Prerequisites/Corequisites

Corequisite: PHY 243.

Course Objectives

Upon completing the course, the student will be able to:

Laboratory Experience

- Connect topics discussed in lecture to the lab observations.
- Work in the lab safely: follow instructions and proper safety procedures.
- Use technology for data acquisition and analysis.
- Construct and evaluate models for the behavior and evolution of physical systems.
- Demonstrate written, visual and/or oral presentation skills to interpret graphs, tables and charts, and to communicate scientific knowledge.
- Recognize and appropriately use laboratory equipment.
- Report measurements using the correct units and number of significant figures.

Major Topics to be Included

- Laboratory Experience