

Florida Department of Education
COURSE DESCRIPTIONS - GRADES 9-12, ADULT

Subject Area: Science
Course Number: 2003410
Course Title: Physics II
Credit: 1.0

Will meet graduation requirement for Science

- A. Major concepts/content.** The purpose of this course is to continue to expand the study of physical concepts introduced in first-year physics and to introduce new topics.

The content should include, but not be limited to, the following:

- astrophysics
- relativity
- fluid dynamics
- heat and laws of thermodynamics
- Kirchhoff's laws
- magnetic fields
- electromagnetic induction
- quantum mechanics

- B. Special note.** Laboratory investigations of selected topics in the content, which also include the use of scientific method, measurement, laboratory apparatus, and safety procedures, are an integral part of this course.

- C. Course Requirements.** After successfully completing this course, the student will:

1. Use the scientific method to solve problems, employ metric measurements, and demonstrate safe and effective use of laboratory instruments.
2. Solve rectilinear, circular, and projectile motion problems.
3. Solve problems involving Newton's Laws, friction, and centripetal force.

4. Apply the law of gravitation to orbital motion.
5. Analyze special relativity.
6. Solve work and mechanical energy problems.
7. Solve impulse and momentum problems.
8. Solve problems involving heat changes.
9. Use Ohm's, Coulomb's, and Kirchhoff's laws in practical application.
10. Explain the properties of magnets, magnetic fields, and forces.
11. Describe the significance of electromagnetic induction.
12. Explain the Doppler effect.
13. Explain theories concerning the nature of light.
14. Describe the physics of stellar phenomena.
15. Describe the behavior of fluids.
16. Analyze the interactions of physics, technology, and society.