# Will the World Provide?
# Fall 2010
# SUNY Cortland Geography Department

**Instructor Information:**
Dr. Wendy Miller
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**Class Information:**
MWF: 12:40-1:30pm
Old Main, Room 230
CRN: 96369

**Office Hours:**
Monday: 11:15-12:00
Wednesday: 11:15-12:00
Thursday: 10:00-12:30
Friday: 11:15-12:15

I am also available through e-mail and by appointment.

**Course Description:**

This course has been designed to fulfill the General Education Category 3 (Social Science) or Category 12 (Science, Technology, Values and Society) requirement. The goal of this category is to familiarize students with the methodology of social scientists and provide substantial introduction to a social science discipline. Students in this course will pursue and develop a research question, investigate resources, and reach a set of comprehensive conclusions. This course provides a science, technology, and society (STS) research experience for students. Through class, group, and individual projects, students develop and pursue a research question, investigate resources, and reach a set of comprehensive conclusions on one of the following global resource topics: air, water, minerals, agriculture, energy, forestry, fisheries, and wildlife.

**Course Objectives:**

By the end of this course, you should be able to:

- demonstrate critical thinking and problem solving techniques for a variety of geographic and environmental issues
- design, implement, and present a research problem of your own design
- develop comprehensive conclusions to research questions
- work in groups and individually on a research question of your own design
- demonstrate an understanding of the methods social scientists use to explore social phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical and interpretive analysis
- demonstrate an understanding of issues at the interface of science and society that impact the modern world

**Course Material:**

*Required Texts:*

Miller, G. Tyler Jr. 2008. Sustaining the Earth. Ninth Edition. Thomson Brooks/Cole: California. ISBN: 0495556874. This text is available through the Campus Bookstore and through many on-line merchants. *Please be sure to obtain the 9th edition.*

This course will utilize the WebCT eLearning environment for additional handouts, notes, and course readings.

**Academic Honesty:**

While I encourage you to discuss the course material with your classmates, every assignment that you submit for a grade should reflect your own work. Plagiarism and any form of cheating are unacceptable. Plagiarism, a serious academic offense, is defined as expropriating the ideas of others and using them as one's own without due credit. Students who cheat in examinations or plagiarize in this course will be disciplined in accordance with university rules and regulations.

**Course Etiquette:**

My goal is to make this class a positive and productive learning environment. You may assist me in achieving this goal by respecting the following requests:

- Please turn off your cell phones during class.
- Please complete the reading assignments prior to the class period.
- Please come to class on time.
- Please be respectful of your professor and your peers.
- Please do not hesitate to talk to me if you have any questions or concerns about the class.

**Assignments and Grading:**

*Exams (30%)*
You will have a midterm and a final exam in this course. The midterm is on **Monday, October 18** and the final exam is scheduled for 10:30am-12:30pm on **Tuesday, December 14**. Each exam is worth 15% of your final grade.

*Assignments (20%)*
Throughout the semester, you will be given in-class and take-home assignments to support the readings, the material covered in class, and the steps in the research process. These short assignments will be graded. You will have questions from the readings for each unit due on the day the unit starts. Many assignments will be submitted on WebCT.

*Research Presentation (20%)*
Each group is responsible for presenting their results and conclusions of their group research question. Each group will be given one class period to present their results to the class, starting on **Wednesday, November 17**. All students are expected to attend all of the presentations and you will have an opportunity to provide feedback and evaluations of each presentation. Questions from the material covered in the presentations will appear on your final exam.

*Research Paper (20%)*
Each student is responsible for turning in a research paper, based on their specific research question. These papers are due on or before the last day of the class, **Friday, December 10**. Your annotated bibliography, due **Wednesday, November 3** is part of your grade for the research paper. I am happy to comment on rough drafts of your papers, but they must be submitted to me on or before **Monday, November 29.**

*Participation, Character, and Attendance (10%)*
You are expected to attend class and to arrive on time. The only way for you to learn the material is to show up to class! If you need to miss lecture, you are responsible for knowing the material covered. I will not review it for you. Excessive tardiness or absences will negatively impact your final grade. Participation in class discussions is necessary and I expect you to show your classmates and professor proper curtosey and respect.

*If you are a student with a disability and wish to request accommodations, please contact the Office of Student Disability Services located in B-1 Van Hoesen Hall or call (607) 753-2066 for an appointment. Information regarding your disability will be treated in a confidential manner. Because many accommodations require early planning, requests for accommodations should be made as early as possible.*

**Late Assignment Policy: Assignments will be penalized 10% for every day that they are late.**

## Your Research Question

The overall research question in this course is will the world provide? We will address this issue by covering various topics in the lecture during the first half of the course and through group and individual research questions in the second half. Each of you will be a member of a group that specializes in one of the following areas:

| | | |
|---|---|---|
| Air | Energy | Minerals |
| Water | Fisheries | Forestry |
| Wildlife | Agriculture | |

On **Friday, September 24**, you will rank your *top four* choices of group topics. I will do my best to ensure you are placed in one of your top choices. You will then become an expert in the topic, conducting research to address the question, will the world's energy (or fishery, water, wildlife, etc) resources provide? Your own research question will fall under the group heading. For instance, if you were in the energy group, your personal research topic could be looking at the future of tidal power in New York City. That would be an inappropriate topic if you were in the forestry group.

You may also focus on a specific resource, such as grain or copper. Within the group's question, each of you will develop your own research question that is (a) pertinent to the group question, (b) manageable in scope and size, (c) capable of being investigated with the available resources, and (d) helpful to the class in reaching a conclusion(s) to the class question.

You may choose to limit your question by time and/or geography, for example, "What will happen in the next three decades to the forest resources in the Brazilian Amazon?" You may also choose a question that is narrow and global in scope, for example "Will world forest resources hold out indefinitely in the face of increasing global demand for wood for fuel?"

*Potential Research Questions*

Some potential research topics are listed below. *You do not have to select from these topics – they are listed here just to give you an idea.* It is important that you select a research question that interests you within your group topic. You must identify your research question on **Wednesday, October 6**.

- Deforestation in a specific country or area
- Loss of soils in Central America, Africa, Asia, China, Mexico, or North America
- The future of the ozone layer
- Water resources in the United States, Middle East, etc.
- Global reserves for oil, natural gas, coal, or uranium
- Reserves of gold, silver, platinum, diamonds, or other precious stones
- Energy production and consumption in China, India, Indonesia, or Brazil
- Global carbon emissions and future scenarios for global warming
- Biodiversity and the loss of rainforest resources
- Maritime Canada's declining fishery resources
- Acid rain and declining fish resources in the Adirondacks
- The recovery of wetland resources in the Everglades
- Contamination of the Great Lakes

- Reforestation in New York State (or Russia, China, Japan, or South Korea)
- Forecasting the future of alternative energies (wind, waves, biomass, solar, water, etc.)
- Forecasting the future of nuclear (fission or fusion) energy
- Forecasting changes in transportation technologies
- Impact of invasive species on a specific ecosystem
- Is there such a thing as clean coal and can it be used effectively?

*Steps in your research*

- Identify your group research topic
- Identify your personal research question
- Identify appropriate resources
- Build a resource database
- Analyze your resources
- Develop appropriate conclusions
- Present your research and conclusions as a group and as an individual

This is not a linear process - you will be continuously cycling through these steps as your knowledge on the subject increases and due to group discussions. Along the way, you will be asked to inform me about your progress through written responses, turning in you resource database (annotated bibliography), and presenting information to your group and to the class as a whole.

*Resource Database (Annotated Bibliography)*

As soon as you are considering a research question, you need to spend time gathering resources and data that you will use to answer your research question. Some students may find that there are not enough resources to answer their research question and new question may need to be selected.

You are expected to have numerous references from a variety of sources – you should consider books, magazines, newspapers, professional journals, the internet, companies, professional organizations, and governmental agencies. An annotated bibliography consists of a proper bibliographic citation and a paragraph summary of the main points of the chapter, article, web page, etc. Your annotated bibliography is due on **Wednesday, November 3**. I expect at least 7-10 sources to be submitted for your annotated bibliography. You will earn a grade of 65 (passing) with five sources. Your grade will be based on the number of sources you identified, the accuracy of your bibliographic citation, and the thoroughness of your summary. We will have an in-class exercise to familiarize you with the format of an annotated bibliography.

*Conclusions*

An important goal of this course is to reach a conclusion about our research question. This is a difficult process, one that researchers struggle with around the world. You will most likely not reach a definitive conclusion (i.e. "world oil reserves will be depleted in the 2054"). These conclusions will most likely be incorrect and also will reveal little about how humans and their environments interact. A much more appropriate and useful conclusion would include the following elements:

- Future projections based on current behaviors, trends, and the size of the resource base.

- Scientific or technological advances which might change current behaviors, trends, or the size of the resource base.
- Social and/or cultural changes which might change current behaviors, trends, or the way (and rate) in which the resource is used.
- Environmental constraints which might change current behaviors, trends, or the ability of humans to continue to exploit the resource.
- Public policy initiatives that may change the way humans use the resource.
- Substitutes that may (or most certainly will be needed to) replace the resource to satisfy the same human need.
- An analysis of who benefits and who suffers from current use of the resource base.
- Political factors which impact the way the resource is exploited and which may threaten or improve its exploitation in the future.
- A final question: do current behaviors and trends represent the best way humans might inhabit their environment and exploit its resources, or might there be better ways?

***Research Presentations***

The last meetings of this course are reserved for group research presentations. Each group (air, water minerals, etc.) will have a *full class period (50 minutes)* to present their findings to the class. A typical group presentation should include a general introduction of the topic followed by specific information about individual research topics, and concluding with an overall discussion on the group research question (i.e. Will the World's mineral resources provide?). In the individual presentations, you should summarize your findings, look at the research question from different points of views, and reach a conclusion on a projected future (including alternative futures) of the resource you have researched. In the past students have used PowerPoint presentations, played jeopardy, used classroom exercises, taken field trips, created videos, had poster presentations, and so on. Your group can decide how to utilize the class period in a creative and educational manner.

***Research Paper***

Each student is responsible for writing a *10 page (double spaced)* research paper that addresses their individual research question. Your paper needs to discuss your research question in depth using a variety of sources and must contain an introduction, body, a section on the future, and a conclusion. Your paper must properly cite the sources of information within the text and with a properly formatted bibliography or works cited section. I expect college-level writing quality including proper grammar, sentence structure, citations, and paper structure. Your paper is due on the last day of class, **December 10.**

Tentative Schedule – subject to change

| | Date | Topic | Readings | Due |
|---|---|---|---|---|
| 1 | 30-Aug | Course Introduction | | |
| | 1-Sep | Sustainability | Chapter 1 | Syllabus Quiz |
| | 3-Sep | | | Sustainability Reading Quiz |
| 2 | 6-Sep | *No class - Labor Day* | | |
| | 8-Sep | Connections | Ch. 2 – skim 22-30, read 31-47 | Connections Reading Quiz |
| | 10-Sep | | | M1 Homework |
| 3 | 13-Sep | Biodiversity | Ch. 3 - 50-51, 55-66, Ch. 5 & 6 | Biodiversity Reading Quiz |
| | 15-Sep | | | |
| | 17-Sep | | | |
| 4 | 20-Sep | Population Ecology | Chapter 4 | Population Reading Quiz |
| | 22-Sep | | | M3 Homework |
| | 24-Sep | | | **Identify Research Group** |
| 5 | 27-Sep | | | |
| | 29-Sep | *No class -research group meetings* | | |
| | 1-Oct | *No class -research group meetings* | | |
| 6 | 4-Oct | *No class - view documentary* | | M4 Homework |
| | 6-Oct | Food | Ch. 7 and the Introduction | Food Quiz; **Research Topic** |
| | 8-Oct | | from Kitchen Literacy | |
| 7 | 11-Oct | | by Vileisis (on WebCT) | |
| | 14-Oct | | | |
| | 15-Oct | *No class - Fall Break* | | |
| 8 | 18-Oct | **Midterm Exam** | | **Midterm Exam** |
| | 20-Oct | Technology | TBA | |
| | 22-Oct | | | Gulf Oil Spill Research |
| 9 | 25-Oct | | | |
| | 27-Oct | | | |
| | 29-Oct | Environmental Hazards | Chapter 11 | Hazards Reading Quiz |
| 10 | 1-Nov | | | |
| | 3-Nov | | | **Annotated Bibliography** |
| | 5-Nov | Urbanization and Waste | Chapter 13 | Urbanization Reading Quiz |
| 11 | 8-Nov | | | |
| | 10-Nov | | | |
| | 12-Nov | Ethics | Chapter 14 | Ethics Reading Quiz |
| 12 | 15-Nov | | | |
| | 17-Nov | Group Presentations | | |
| | 19-Nov | Group Presentations | | |

| | Date | Topic | Readings | Due |
|---|---|---|---|---|
| 13 | 22-Nov | Group Presentations | | |
| | 24-Nov | *No class - Thanksgiving Break* | | |
| | 26-Nov | *No class - Thanksgiving Break* | | |
| 14 | 29-Nov | Group Presentations | | |
| | 1-Dec | Group Presentations | | |
| | 3-Dec | Group Presentations | | |
| 15 | 6-Dec | Group Presentations | | |
| | 8-Dec | Group Presentations | | |
| | 10-Dec | Course wrap-up & review | | **Final Paper** |
| | | | | |
| | 14-Dec | Final Exam 10:30-12:30 | | |