

ESCI 605: Global Change (Online Delivery)

Instructor: Dr. Michael Taber
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email: michael.taber@unco.edu
Required Text: Climate Change by William James Burroughs
(Additional readings assigned via the Internet)

Pre-requisites: Minimum eight hours of graduate work in sciences or consent of instructor. (Consent requires a review of undergraduate and graduate coursework with the instructor.)

Course Description:

The Global Change course is an online, problem-based course in earth sciences focusing on the topic of global change in the Earth system. Students will conduct data analysis in order to draw scientific conclusions, and apply their conclusions to societal issues (i.e., global warming). Students will also increase their scientific reasoning and technology skills by using new open-source geographic information system (GIS) software. The course is designed to fulfill Colorado Model Content Standards in Earth and Space Science, as well as serve as a model for problem-based, technology-based pedagogy that utilizes data visualization tools. Students should have completed four hours of graduate work in sciences prior to taking this course.

Required Software: Internet Browser, Microsoft Office, WorldWatcher (free), and MyWorld. If you don't have Microsoft Office, complimentary word processing and spreadsheet application software is acceptable. You must be able to import and annotate images and process data in a spreadsheet.

Course Objectives:

The purpose of this course is to introduce students to global change through the examination of global datasets. Students will conduct data analysis in order to draw conclusions and apply their conclusions to science and society. Students will also increase their scientific reasoning and technology skills by using new open-source geographic information system (GIS) software.

Outline of Course Content (major content topics):

(See the attached scope and sequence for detailed information regarding course content)

Course Requirements (exams, papers, etc...) :

Approximately 50% of the course will be dedicated to analyzing data. Students are expected to submit both formal and informal reports. Students are expected

to contribute results via Blackboard discussion forums as well as participate in on-line discussion with students from Iowa State University. A midterm and final exam (essay type) will also be given. Students will also complete a culminating project report on the application of their understanding on climate change dynamics and societal impacts.

Grading:

This course is graded A-F based on the following:

Item	Approximate Weight
Class discussion; electronic discussion	15%
Mid-term Exam	15%
Reports	40%
Final Exam	15%
Project	15%
TOTAL	100%

Online discussion: Participation in online discussion is mandatory. You will be expected to contribute to discussion and actively dialog electronically with students from Iowa State.

Exams. Exam questions will be open ended short answer and essay. Exams will be delivered via email.

Reports and Final Project. The crux of the course is data analysis. Most, but not all, reports require a formal write up. Information regarding how to write up formal reports will be given when the first report assignment is issued.

Disability Statement: Students who believe that they may need accommodations in this class are encouraged to contact the Disability Access Center (907) 351-2289 as soon as possible to ensure that accommodations are implemented in a timely fashion.