

Physics 121

Basic Concepts of Physics I

(5 units)

This course fulfills the Physical Sciences (B.3) requirement in the Natural Sciences Breadth Area of the CSUSB General Education Program. The University expects students who successfully complete this requirement to be able to:

Explain some of the most important results of scientific inquiry in the physical sciences. Students will demonstrate a breadth of knowledge concerning a major area in the physical sciences, which also incorporates supportive facts and concepts from other major areas in the physical and/or life sciences. In particular, students will

Objectives:

1. Demonstrate an understanding of the fundamental rules governing matter and energy in the universe (e.g., some but not necessarily all of the following conservation of mass, 1st and 2nd laws of thermodynamics, mass/energy equivalence, the atomic makeup of matter, the subatomic particles, the elements and periodic table of elements, the basic rules of electricity and the electrical nature of matter and energy, how the laws and theories of physics describe how atoms combine to make molecules, compounds, minerals, rocks, planets, etc. and the physical properties of these substances, how solid, liquid, and gaseous substances combine to form the lithosphere, hydrosphere, and atmosphere, or extraterrestrial objects, how physical materials are naturally recycled (the rock cycle, the hydrologic cycle), ...).
2. Demonstrate an understanding of the experimental basis for scientific inquiry in the physical sciences.
3. Demonstrate familiarity with the usual techniques and apparatus of the physical sciences (e.g., measurement techniques, titration, ...)
4. Utilize the scientific method to design simple experiments and to collect, analyze and evaluate physical science data in a lab or field setting.