

Environmental Science 110G

Fall 2009

Instructor:

Professor H. Curtis Monger
Office Hrs: MWF 2:30 to 4:00
Skeen Hall Room N328
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Course Description:

ES 110G will introduce you to the scientific study of how humans impact the environment and how the environment impacts humans. About half of the course focuses on mechanisms operating at multiple scales, including connections, cycles, and feedback loops of environmental systems. These deal with how things work, such as chemical principles, food webs, and the carbon cycle. The other half of the course deals with environmental phenomena and the search for solutions. It deals with topics like human population growth, agriculture and the future of food supply, toxicology, waste management, and human use of the oceans, forests, fossil fuels, and creating “livable cities.”

Textbook:

The required textbook is *Essential Environment: The Science Behind the Stories* by and J. Withgott and S. Brennan © 2007 or 2009 by Pearson Edu., Inc. San Francisco.

Lab Description:

The ES 110G lab is required for this course. The instructors are Jason Ploss, Nicole Bonde. Consultants for the labs are Sylvia Nemmers and Darroc Goolsby. There are two labs sections. The labs meet once a week and include experiments, demonstrations, team projects, and field trips to illustrate the concepts of Environmental Science.

Learning Objectives:

The goal of the course is to give a broad exposure of the scientific and social aspects of environmental science. We will use the scientific method (including the multiple working hypothesis method) to critically analyze cause-and-effect relationships.

Classroom discussion is encouraged. In order to sharpen mathematical skills, lab exercises will routinely involve calculations. During class periods as well, quantitative relationships, especially graphs, will be presented for essentially all aspects of the course. Basic scientific principles will also be given in the lectures. These include the primary principles of ecology, genetics, chemistry, soil science, atmospheric science, oceanography, hydrology, and geology.

Schedule of Topics and Exams:

Introduction
Scientific Method
Environmental Ethics
Environmental Policy
Chemistry
Energy
Cycles
Biomes

(EXAM 1) Wednesday, September 23

Ecology
Human Population
Soils and Food
Aquaculture
Toxicology
Atmosphere and Climate Change

(EXAM 2) Wed, October 30

Fresh and Marine Waters
Biodiversity
Land Use
Non-Renewable Energy
Renewable Energy
Waste Management

(EXAM 3) Wednesday, December 2

(EXAM 4) Monday, December 7 from 1:00 to 3:00

Grading:

Lecture Grades

Lecture grades will be based on the three best of four exams. The fourth exam is a comprehensive exam given during final exam week. Lecture grade is worth 75% of the total grade.

Lab Grades

The lab is worth 25% of your grade. Quizzes will be given at the beginning of every lab over the material from the previous week, as well as questions taken from the Pre-lab resource section of the upcoming lab. A total of 500 points can be earned in the lab:

Best 10 out of 12 quizzes worth 10 points each = 100 points
12 lab reports worth 30 points each = 360 points
Final group presentation worth 40

Overall Class Grade

The overall class grade will be based on both the lecture and lab grades. Letter grades will be based on the following scale.

A = 90-100% (90-91 = A- and 98-100 = A+)
B = 80-89% (80-81 = B- and 88-89 = B+)
C = 70-79% (70-71 = C- and 78-79 = C+)
D = 60-69% (60-61 = D- and 68-69 = D+)
F = 0-59%

Attendance:

Students are expected to attend and participate in class. The exams will be based on lecture material and the homework will involve classroom activities.

Late work, Make-up Policy, Withdrawals, Incompletes, and ADA Statement:

Late homework assignments lose 5 points per day. All examinations must be taken at the date and time indicated on this syllabus. No make-up exams will be given except for reasons accepted under university policy, which includes illness or family crisis. A note from your physician is required. University policies, as stated in the fall schedule of classes, indicate that withdrawals are the responsibility of the student. Students who do not officially withdraw from a course and fail to attend class may receive a failing grade. Incomplete grades may only be given if the student has passed the first half of the course and is unable to complete the course because of documented illness or family crisis. Other information dealing with the Code of Conduct is contained in the Student Handbook.

If you have or believe you have a disability, you may wish to self-identify. You can do so by registering with the Office for Services for Students with Disabilities (SSD) located in Corbett Center 244 (646-6840).