

# PHYSICAL SCIENCE (PSC)

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## PSC-100

### Physical Science for Elementary Education

**3 UNITS**

Prerequisite: "Pass" grade in MATH 090 or equivalent.

3.0 hours lecture

This course is an introduction to scientific methodology, with an emphasis on knowledge and understanding of chemistry and physics. It is especially designed for those who are interested in teaching science in a primary school setting in which students must both understand the scientific method and master content in the physical sciences. The connection between physical science and global issues such as energy and environment will be emphasized. Topics to be covered include motion, gravity, heat and energy transfer, light and color, electricity, magnetism, the periodic table, ionic and covalent chemical bonding, chemical nomenclature, chemical reactions, solutions, and nuclear reactions. (CSU/UC) (AA/AS-B2, CSU-B1, IGETC-5A)

## PSC-110

### Introduction to the Physical Sciences

**3 UNITS**

3.0 hours lecture

A broad approach to the physical sciences designed primarily for non-science majors. Concepts of such sciences as astronomy, physics, chemistry, and the earth sciences will be developed and discussed. Emphasis is on the understanding and significance of fundamental principles. Application of certain concepts to contemporary issues, such as energy production and environmental problems, will be explored (e.g. nuclear energy). Within this context, the methods and limitations of science will be demonstrated and societal implications will be discussed. (CSU/UC) (AA/AS-B2, CSU-B1, IGETC-5A)

## PSC-111

### Introduction to Physical Sciences Laboratory

**1 UNITS**

Prerequisite: "C" grade or higher or "Pass" or concurrent enrollment in PSC 110 or equivalent.

3.0 hours laboratory

Designed to accompany and augment Physical Science 110. An introductory approach to scientific investigation of the physical universe, designed primarily for the student who is not majoring in science. The course provides an opportunity to explore a variety of physical materials, phenomena, and concepts such as motion, power, sound, light, energy, and radioactivity. (CSU/UC) (AA/AS-B2, CSU-B3, IGETC-5C)

## PSC-120

### Fundamentals of Scientific Computing (MATLAB)

**4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in Math 103 or Math 110 or equivalent.

3.0 hours lecture, 3.0 hours laboratory

This course will focus on problem solving, data manipulation, and visualization using the MATLAB computing environment using applications from: physical science, engineering, life sciences, mathematics and statistics. Students will learn to analyze data, write simple algorithms for data processing and simulation, and visualize the results. Topics include: operations and variables; graphics and programming; solving equations and model fitting. (CSU/UC) (AA/AS-A3, CSU-B4)

## PSC-210

### Fundamentals of Electric Circuits

**4 UNITS**

Prerequisite: "C" grade or higher or "Pass" or concurrent enrollment in MATH 280 and PHYC 240 or equivalent.

3.0 hours lecture, 3.0 hours laboratory

Physical Science 210 provides an introduction to DC and AC circuit construction and analysis for students majoring in the physical sciences. Applies Kirchoff's Laws, nodal and mesh analysis, Norton and Thevenin's theorems to real and theoretical circuits. Also covers steady-state and transient responses of networks, RLC circuits, complex impedance, and power transfer. Students will use laboratory tools (e.g. breadboards, oscilloscopes, and signal generators) to construct and analyze circuits. (CSU/UC)