DePaul University/ School For New Learning				
SW 294 Global Environmental Change				
Winter Quarter 2005	O'Hare Campus	5 Session Course for 1 Competence	Dates: 1/4, 1/11,1/18, 1/25, 2/1	Tuesdays 6:30-9:30 PM
Faculty: Kevin F. Downing Ph.D.				
Contact Information:				
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Competencies offered:

S-4: Can describe and explain connections among diverse aspects of nature.

S-2-D: Can describe, categorize and analyze the interactions and exchanges between living organisms and their physical environments.

S-3-C: Can understand the scientific and social dimensions of an environmental issue.

S-3-D: Can use scientific knowledge to understand varying perspectives on a policy issue

* Students may select only one of the above competencies.

Relationship of this course to the respective competencies

S-4: Global environmental change on earth results from a combination of persistent, rhythmic, cyclical and short-lived processes. This course will examine the important interconnections of these processes and relate them to the long term stability of life on earth.

S-2-D: Global Environmental change can result from the interactions and exchanges between humans and their physical environments. This course will examine these interactions and examine current concerns about those interactions.

S-3-C: Scientists often provide society information regarding issues such as Global Environmental Change. In this GEC course, we will examine the interplay between scientific research and societal attitudes and actions regarding the environment.

S-3-D: Scientists, governments, businesses and individual people often differ in their view of the environment. This course will provide students an opportunity to use scientific knowledge to understand and critically review varying perspectives on a policy issue related to global environmental change

Course Description:

Many ongoing changes in the natural environment are so extensive in scale that scientists consider them a threat to sustaining a reasonable quality of life for humans worldwide. Examples of issues of particular and urgent concern are the rapid changes in the chemistry of the atmosphere that can alter the earth's prevailing climate patterns, the amount of pollutants in the oceans that can breach essential parts of the food chain, the consumption or contamination of key natural resources such as petroleum, groundwater, and soils and, the spatial reduction of terrestrial biomes with the corresponding extinction of organisms.

In this course, we will review and analyze the recent earth and biological science research on these and other global change issues in order to assess their relative importance for human existence. We will also examine and evaluate how human activities can have direct and causal relationships to specific adverse global environmental changes. Additional topics that will be addressed include emerging theories of sustainable development, ecological ("Green") economics, and environmental laws.

Learning Experience:

Students will be introduced to major Global Environmental Change (GEC) issues through discussions, readings, lectures, labs, and original inquiry. Students will select one issue for more detailed analysis and utilize the course learning experience to formulate a research paper **or** plan for personal, governmental, and/or global action to address an environmental problem. This research paper or action plan on a GEC issue will be structured in a scientific format using scholarly resources and employing a proper citation style. This course will employ online GEC resources available at institutional websites.

Learning Resources:

Required Textbook:

Turekian, K.K., 1996 Global Environmental Change: Past, Present, and Future, p200. Note: This book is often available used at online book dealers.

Recommended Textbook:

Hidore, J.H. 1996. Global Environmental Change: Its Nature and Impact. Prentice Hall, p263.

(Additional Readings and Handouts will be supplied in class)

Learning Strategies:

Each session the instructor will introduce new concepts and examples through lecture and discussion. Students will be responsible for readings and active participation in discussions. Most sessions, students will work in groups on laboratory, debate or discussion exercises that apply the principles learned earlier that session. Students will conduct independent research into a GEC topic. Class will include:

- Lectures
- Discussions
- Readings (Text and Supplementary).
- Laboratory Exercises/Biologic and Paleontologic Specimens.
- Online Resources from institutions

- Visual Aids (Slides/Graphics/Videos/Multimedia).
- Original Inquiry.

Learning Outcomes:

General Outcomes of this course: Upon successful completion of this course, students will be able to:

- Critically analyze information generated from scientific investigations.
- Apply the principles of scientific reasoning to investigate issues and solve problems.
- Articulate a working knowledge of the major physical and biological factors governing **Global Environmental Change**.
- Articulate a working knowledge of the major connections between physical and biological factors governing **Global Environmental Change**.

Specific learning outcomes: Upon successful completion of the selected competence, a student will be able to:

S-4: A student will be able to convey an understanding of the basic principles of global environmental change including the character of persistent, rhythmic, cyclical and short-lived processes. Student will be able to explore the interactions and exchanges between living organisms (i.e., humans) and their physical environments through these various processes. Students taking this competence are expected to critically review GEC information, provide a history and analysis of their topic, and to formulate a plan for personal, governmental, and/or global action to address an environmental problem.

S-2-D: Student will select one of earth's biomes and investigate whether human interactions with this environment can produce Global Environmental change. A student is expected to provide a background describing the characteristics of the biome and then examine the scholarly literature that investigates how humans utilize and impact this environment. Students will then assess whether human impacts are/will have a global change effect.

S-3-C: Student will select a current debate/issue in the area of Global Environmental Change . Student will be able to then research, compare and contrast both the scientific side of "what is known" and the social side of "what is being done". Student will analyze the ongoing interplay between scientific information and societal action and change. Students taking this competence are expected to critically review GEC information, provide a history and analysis of their topic, and to formulate a plan for personal, governmental, and/or global action to address an environmental problem.

S-3-D: Student will select a current debate/issue in the area of Global Environmental Change and use scientific knowledge to understand and critically review varying perspectives and policy initiatives. Students taking this competence are expected to critically review GEC information, provide a history and analysis of their topic, and to formulate a plan for personal, governmental, and/or global action to address an environmental problem.

Assessment:

Global Environmental Change is a graded course and is not offered for the Pass/Fail option. Your final grade in will be based on your progress towards completing the activities and deliverables listed below. This includes:

For all competencies: 1) demonstration of **understanding of concepts** and core **information** included in course, by successful completion of **research position/strategy paper** focusing on a global environmental issue, 2) short (7 minute) oral presentation of findings, 3) preparation for and participation in class

discussions and group activities.

Evaluation Weighting:

1. Preparation and participation in discussions and labs (20%)

2. Original research position paper and plan for personal, governmental, and/or global action to address an environmental problem.(written portion 75%; oral portion 5%)

ATTENDANCE POLICY

Perfect attendance is mandatory and essential for this course. One missed session will result in a "fail" grade for this course unless there are verifiable medical or personal , not an "incomplete". I should be notified of the circumstances for all late arrivals or early leaves prior to the class session. No graded work or handouts will be FAXed to students.

ACADEMIC INTEGRITY POLICY

I follow DePaul's policy on Academic Integrity on matters of student conduct including issues of plagiarism. (Please see the student handbook for details)

INCOMPLETE GRADE POLICY

Students are expected to finish the assignments of their courses in a timely manner. It is at the full discretion of the instructor whether a student shall be granted an incomplete grade with the possibility extended time for completion of class work. In order for a student to have an incomplete grade granted in this course, there must be a significant extenuating circumstances (medical or personal) evidenced by the student. The student will need to initiate and file an SNL Incomplete grade contract before the end of the final session to receive an incomplete grade.

ELECTRONIC SUBMISSIONS POLICY

It is acceptable to submit work as e-mail attachments. Submissions should be sent in the Word format and should not be sent as Zipped files.

SCHEDULE

NOTE: Readings should be completed before the respective sessions they are listed against.

(Chapters in bold refer to the Global Environmental Change Textbook, 1996 by Turekian)

Session Topics	***Readings and Assignments***
Session 1 Introduction to Global Environmental Change:	***Chapter 1***
Course Overview	
Types of Change on Earth	
Plate Tectonics	*Optional: Chapters 2 & 10*
Earth's Chronology	
Human Population Growth	
Session 2 Global Change	***Chapters 3-4***
Atmospheric Change	
Temperature Change	*Optional: Chapter 5*
Ocean and Atmospheric Circulation	
Session 3 Global Change	***Chapters 6 & 7***
Sea Level Change	***Due: Research Topic/Issue***
Global Warming	
Session 4 Global Change	***Chapters 8 & 9***
Acid Rain	***Reading Handout on Biodiversity Loss***
Ozone Depletion	***Due: List of Scholarly References***
Biodiversity Loss I	
Session 5 Future Global Change and Presentations	***Due: Research Papers and Oral Presentations***
Biodiversity Loss II	
Summary of Global Change	
Presentations	