

NorthWest Arkansas Community College
Standard Course Outline

PHYS 2014 College Physics I

Math/Physics Division

Catalog Description:

A non-calculus survey of the basic principles of physics including mechanics, heat, and sound, electricity, light, & modern physics. Lecture and Laboratory.

Prerequisite:

MATH 1204 or MATH 1003 with a grade of "C" or better.

Credit hours/ Contact hours/ Load hours:

4/6/5

Target Audience & Transferability:

This course will satisfy a 4-hour physical science requirement toward a B.A. or B.S. degree. It targets those students whose major requires either a single semester or full year of a non-calculus based physics class. It is the first of a two semester physics series. This course will transfer to most 4-year colleges

Common or Essential Student Outcomes:

- To understand how the scientific method can be used to increase our knowledge of how the physical world and universe work.
- To describe basic physical processes and relationships
- To learn and develop problem solving strategies
- To be able to communicate this information to others

Required Text:

Wilson & Buffa; COLLEGE PHYSICS; Fifth Edition, 2003

Topics:

- I. Measurements & Problem Solving (Chapter 1)
- II. Kinematics in One and Two Dimensions (Chapters 2 & 3)
- III. Force & Motion (Chapter 4)
- IV. Work & Energy (Chapter 5)
- V. Linear Momentum & Collisions (Chapter 6)
- VI. Circular Motion & Gravitation (Chapter 7)
- VII. Rotational Motion & Equilibrium (Chapter 8)
- VIII. Solids & Fluids (Chapter 9)
- IX. Temperature, Heat, & Thermodynamics (Chapters 10, 11, & 12)
- X. Vibrations & Waves (Chapter 13)
- XI. Sound (Chapter 14)

Required Activities:

Students will participate in 2-3 hours of lab per week