Sustainability Concepts in GEO 1360 Planet Earth

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Course Description

GEO 1360 – Planet Earth

BPS Breadth Physical Science

3 credits

Planet Earth is a one-semester course designed to expose and familiarize students with the basic concepts and principles of earth science. The course approaches the earth as a whole, encompassing geologic, hydrologic, biologic and atmospheric processes. In addition, students gain an understanding of the scientific process, and skills to think critically about scientific knowledge and research.

Course Objectives

- Gaining factual knowledge (terminology, classifications, methods, trends)
- Learning fundamental principles, generalizations, or theories
- Learning to apply course materials to improve rational thinking, problem solving and decisions
- **Learning the basic principles of sustainability of Earth's natural resources**

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The Earth as a Closed System

Students will discuss the Earth as a closed system of matter and energy, and the importance of careful stewardship of finite resources.

Resources

Course Textbook: The Blue Planet: An introduction to Earth System Science, by Brian Skinner and Barbara Murck, Wiley Publishing

•United States Geological Survey publications

•Utah Geological Survey publications relating to the mineral and energy resources of Utah

The Geology of Natural Resources

Students will learn the difference between renewable and non-renewable resources.

We will discuss the geological processes that form important metals, industrial minerals, and fossil fuels.

Assignments

Each students will choose a non-renewable natural resource of particular interest, and report on the sustainability of that resource:

- **The geological processes that formed the resource**
- **How the resource is used by people today**
- **Where it is currently mined or produced**
- **Estimated reserves of the resource worldwide and in the United States**
- **In what ways its use can negatively affect the Earth's environment**