

Course Outline

Course: General Science 17.02

Level: 9th, 10th, and 11th grade (LLD)

Credits: 5

Revised 9/08 (D. Wilson)

Prerequisites: none

Course Description

General Science has been designed for the second or third year requirement of the Language Learning Disabled class. It will follow or precede biology. This course is designed to enable every student to understand and appreciate the basic knowledge of the Earth, weather, rocks and minerals, matter, motion and energy, and chemical reactions.

High Point Regional High School's curriculum and instruction are aligned to the state's Core Curriculum Standards and address the elimination of discrimination by narrowing the achievement gap, by providing equity in the educational programs and be providing opportunities for students to interact positively with others regardless of race, creed, color, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, religion, disability, or socio-economical status.

CCCS Addressed:

- Standard 5.1 (Scientific Processes) All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.
- Standard 5.6 (Chemistry) All students will gain an understanding of the structure and behavior of matter.
- Standard 5.7 (Physics) All students will gain an understanding of natural laws as they apply to motion, forces, and energy transformations.
- Standard 5.8 (Earth Science) All students will gain an understanding of the structure, dynamics, and geophysical systems of the earth.

Goal: To develop an understanding of the forces inside Earth

Objectives:

- To describe the structure of the Earth
- To explain the theory of plate tectonics
- To relate volcanoes to plate tectonics
- To explain how mountains form

To relate earthquakes to plate tectonics

Goal: To develop an understanding of minerals and rocks

Objectives:

- To explain what a mineral is
- To identify basic properties of all minerals
- To compare minerals by their properties
- To explain what a rock is
- To describe how igneous, sedimentary, and metamorphic rocks are formed
- To describe the rock cycle

Goal: To develop an understanding of the structure of matter

Objectives:

- To describe objects by listing their properties
- To explain what molecules, atoms, elements, and compounds are
- To explain how scientists use models
- To identify the parts of an atom
- To identify the symbols used to represent different elements

Goal: To develop an understanding of chemical reactions

Objectives:

- To describe compounds
- To explain what the information in a formula means
- To explain what a chemical reaction is
- To describe what occurs when something dissolves
- To state the law of conservation of matter
- To interpret and write balanced equations

Goal: To develop an understanding of energy and motion

Objectives:

- To explain what energy is
- To name six forms of energy
- To calculate speed of motion
- To explain what gravity is
- To explain the law of universal gravitation

Goal: To develop an understanding of work and machines

Objectives:

- To explain what work is and to calculate work
- To describe six types of simple machines
- To name and describe six types of simple machines
- To describe the classes of levers
- To calculate mechanical advantage

Goal: To develop an understanding of heat

Objectives:

- To define heat
- To explain how heat energy can do work
- To explain how heat is produced
- To describe some sources of heat

Goal: To develop an understanding of sound and light

Objectives:

- To explain how sounds are produced
- To explain how sound travels
- To describe the nature of light
- To describe the visible spectrum
- To explain reflection and refraction of light
- To explain how mirrors and lenses affect light rays

Goal: To develop an understanding of electricity and magnetism

Objectives:

- To explain how electric current flows through a circuit
- To compare series and parallel circuits
- To describe various kinds of magnets
- To explain what a magnetic field is

Materials: General Science, American Guidance Service, 2001

Evaluation:

Homework based on	10 points
Class work based on	10 points
Quizzes based on	50 points
Tests based on	100 points