

GEOL 205 – Earth Resources Syllabus

Instructor: Dr. Michael Bizimis

Contact information

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Office Hours: Monday – Wednesday 1:00-2:00. Best to catch me right after class.

Teaching Assistant: Julia Howell

Contact information

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Office Hours: Thursday, 1-3PM

IMPORTANT: If you are going to email either of us a question related to class, please put in front of your message subject the phrase “GEOL 205”. This ensures a quicker response. Example: “GEOL 205: Question on exam schedule”

Classes Meets: M,W,F 11:15PM- 12:05PM, PSC104.

Textbook: *Environmental Geology, 9th Edition (2010)*, by Carla W. Montgomery, McGraw-Hill, (older versions are acceptable).

Course Description: Mineral, energy, and water resources with emphasis on the Earth processes that govern their availability and distribution. Understand basic economic and societal issues relating to resource use (i.e. depletion of resources, changes in demand with changes in society, management of available resources) and discuss environmental problems related to resource use. The class is intended for non-science majors.

The course will cover the following broad topics (not a complete list):

- Basic Geological Processes: All resources we use come from the Earth
- Rock, carbon, and water cycles.
- Mineral resources: Geological formation, global distribution, processing and environmental impacts of exploration and use.
- Energy resources and distribution, including fossil fuels (oil, natural gas, coal), nuclear, and renewable energy sources, with environmental impacts.
- Climate change.
- Water resources, pollution, and remediation.
- Something you want covered? Contact me.

Learning Outcomes:

Upon the completion of this course the student should:

- Understand and explain the fundamentals of plate tectonics, rock, carbon, water cycles
- Understand the formation of commonly used mineral resources, their extraction and use.
- Understand and explain the environmental impacts of mineral resource use.
- Explain the causes and effects of global climate change as those linked to resource use.
- Evaluate and compare the pros and cons of the different modes of energy generation.
- Understand and explain the sources of and possible means of remediation for varying types of pollution as related to earth resource use.

Grading Policy:

Your grade will be based on three midterm exams and the final exam for a total of 90 points of your grade. HOWEVER: The lowest grade of the three mid term exams will be dropped. THEREFORE: Your final grade will be calculated from the two mid term exams with the highest grade, at 30 points each, and the final exam for 30 points, for a total of 90 points. The remaining 10 points of your grade will be from ~8 unannounced quizzes. The quizzes will be given during the class. The quizzes will consist of one or two short answer questions related to the topic discussed in the class that day. Anyone completing ALL in-class quizzes will receive 5 extra points added to their final grade. Exam grades may be curved depending on the overall class performance. The final grade may be curved depending on class performance.

Grading summary:

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| • 3 Midterm exams (lowest score is dropped), so 2 midterms x 30% | 60 points |
| • Final (Thursday, December 9 - 9:00 a.m.) | 30 points |
| • Class quizzes | 10 points |
| | 100points |

(+ 5 extra points for completing all quizzes).

NOTE: Exams will be (mostly) multiple-choice questions.

Student Responsibilities:

Students expected to display appropriate conduct in accordance with the USC Code of Student Academic Responsibility (see *Carolina Community: Student Handbook and Policy Guide*, <http://www.sa.sc.edu/carolinacommunity/>). Cheating and/or plagiarism will result in an F and a letter to the Dean. Appropriate classroom etiquette is expected – **turn off cell phones, be on time, and do not disturb your classmates**. Serious violations are grounds for expulsion. Finally, ask questions in class! There is no better way to learn than ask questions.

American with Disabilities Acts (ADA) statement: This University and its faculty will make every effort to accommodate any and all students with special needs.

<http://www.sa.sc.edu/carolinacommunity/stdev/>

Attendance Policy: Attending the classes is highly recommended. Powerpoint slides for each lecture will be posted on Blackboard, but not everything (e.g. discussions) will make it into the slides. Also, extra credit is only available in class through participation in the quizzes.