

GEOLOGY 106 - The Hydrosphere**WINTER 1997**

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Lecture: MWF 9:00 - 9:55. a.m., Carnegie Science 225 (?)

Lab Group A: M 1:00 - 4:00 p.m., Carnegie Science 219

Lab Group B: T 1:00 - 4:00 p.m., Carnegie Science 219

Text: *Environmental Geology*, Murck, Skinner, and Porter, 1996, John Wiley and Sons.
The good news: this text is an up-to-date guide to the subject of environmental geology--the science is accurate, the writing is comprehensive, and the illustrations are excellent.
The bad news: this is not an environmental geology course--it is a course on the hydrosphere, which is one area of environmental geology. Although the sections on water resources and pollution are very good, much of the book contains background material on geology that you may or may not want to read.

Course Content and Objectives: This is a course about water from a geologist's perspective. We will examine water in five different contexts: Water in Global Earth Processes, Water as a Geologic Force, Water and Weather, Water as a Resource, and Water in Society. My objectives are to help you better understand the scientific aspects of water-related issues. Hopefully when you leave this class you will be able to ask intelligent questions about the subject as a voter, homeowner, government official, business leader, etc. wherever life takes you.

Grading: Journal: 30%
Lab: 25%
Exams: 45%

Journal: I believe that it is important for you to relate the material you learn in this class to your daily life, hobbies, and interests, as well as your academic major. In this class you will have the opportunity to express yourself via a journal of water-related entries that may include such diverse topics as current news articles, water as portrayed in art, music, and literature, environmental law, water and global economics, etc. The journal is worth 30% of your grade, which is more than either of the individual exams. This is your chance to communicate what you are learning in a creative, thoughtful, and unstressed manner. There are some minimum requirements, but beyond that the journal is yours to develop however you wish. I will collect the journal for grading before winter recess and at the end of the semester.

Lab: The laboratory portion of the course is mandatory--all labs must be completed in order to pass the course. Laboratories are the best part of science classes, especially in geology where we get to go outside and take trips to fun places. Unfortunately you are taking a geology class in Maine in the winter. We will nevertheless try to have fun by doing a combination of laboratory experiments, computer exercises, and field work. We will generally be either in Carnegie Science Rooms 219 or The two field labs will depart from Carnegie Science Hall promptly at the scheduled lab time.

Exams: There will be two exams in this class--a midterm (20% of your grade) and a comprehensive final (25% of your grade). The exams will be a combination of multiple choice and short answer questions.

Extra Credit: Create your own Web page! An important aspect of science is communicating your findings and ideas to other people. The extra credit project for this semester will be to create a web page which is in some way an extension of your journal. It might include your opinions and the latest news on a particular hot topic in water resources, or it might show the results of a small project you did, such as a survey of the Bates community's water-use habits. There will be a help session to learn how to make web pages, and when your "water page" is completed it will be attached to the geology department's homepage. Satisfactory web pages will be worth about 2-3 points added to your final average. In other words, if you are at the high end of a grade level the extra credit project will boost you to the higher grade (for example, from a B to a B+).

Reserve Readings: Reserve readings at the library will be a primary resource for more detailed discussions of water-related issues. You will be provided with a list of the readings for each week. You are required to read at least one article and make a journal entry concerning that reading. It is recommended that you read all of the articles. In addition to the weekly articles there are several books on the general subject of water available at the library:

Books at the **Reserve Desk:**

Broecker, W. S., 1985, How to build a habitable planet, Palisades, NY: Eldigio Press, 291 p.

Leopold, L., 1974, Water: a primer, San Francisco, W. H. Freeman, 172 p.

Outwater, A. B., 1996, Water: a natural history, New York, NY: BasicBooks, 212 p.

Powledge, F., 1982, Water: the nature, uses, and future of our most precious and abused resource, New York, Farrar, Straus Giroux, 423 p.

Speidel, D., 1988, Perspectives on water: uses and abuses, New York: Oxford University Press, 388 p.

Books at the **Reference Desk:**

Gleick, P.H. (editor), 1993, Water in crisis : a guide to the world's fresh water resources, New York: Oxford University Press, 473 p.
(call number TD345 .W264 1993)

Van der Leeden, F., 1990, The water encyclopedia, 2nd edition, Chelsea, Mich.: Lewis Publishers.
(call number TD351 .V36 1990)

Attendance: Regular attendance is expected. Missing classes diminishes your education and seriously affects your performance in a course. Students who miss class sessions on a regular basis consistently receive lower grades than those who attend regularly. I cannot stress this enough. Above all else, strive to make it to every class.

Academic Honesty: Any violation of the Bates College Code of Academic Honesty will not be tolerated. Students are expected to collect data in teams during field trips and labs, but students are expected to complete their lab reports on their own unless told otherwise. All journal entries must be your own.