**Department of Earth and Atmospheric Sciences**

**EAS 103 - ENVIRONMENTAL GEOLOGY**

**Syllabus for Spring, 2010**

**Catalog Description:**

An introduction to the geological aspects of environmental issues and sustainability for non-science majors. Presents the basic concepts of geology, followed by discussion of selected environmental issues, such as mineral and energy production, water supplies and pollution, flooding and erosion, and earthquake and volcanic hazards.

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| **Hours/Credits:** | 3 hours; 3 credits |
| **Text:** | Keller, Introduction to Environmental Geology, 4th Ed. |
| **Topics covered:** | See attached schedule. |

 **Course Objectives:**

After completing this course, students should be able to:

1. Describe the basic characteristics of plate tectonics and earth chemistry.
2. Describe the types and causes of geologic hazards such as landslides, floods, earthquakes, and volcanoes.
3. Understand the arguments surrounding the use of geologic resources.
4. Describe the way in which society attempts to deal with selected problems and hazards.

**General Education Proficiencies:**

After completing this course, you will have developed the following proficiencies:

Q**uantitative reasoning ability (QR)** — You will have had multiple experiences in evaluating critically quantitative information given graphically, in table form, or numerically.

**Critical analysis (CA)** — You will have had multiple experiences in critically and constructively analyzing information in different areas of study.

**Technological competency (TC)** — You will have had multiple experiences requiring the use of technology such as word processors, spreadsheets, etc. (Note: Because no computer lab time has been scheduled for this particular course, computer use will be limited to word processing, which I will assume that you already know how to do. Anyone who is having difficulty is invited to see Prof. Kenyon during office hours.)

**Information literacy (IL)** — You will have had multiple experiences in finding information in the library, on the Internet, and in other places and in evaluating the reliability of the information.

**Grading:** There will be 3 in-class exams and a required final. The exams will be primarily multiple choice, and the lowest in-class exam will be dropped before the others are averaged to determine your in-class exam grade. There will be no makeups for in-class exams. If you miss one, that exam will be the one that is dropped in determining your grade. Makeups for the final will be available with a documented excuse. If you miss the final exam, you will be required to make it up in order to receive a passing grade. There will also be approximately 3 significant homework assignments.

The exams and homework will count toward your final grade as follows:

In-class Exams

Final Exam

Homework

**Absences:** Attendance at lectures is required. Attendance will be taken at every class session. If you miss more than 4 classes, I reserve the right to assign you a grade of WU.

**Late Assignments:** Each report or other assignment will be given a due date. An assignment that is turned in aner the due date will be assessed a penalty of half a letter grade for each week that it is late.

**Academic Integrity:** Anything that you turn in, for example a homework assignment or a

completed test paper, is expected to be your own work. If cheating or plagiarism is suspected, City College's policy on academic integrity will be followed.

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| **Instructor and** | Dr. Patricia Kenyon - 933 Marshak Science Building |
| **Author of syllabus:** | Telephone: (212) 650-6472Email: pkenyon@sci.ccny.cuny.edu |
| **Office Hours:** | MW, 3:00 — 4:00 PM; other times by appointment |

# TENTATIVE 2010 SCHEDULE -ENVIRONMENTAL GEOLOGY

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| DATE | TOPIC |
| Feb. 1 | Introduction to Environmental Geology |
| Feb. 3 | Introduction to Plate Tectonics |
| Feb. 8 | Plate Tectonics — Plate Boundary Processes |
| Feb. 10 | Earth Chemistry and Minerals |
| Feb. 17 | Rocks — Origins and Characteristics |
| Feb. 19 (Th) | Rock Structures |
| Feb. 22 | Earthquakes |
| Feb. 24 | Earthquake Damage |
| March 1 | Earthquake Prediction and Response |
| March 3 | **EXAM** |
| March 8 | Volcanoes |
| March 10 | Volcanic Eruptions |
| March 15 | Volcano Forecasting and Risk Management |
| March 17 | Introduction to Near-Surface Processes |
| March 22 | Slope Stability and Soils |
| March 24 | Landslides |
| April 7 | Rivers and Streams |
| April 12 | Flooding |
| April 14 | **EXAM** |
| April 19 | Groundwater |
| April 21 | Water Supply Issues |
| April 26 | Water Quality Issues |
| April 28 | Coastal Processes |
| May 3 | Mineral Resources |
| May 5 | Environmental Issues in Mineral Production and Use |
| May 10 | Energy Resources |
| May 12 | Environmental Issues in Energy Use |
| May 17 | **EXAM** |

