

PHYSICS

TEXT

Physics, Principles and Problems

PREREQUISITES

Algebra I required. Algebra II, Trigonometry and Chemistry (or concurrent enrollment) suggested

OBJECTIVES

- Understand the central concepts of physics
- Gain the conceptual framework to understand everyday phenomena
- Improve lab skills and familiarity with lab equipment
- Improve ability to organize and analyze quantitative data

CONTENT

- Orientation to physics and measurement
- Energy and its conservation
- Motion and velocity
- Acceleration
- Forces
- Vectors
- Universal gravitation
- Momentum and its conservation
- Energy
- Waves and energy transfer
- Light
- Reflection and refraction
- Mirrors and lenses
- Diffraction and interference of light
- Thermodynamics

SKILLS

- Note taking
- Organization
- Cooperative learning
- Scientific method
- Inquiry and analysis
- Critical observation

HOMEWORK

Homework is imperative, consisting of:

- completion of classroom assignments
- specific out-of-class assignments
- text and copied readings or written assignments
- reviewing past assignments
- reviewing notes
- research papers

Late work will not be accepted. Failure to meet assignment deadlines will result in loss of credit or necessitate additional research projects.

GRADING/CREDITS

Grades are determined by accumulated points and percentages with extra-credit opportunities always available as a means of raising the grade. To earn full credit, 100% of all assignments (or equivalent work) must be submitted. Excessive absences require additional work.

INDIVIDUALIZATION

The sciences provide a natural means of individualization as the concepts studied can be easily geared to any level of sophistication within the same subject matter area. Depth of study will be adjusted to individual needs through the use of alternative xeroxed materials, laboratory studies, and individual projects.

ABSENCES/TARDIES

Handled immediately with student and parent contact, and, if severe, lowered grade and/or credit.