

COURSE NUMBER:	909
COURSE TITLE:	Physics
COURSE LENGTH:	Year, Two Credits
PREREQUISITE:	Algebra II. Chemistry is recommended, but not required
GRADE LEVEL:	11 or 12

COURSE DESCRIPTION:

Physics is the study of energy in its various forms. About one-third of the course is devoted to the study of motion, force and work. About one-third is devoted to heat, light, sound and wave phenomena. The remaining third of the course is spent on electricity..

COURSE RATIONALE:

Physics is much more than equations and numbers. Physics is about what happens in the world all around you. Physics deals with the way nature behaves - with what are called natural laws. Many of the technological advances of civilization have resulted from understanding these laws. As a citizen with a knowledge of physics, you will be better able to help solve the difficult questions that technology poses for our society.

METHOD OF INSTRUCTION:

Most of the material is presented by lecture and discussion. When possible, demonstrations are used to illustrate the physical principles involved. Students will often be involved with laboratory situations (both formal and informal) to illustrate the topic.

ASSESSMENT:

Grades are based on tests, problem assignments, and labs. About half of the grade is based on test performance and about half on problems and labs.

CRITICAL OBJECTIVES:

The student will learn:

1. the application of mathematics to science concepts and solving problems in science
2. quantitative study of uniform and non uniform motion
3. relationships between force and motion, including Newton's laws of motion
4. concepts of momentum and projectile motion
5. quantitative relationships between work, power and energy
6. heat and the laws of thermodynamics
7. longitudinal and transverse waves and their behavior
8. concepts of light via lenses, mirrors and the laser
9. concepts of sound
10. concepts of electricity, magnetism and electrical circuits
11. the historical development and the current debate about the nature of the atom
12. concepts of nuclear energy

