UNIVERSITY OF MINNESOTA – DULUTH
DEPARTMENT OF GEOGRAPHY, URBAN, ENVIRONMENT & SUSTAINABILITY STUDIES

GEOG 3461: Global Resources
Spring, 2014, 48102: 08:00 A.M. - 09:15 A.M., Tu, Th

Professor: Randel (Randy) D. Hanson
Office: 146E Kirby Plaza
Office Hours: T/TH 930-1030 & by appt.
Telephone: 218-726-6889
E-mail: rhanson2@d.umn.edu

Course Description
Global Resources explores the important and rapidly evolving field of how humans use and manage different aspects of the Earth and its natural systems and materials. In doing so, we will also necessarily encounter and analyze different conceptual and political approaches to these issues, as well as different theoretical and practical effects of doing so.

We will explore the ways that the search for ‘natural resources’ in significant ways defines the modern industrial state, tracing how the spatial distribution, access and consumption of resources and their uses creates varied life opportunities and burdens for respective populations and natural systems. Given the combined momentum of 200 years of increasing industrialism, we will look at how we have reached a ‘peak’ moment for expanding resource consumption in which continuing these patterns doesn’t necessarily mean depletion (although that is a real issue for many key resources) as much as portending ever greater ecological and biospheric costs.

We will also explore the growing imperative of shifting from ‘command and control’ orientations to Nature, natural systems, and natural resources to an emergent ecological framework which views the Earth’s ecosystems services as the key natural resource to manage. Along the way, we will engage issues of renewability, sustainability, technological optimism, and related challenges.

Learning Outcomes

By the end of the course, students will be able to

1. Understand and describe the importance of various natural resources to human existence, in both a historical and contemporary context.
Understand and describe the centrality of petroleum as a constitutive aspect of the ways that US democracy and society developed across the 20th century.

Explain how natural resource perspectives change through time in response to demographic, economic and resource abundance conditions in the US and elsewhere.

Analyze contemporary challenges related to resource scarcity and depletion.

Understand and analyze the relationship between consumption, resource use and sustainability aspirations.

Understand and evaluate contemporary activities within the US related to expanding domestic petroleum and natural resource use and how it differs from historical parallels.

Understand how Nature and ‘ecosystem services’ that perform a myriad of functions necessary for humans and other animals are increasingly understood as the key natural resource.

Prepare and present a case study related to natural resource use issues within a conference and collaborative format.

Prepare a written analyses of a specific set of issues as it relates to contemporary natural resource challenges and/or opportunities, integrating relevant primary and secondary literature from class and your own research.

**Reading Materials** (At Bookstore – Purchase all books immediately to avoid problems)

Carbon Democracy: Political Power in the Age of Oil, by Timothy Mitchell
The Race for What’s Left: The Global Scramble for the World's Last Resource, by Micheal T. Klare
Earth Wars: The Battle for Global Resources, by Geoff Hiscock

OPTIONAL

**Course Structure, Expectations, Assignments and Grading**

This course is designed to be student centered, and meetings may consist of lectures, small group discussion, student presentations, and video segments. Attendance is necessary but will not be directly monitored. All examination questions will be drafted from both assigned written materials and class discussions. Since there will be no review sheet, you are strongly urged to take notes in class for reviewing for exams. If you miss a class, it is your responsibility to find out from your classmates what you have missed. We will be adhering to department policy, which is that there are no make-up opportunities for exams, in class exercises or general assignments, unless you have a verifiable illness (i.e. doctor’s note).
In addition, you are asked not to disrupt class by regularly showing up late or leaving early; to avoid talking privately given it is so disrupting to the atmosphere of the classroom; and to refrain from using cellphones, social media and/or other computer based activities, reading newspapers and/or working on other course assignments during class.

**Assignments will consist of the following:**

- **Response Papers and in class assignments.** You are expected to prepare short responses to readings based on the parameters below.
- **Conference Project.** Our in class ‘conference’ will ask groups to read assigned readings, prepare an overview for the class on them, and present their key findings.
- **Examinations.** Three exams will cover key terms and issues related to our readings and class discussions. Final examination will not be cumulative.
- **Substantive Essay.** Includes one 8-10 page research project.

**Response Papers**
Response papers should be typed and one to two pages in length, turned in at the beginning of class. On occasion, I will instruct you to respond to specific issues and questions, but if I have not (and most of the time this is the format) you should complete your response papers by including the following components:

- Two statements (using complete sentences) about things that you understand in the day’s reading (you must use page numbers to reference what you are referring to in the book);
- Two statements about things you do not understand in the day’s reading (again, you must use page numbers to reference what you are referring to in the book);
- Two reflective questions that we can discuss in class. These reflective questions should be pitched as if you were the instructor, opening up the materials with open ended questions that connect the materials to broad social issues in the class. Your questions should indicate your competence to restate an author’s general argument and consider/evaluate the evidence s/he uses to support it.

**Final grading will consist of the following:**
40% Examinations (3@13.33%)
10% Conference Project
20% Substantive Essay
30% Response Papers, In class writing assignments (20@1.5%)

**Note on Email Accounts**
I will be communicating with participants in this class about course issues, scholarship opportunities, internship opportunities and other pertinent information about speakers on campus, graduation, etc. The only email addresses we will use for these mailings will be
through your UMD email account. Students may have their UMD email account forwarded to their home/personal email account if they would like.

**Disability Statement**
Students with a documented disability needing academic accommodations are requested to speak with me during the first two weeks of class. All discussions will remain confidential.

**Schedule of Topics: Readings and Major Assignments/Deadlines**
The following schedule is tentative and may be revised per my conference and related obligations. Ample time will be provided for any changes made.

January 21:  Introductions

Section I:  Snapshots of Course Themes & Issues

Theme I: Oil as the Basis of Twentieth Century Life

Jan 23:  Carbon Democracy (BOOK), Introduction; and ‘Will Oil Drown the Arab Spring,” by William Ross (from Foreign Affairs)
RESPONSE PAPER

Theme II: Racing for What’s Left at a Time of Peak Everything

RESPONSE PAPER

Theme III: Valuing Nature and Ecosystem Services as the Key Resource

Jan 30  Living Beyond Our Means: Natural Assets and Human Well-Being (MOODLE)
RESPONSE PAPER

Theme IV: Reorganizing Human Systems in Harmony with Natural Systems

Feb 4  “Distributed Renewable Energy” 8 pp (Moodle); A Deeper Look At The Energy Picture 14 pp (Moodle); “What We Are For” 7 pp (Moodle)
RESPONSE PAPER

February 6  No Class Meeting: Carbon Democracy (BOOK), Chapters 1-2
RESPONSE PAPER DUE FEB 11
Feb 11  Carbon Democracy (BOOK), Chapters 3-5  
RESPONSE PAPER

Feb 13  Carbon Democracy (BOOK), Chapters 6-7

Feb 18  Carbon Democracy (BOOK), Chapter 8, Conclusion & Afterword  
RESPONSE PAPER

Feb 20  EXAM I (on Carbon Democracy)

Section III: Crisis of Peak Everything?

Feb 25  The Race for What’s Left (BOOK), Introduction & Chapter 8 (34)  
RESPONSE PAPER

Feb 27  Prepare for conferences: More information forthcoming

Mar 4-6  CONFERENCE: Selections & Presentations

Earth Wars (BOOK), Chapter 2, “Lines on a Map”
Earth Wars (BOOK), Chapter 3, “The Key Players: Diggers, Drillers and Dealers”

The Race for What’s Left (BOOK), Chapter 2, Deep Offshore Oil & Gas
The Race for What’s Left (BOOK), Chapter 3, Invading the Arctic

The Race for What’s Left (BOOK), Chapter 5, Mining’s New Frontiers
The Race for What’s Left (BOOK), Chapter 6, Rare Earths and Other Critical Minerals

Earth Wars (BOOK), Chapter 6, “Cold Coal Still Burning Brightly”
Earth Wars (BOOK), Chapter 13, BRACQK (Brazil, Russia, Australia, Canada, Qatar, Kazakhstan) Is the New BRIC

Earth Wars (BOOK), Chapter 9, “Coppery Red, the Color of the Earth’s True Love”
Earth Wars (BOOK), Chapter 10, “Finding Steel’s Essential Ingredients”

Earth Wars (BOOK), Chapter 12, Japan After the Deluge”
Earth Wars (BOOK), Chapter 7, “Going Nuclear in a Post Fukushima World”

Earth Wars (BOOK), Chapter 14: The Up and Comers: Turkey, Iran, Indonesia, Mexico
Earth Wars (BOOK), Chapter 5, “‘Going Out’ for Energy: China and India Stake Their Claims”

Mar 11  The Race for What’s Left (BOOK), Chapter 4, Tar Sands;  
Earth Wars (BOOK), Chapter 11: US Energy: Hail to the Shale  
RESPONSE PAPER
Mar 13  Earth Wars (BOOK), Chapter 15, “What Happens Next: A Host of Global Opportunities,” and Conclusion: A World So Changed”
RESPONSE PAPER

Mar 18   SPRING BREAK
Mar 20   SPRING BREAK

Section IV:  The Struggle for Perpetuating Business as Usual
Mar 25   The Power Surge (BOOK), Chapters 1-2
RESPONSE PAPER

Mar 27   The Power Surge (BOOK), Chapters 3-4

Apr 1    The Power Surge (BOOK), Chapters 5-6
RESPONSE PAPER

Apr 3    The Power Surge (BOOK), Chapters 7-8

Apr 8    EXAM II (on Power Surge)

Section V:  Nature and Ecosystems as the most Important Natural Resource
Apr 10   “Theory of Ecosystems Services,” by Stephen Polasky (Moodle)
RESPONSE PAPER

Apr 15   “The Value of the World’s Ecosystem Services and Natural Capital,” by Costanza et al. (Moodle); Additional Materials TBD

Apr 17   “Ecosystem Services in Farmlands and Cities,” by Harpinder Sandhu and Steve Wratten, (Moodle)

Apr 22   The Race for What’s Left (Book) Chapter 7, “Global ‘Land Grabs’ and the Struggle for Food”
RESPONSE PAPER

Apr 24   Earth Wars (BOOK), Chapter 4, “Food and Water: Where the Rivers Run Deep”; and
“Five Carbon Pools”, by Wes Jackson (6 pp) (Moodle);

Section VI: Nature as Model: Renewable Energies, Sustainable Agriculture
Apr 29   READING TBD
RESPONSE PAPER
May 1  Retooling The Planet: The false Promise of Geoengineering (8pp) (Moodle)
Additional Reading TBD

May 6  Earth Wars (BOOK), Chapter 8, “New Energy: Clean, Green and Expensive
Additional Reading TBD

May 8  EXAM III

Final Paper Due May 15th, Noon