SYLLABUS
Fall, 2008

Course Geology 103 - Environmental Earth Science

Instructor Dr. William Pirkle

Office 225 Sciences Building

Meeting Schedule
Lecture 10:50 - 12:05 TTH Rm. 200 Sciences Bldg.
Laboratory 001 1:40 - 4:20 T Rm. 216 Sciences Bldg.
Laboratory 002 1:40 - 4:20 Th Rm. 216 Sciences Bldg.

Conference Times 9:30 - 11:00 MW; 12:15 -1:15 Th
Other times by appointment

Email Pirkle@sc.edu

Texts
Lecture - Introduction to Environmental Geology, 4th edition, by E. A. Keller
Laboratory - Environmental Issues, 3rd edition, by Astwood and Carpenter

COURSE OUTLINE

I. Earth Materials and Processes

II. Geological Hazards
- A. Earthquakes
- B. Volcanoes
- C. River Flooding
- D. Landslides
- E. Coastal Hazards

III. Human Interaction with the Environment
- A. Hydrology and Human Use
- B. Waste Management

IV. Minerals, Energy, and Environment
- A. Mineral Resources and Environment
- B. Energy Resources and Environment

Objective To introduce some of the major environmental issues of the day and provide an opportunity to acquire the technical background, in geology, necessary to understand these issues.

Emphasis The scientific analyses of major environmental issues with special emphasis on their geology and hydrogeologic aspects.

Assessment Methods By means of exams, written laboratory exercises and group problem solving activities, students are given an opportunity to demonstrate understanding of environmental issues and the scientific principles by which the environmental issues may be addressed.

Grading Policy

Lecture - 75%

20% each, two exams (**Sept. 23, Oct. 28)**

10% poster (research) presentation **(Wed., Nov. 12, tentative)**

25% final exam **(Tuesday, Dec. 9, 11:00 a.m.)**

Laboratory - 25%

Extra Credit Opportunities

A total of 20 points may be earned for various extra credit activities. Extra credit points are added to your final exam grade. Extra credit activities will be announced in class and on Blackboard. Extra credit assignments typically are due the next class period after the scheduled activity.

Attendance

Regular attendance is vital to fulfilling responsibilities in this class. There will be no make up classes or laboratories. Arrangements for assignments missed due to an excused absence must be made within one week of the excused absence. Appropriate documentation is required.

Make-up Exams

Make-up exams will only be given under extenuating circumstances in accordance with University policy. Appropriate documentation is required. Make-up exams may be of a different format than regularly scheduled exams.

Late Assignments

Late assignments typically are lowered one letter grade per day late.

Classroom Deportment

Please make every effort to be on time to class. Late arrivals disrupt class and make it difficult for others to hear while entering. Turn off cell phones while in class or lab. No eating in class or lab. Please be courteous to and considerate of other class members.

Disability Policy

If you have a physical, psychological, and/or learning disability that might affect your performance in this class please contact the Office of Disability Services, 126A B&E, (803) 641-3609, as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation.

Tentative Schedule
Geology 103
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Assignments in Keller, 4th edition, Introduction to Environmental Geology, to be read before and after class.

DATE		ASSIGNMENTS	TEXT CHAPTERS
Aug.	21	Introduction & Fundamental Concepts	1
	26	Earth Processes	2
	28	Earth Materials	3
Sept.	2	Natural Hazards	5
	4	Earthquakes	6
	9	Earthquakes (continued)	6
	11	Volcanoes	7
	16	Volcanoes (continued)	7
	18	Rivers and Flooding	8
	23	**EXAM I**	
	25	Rivers and Flooding (continued)	8
	30	Landslides and Related Phenomena	9
Oct.	2	Coastal Hazards	10
	7	Coastal Hazards (continued)	10
	9	Fall Break	
	14	Water	12, 13
	16	Water Pollution & Treatment	12, 13
	21	Water Pollution and Treatment (continued)	12,13
	23	Waste Management	17
	28	**EXAM II**	
	30	Waste Management (continued)	17
Nov.	4	Election Day – No Class	
	6	Work on Research Presentation	
	11	Mineral Resources	14
	13	Mineral Resources (continued)	14
	18	Mineral Resources (continued)	14
	20	Energy Resources	15
	25	Energy Resources (continued)	15
	27	Thanksgiving Holiday	
Dec.	2	Energy Resources (continued)	15
	4	Energy Resources (continued) and Course Review	

Final Exam: 11:00 a.m., Tuesday, December 9, Room 200

Geology 103 Laboratory
Fall, 2008
Tentative Schedule

Lab 001 - 1:40-4:20 T, Rm. 216 Sci. Bldg.
Laboratory Manual : Astwood and Carpenter, *Environmental Issues*, 3rd edition

			Lab Manual Page
Aug.	26	Introduction - What Should/Would You Do?	1
Sept.	2	Population Growth	11
	9	Urban Land Use	63
	16	Volcanoes	Handout
	23	Sand River - Field Trip	Handout
	30	Coastal Land Use	75
Oct.	7	No Lab (Lecture will meet at regular time of 10:50)	
	14	Aiken Water Supply – Field Trip	15
	21	Horse Creek Waste Water Treatment Plant – Field Trip	19
	28	Chem Nuclear Low Level Radioactive Waste Disposal – FT	Handout
Nov.	4	No Lab - election day	
	11	Solid Waste Disposal - FT	Handout
	18	Locating Mineral Resources	51
	25	Using Mineral Resources to Build Cities- Downtown Aiken FT	Handout
Dec.	2	Energy Use - Cost of Energy	45

Grading Policy: You will be able to earn up to 10 points per laboratory for a possible total of 130 points. Exercises will be group problem solving activities. Your paper will be graded on completeness, thoroughness, correctness, creativity, and neatness. Laboratory counts 25% of the overall course grade.

Lab Policies: Policies regarding attendance, make-up work and disability needs are the same in lab as in lecture.

Field Trips: Wear outdoor clothing. Long pants and good walking shoes are recommended. All trips will be made in USCA vehicles.

Extra Credit Opportunities (20 point max. added to lecture final exam)

a) Oct. 25 (Saturday) - Congaree National Park (15 pt. max.)
   (Leave USCA 8:15 a.m., return approximately 3:00 p.m.)
b) Dec. 4 - lab project on “Rainbow Warrior” (10 pt. max.)
c) Environmental seminars - e.g. CSRA Geological Society (5 pt. each max.)
   (CSRA Geological Society meets the last Tuesday of each month usually at 7:00 p.m. in Room 327 Sciences Building, USCA)

Geology 103 Laboratory
Fall, 2008
Tentative Schedule

Lab 002 - 1:40-4:20 Th, Rm. 216 Sci. Bldg.
Laboratory Manual: Astwood and Carpenter, *Environmental Issues*, 3rd edition

			Lab Manual Page
Aug.	21	Introduction - What Should/Would You Do?	1
	28	Population Growth	11
Sept.	4	Urban Land Use	63
	11	Volcanoes	Handout
	18	No Lab (Lecture will meet at regular time of 10:50)	
	25	Sand River - Field Trip	Handout
Oct.	2	Coastal Land Use	75
	9	Fall Break - No Lab	
	16	Aiken Water Supply – Field Trip	15
	23	Horse Creek Waste Water Treatment Plant – Field Trip	19
	30	Chem Nuclear Low Level Radioactive Waste Disposal – FT	Handout
Nov.	6	Solid Waste Disposal - FT	Handout
	13	Locating Mineral Resources	51
	20	Using Mineral Resources to Build Cities- Downtown Aiken FT	Handout
	27	Thanksgiving Holiday	
Dec.	4	Energy Use - Cost of Energy	45

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