SYLLABUS

COURSE # AND TITLE: GEOL 276, Environmental Geology
 # OF CREDITS: 3

CATALOG DESCRIPTION
Earth processes that affect man and his works. Properties of rocks and soil; use and application of environmental geological data.

Semester Offered: On Demand
Prerequisites: None

Common Student Learning Outcomes *Upon successful completion of San Juan College programs and degrees, the student will....*	
Learn	*Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.*
Think	*Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.*
Communicate	*Students will exchange ideas and information with clarity and originality in multiple contexts.*
Integrate	*Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.*
Act	*Students will act purposefully, reflectively, and respectfully in diverse and complex environments.*

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1. Foundations of Earth science, including Earth materials, plate tectonics, earthquakes, and volcanoes
2. Surfaces processes, including streams, flooding, coastal zones, mass wasting, and climate
3. Earth resources, including water, soil, minerals, rocks, fossil fuels, and alternative energy resources
4. Waste disposal and water pollution issues

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

1. Describe the impacts of human population on the environment
2. Identify and describe major rock forming minerals
3. Identify and describe common igneous, sedimentary, and metamorphic rocks

4. Describe the evidence supporting plate tectonics, and its role in the current distribution of resources on Earth
5. Understand basic earthquake theory, including location, magnitude, planning, and prediction
6. Describe the major types of volcanoes and volcanic activity, including location, types of eruptions, volcanic hazards, and prediction
7. Describe the hydrologic cycle.
8. Discuss the dangers associated with flooding, as well as causes, prediction, and strategies for reducing flood hazards
9. Describe the nature of coastlines, including erosion, methods of stabilization, costs of construction and reconstruction in high energy environments
10. Define the major types of mass wasting and discuss the factors influencing slope stability in each instance and possible preventive measures
11. Describe global climates, including glaciers, deserts, and the impacts of wind
12. Explain the issues surrounding water resources, including groundwater, impacts of urbanization, and water quality
13. Understand the formation and properties of soil, and the effects of human activities
14. Discuss major ore and mineral deposits, and impacts of mining
15. Discuss major petroleum and coal deposits and environmental impacts of their use
16. Understand possible alternative fuel sources, including nuclear, solar, geothermal, hydro, and wind energy
17. Discuss issues surrounding disposal of various types of waste
18. Discuss issues surrounding the pollution of water, and methods for decreasing or reversing pollution damage

Syllabus developed by _____ Date: _____

Syllabus reviewed by _____ Date: _____

A current syllabus must be on file in the dean's office for every course being taught during a given semester.