(WEB) Sustainability
PUP 4204
Summer 2011
Instructor: Dr. Peter Jacques

Contacting the Professor		Contacting the Class	
Office Hrs:	Weds 8:30-10:30	**Class E-mail:**	**Coursemail Only** for regular issues; use my office email for urgent messages only.
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Grade Categories	Description of the requirements	Weight toward final grade (1000pnts)
Discussion Posts	10 discussions 20 points each	200
4 Class Assignments	100 points each, essay format, posted in appropriate discussion areas of : Sierpinksi Gasket; Third World Farmer; Power up; Do Androids Dream of Electric Sheep	400
4 Exams	One exam at the end of each module, including one counted as a final exam.	400

CAVEAT DISCIPULI---- Read the whole syllabus before you ask any questions. Further, the Course Protocols in webcourses are part of this syllabus, and they contain my rules for the courses, e.g., when I round up to a higher final semester grade.

Please be advised that this a 9 week class—half of the normal semester, but with the same credits = same amount of work . You will likely have to spend about 2 or more hours a day reading. If you do not have time for this class (e.g., you have a heavy job schedule), it is better for you not to take the class.

Required Reading

1. *A New Green History of the World*, Clive Ponting
2. *Limits To Growth, the 30 year update*, Donnella Meadows et al
3. *Oryx and Crake*, Margaret Atwood

Subscription to *The Wall Street Journal*. Call via 800-369-2834, ask for a student rate for the semester and tell them it is for my class. They do have semester subscriptions--8 week $15.95 www.subscribe.wsj.com/8weeks

Learning Modules:

Within the course are detailed modules that replace my lectures from a face-to-face course, and will require time for you to go through them as if you were sitting in lecture. I have loaded in a lot of videos, etc...—these links are not necessary for you to follow, unless they are in the syllabus. Otherwise links within the modules are there for the curious of mind only.

Newspaper Reading and Discussions.

I require that you read *The Wall Street Journal* throughout the week. Current environmental events and issues are a part of journal essay grade. However, the real reason to read a major newspaper (everyday if possible) is to be an informed citizen, and if you are studying politics as we are, it is *absolutely* essential. Call 800-369-2834, ask for a student rate for the semester and tell them it is for my class.

Directions for Synthetic Essays

Be sure to consult the directions for essays in the Course Protocols. In this course, synthetic essays

In two of these assignments, you will be play, analyze and critique 2 online games. Make sure your computer is able to play these. I will not be generous if you have waited to the last minute and then have a technical problem—foresight is an expectation.

- Module 1: Sierpinski Gasket Exercise: Start here http://arcytech.org/java/fractals/ (this is also in the "heuristics" in Module 1. At this site, there is a tutorial on fractal geometry and its connections to measuring the natural world. In this exercise, I want you to think about metaphors and sustainability and answer the following questions, making connections to the literature we have read.
    - What is the relationship of fractals and sustainability (really, what is the relationship of the idea of fractals and sustainability?
    - Compare this metaphor to that of the Cartesian Plane. Which metaphor are our mainstream institutions most closely aligned?
    - What do you think of in terms of human-ecological relationships when you draw the sierpinski gasket (found through the same site above at http://arcytech.org/java/fractals/sierpinski.shtml) and what lessons can we

draw from this metaphor for more sustainable human-ecological interactions?

- Module 2: Third World Farmer: http://www.3rdworldfarmer.com/ . This game can be played directly online without downloading. The purpose of this game is to identify a few of the challenges facing peasant farmers. See how long you can keep your family alive and how well they fare. In the discussion area for this game, I want you to reflect on your experience and then connect it to our material (Play, analyze, critique). Here you are not critiquing the "playability" or how fun it is, lets leave that for online gamer magazines. Think about the structure of the game and discuss:
    - Does the game reflect the problem structure of sustainability?
    - What is the role of social and political forces (are they represented at all?)
    - What literature (authors) does this work remind you of and why?
    - What strategies allowed you to fare better? What point does this belie in the game (i.e., what is the game structure telling you is supposed to work in the actual world)?

- Module 3: Powerup—a game where you are an avatar exploring energy systems and ecological ruin. It is found here http://www.powerupthegame.org/home.html. Directions for playing are in the game and on the site (but it took me a while to figure out I had to push "e" when coming to a character to talk with them). Also, I have had students construct directions themselves, and these are found in Module 3. In this game, **I want you to critique this game** as a vestige of popular culture:
    - As a vestige of popular culture, how does the game itself represent sustainability, and what are the strengths and weaknesses of this vision?
    - Does the game reflect the problem structure of sustainability?
    - What is the role of social and political forces (are they represented at all?)
    - What literature (authors) does this work remind you of and why?
    - What strategies allowed you to fare better? What point does this belie in the game (i.e., what is the game structure telling you is supposed to work in the actual world)?

- Module 4: *Oryx and Crake* These posts are reviews of this novel. Refer to the First Principles. The work really wrestles with what it means to be human not only individually but as a species, and therefore it is taking on the issues of "defining our temple" that we wish to sustain—what role does science have in this "temple"? Equity and Justice? Dignity? Safety? Commerce? How do the author's ideas and concerns work with First Principles? What kind of insight does this speculative work bring to thinking about sustainaibility?

Exams

The purpose of the exams is to test your command over concepts. Exams are open for 24 hours at the end of each module. They are 50 questions of multiple choice, 2 points each. You will have one hour and 115 minutes to complete the exam once it is opened. You

may take the exam as often as you wish, but only the first attempt will count for your grade. Save your answers as you go to minimize computer problems.

If the reading is not in one of the course texts, you will find the article in the Media Library in either the "Readings" or the "Climate Change Reader" sections in Webcourses (one of the main buttons on the left side of the home page) or in the respective module. All modules are open, you may do the readings and assignments either in step with us or ahead of us if you so chose, though I will likely grade all assignments at once.

Supplemental readings are not included in tests but are recommended for a more full understanding of the material.

Module 1: Introduction and Defining the Terms

3 weeks: May 16 – June 3

Introduction—Defining the Terms

- "The Concept of Sustainability" by Robert Goodland
- Orr, “Four Challenges of Sustainability”
- Princen, "Principle of Sufficiency"
- This week is light reading so look ahead – and get a head-start reading *Limits to Growth,* most of the book is due in the next week.

Principle Issues

- Preface and Chpt 1-4, 6,7 in *Limits to Growth*

Supplemental

- Joel Cohen, “Human Population: The Next Half Century”
- Arrow et al, “Are We Consuming Too Much?” (they answer no)
- Daly et al respond to Arrow-- “Consuming Too Much for What?”

Measuring Sustainability

- Turner: “A comparison of The Limits to Growth with 30 years of reality”
- *Environmental Sustainability Index* -- Read at least all the way through Chapter 2 in the "Full Report."
- "Tracking the Ecological Overshoot of the Human Economy" by Wackernagel et al

Assignments all due at 6pm in webcourses

- Journal Essays 1D due 5/20; 1E due 5/27 ; and 1i due 6/2.
- Synthetic Essay: Sierpinsksi Gasket exercise Due 6/3 at 6pm.
- Exam 1: Open 6/3 at 6 am to 6/4 at 6pm

Module 2: Development

2 weeks: June 6- 17

Modern Theories of Development

- York, Rosa, and Dietz, “Footprints on the Earth: The Environmental Consequences of Modernity”
- Bhagwati, “The Case for Free Trade”
- Haque, “The Fate of Sustainable Development Under Neo-liberal Regimes in Developing Countries”
- Brohman, J., *Universalism, Eurocentrism, and the Ideological Bias in Development Studies: From Modernisation to Neoliberalism.*

Supplemental:

- Schurman, “Snails,

Ecological Moderniziation

- Glasby, “Sustainable Development as a New Paradigm”

The Subsistence Perspective

- Mies and Bennholdt-Thomson, Intro and Chapt 1in "The Subsistence Perspective"
- Thompson, *Biopiracy of Biodiversity* , chapter four “Sustaining Farmers, Sustaining Harvests.”

Supplemental:

- Ridgeway, “Globalization from the Subsistence Perspective”

Indigenous Knowledge Systems

- The Book of Hopi, all of part 1.

Assignments- due at 6pm in webcourses.

- Journal Essays: 2A due 6/10; 2B due 6/13; 2c due 6/15.
- Synthetic Essay: Third World Farmer due 6/17
- Exam 2: Open from 6am June 16 to 6pm June 17.

Module 3: Science and Society

2 weeks: June 20- July 1

Environmental Skepticism

- Bjorn Lomborg, "Predicament or Progress?"
- Oreskes, "What's Proof Got to Do with it?"
- Jacques and Altif, “Climate counter-movements in international perspective”
- Orr and Ehrenfield, “None So Blind: The Problem of Ecological Denial”

Precautionary Principle, Resilience and Sustainability Science

- Tickner and Raffensberger, "The Precautionary Principle in Action"
- Folke, “Resilience: The emergence of a perspective forsocial–ecological systems analyses”
- Turner et al, “A framework for vulnerability analysis in sustainability science”
- Lubchenco, “Waves of the Future”

Assignments- due 6pm.

- Journal Essays: 3A-B due 6/24; 3C due 6/27.
- Synthetic Essay: Book Review of *The Monkey Wrench Gang* due 7/1
- Exam 3: June 30 6 am- July 1 6pm.

Module 4: Democracy, Ecology and the Collapse of Civilizations

2 Weeks: July 5- 16

Dark Ages and World Systems

- "Collapse and Triggers into Dark Ages" by Sing Chew
- All of Ponting, *A Green History of the World*, finish by next week

Collapse of Civilizations

- All of Ponting, *A Green History of the World*

Supplemental

J. A. Jameson (1884) "Is Our Civilization Perishable?"

Assignments- all due 6p.m.

- Journal Essays: 4A due 7/8; 4B due 7/13.
- Synthetic Essay: Service Learning Field Report 7/15
- Final Exam open July 14 at 6am to July 15 6 pm.