

NorthWest Arkansas Community College
Standard Course Outline

PHYS 1064 Introduction to Physics

Math/Physics Division

Catalog Description:

A survey of the principles of physics including mechanics, heat, sound, electricity, light, modern physics and nuclear radiation. 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 is a required core course for admission into the Physical Therapy Assistant Program. It will also satisfy a 4-hour physical science requirement toward a A.S or A.A.S. degree. This course transfers to UA as PHYS 1024.

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:

W. Thomas Griffith; THE PHYSICS OF EVERYDAY PHENOMENA: A Conceptual Approach; Fourth Edition, 2004

Topics:

- I. Measurements & Units (Chapter 1)
- II. One & Two Dimensional Motion (Chapters 2, & 3)
- III. Newton's Laws of Motion (Chapter 4)
- IV. Circular Motion & Gravitation (Chapter 5)
- V. Energy & Oscillations (Chapter 6)
- VI. Momentum & Impulse (Chapters 7)
- VII. Rotation Motion (Chapter 8)
- VIII. Fluid Statics & Dynamics (Chapter 9)
- IX. Temperature, Heat, & Thermodynamics (Chapters 10 & 11)
- X. Electrostatics (Chapter 12)
- XI. Electric Circuits & Magnetism (Chapters 13 & 14)
- XII. Mechanical & Electromagnetic Waves (Chapter 15 & 16)
- XIII. Geometric Optics (Chapter 17)

Required activities

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