Course Syllabus
School of Public Policy
University of Maryland

PUAF 741
Global Environmental Problems
Prof. Nathan E. Hultman
Fall 2011

Course meetings
Tue 4:15 – 6:45 pm lecture
Van Munching Hall 1203

Course description
About a generation ago, many environmental problems came to be seen not only as issues for a local region or even a country, but rather as pervasive problems affecting the entire planet. Persistent pollutants, air and water pollution, habitat loss, and species extinction were in the vanguard of this evolution in perspective, followed by truly global scope problems such as ozone depletion and climate change. Undergirding the increasing focus on global problems were persistent questions about resource scarcity, population, and what came to be known as sustainable development. This course investigates our understanding of such Global Environmental Problems, first by examining and assessing the science behind several such issues, and then by situating each in its historical and policy context. In doing so, we hope to establish both a facility with the basic elements of each issue as well as a critical perspective on how that issue overlaps with questions about development, security, equity, and environmental protection.

Contact Information
Professor Nathan Hultman
Office: Van Munching Hall 3137
Email: hultman@umd.edu
Tel: 301.405.3429
Office hours: Wed 1:30-3:00 or appt

TA: Mariel John Borowitz
Email: marielborowitz@gmail.com
Office Hours Tues 1:30-4 pm in VMH 4113

Syllabus Version: 3
Readings

1. **Required Books**


2. **Recommended Book**


3. **Other readings.** Other required readings will be available online via direct links in the syllabus, or on electronic course reserves.

Assignments and Exams

- Eight 1-page **reading critiques**
- Three **problem sets**
- An **op-ed** to be submitted to a media outlet
- A **final exam**

Nine Reading Critiques are assigned but you need only do eight. If you do ten, we will drop your lowest grade. You may turn in assignments after their due date, but you must pay a penalty. If the paper is late by a day or less, you can get up to half credit. Between 1 and 3 days late, you can get up to 25%. After three days late, you don’t get any credit, but consider doing it anyway for the practice. I make almost no exceptions to this rule, so plan ahead.

  - Up to 1 day late: Half credit maximum
  - 1 to 3 days late: 1/4 credit maximum
  - After 3 days late: No credit

Your participation grade includes attendance and discussion in class.

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<thead>
<tr>
<th>Grade</th>
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<tr>
<td>Op-Ed</td>
<td>10%</td>
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<tr>
<td>Problem sets</td>
<td>05%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Reading critiques</td>
<td>50%</td>
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<td>Participation</td>
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**Schedule of Lectures and Readings**

*Note: Readings are to be completed before the lecture on the day that they are listed*

**Sep 06**

**Week 1. Introduction**

In class:
- Introductions
- Course overview

Clapp and Dauvergne (C&D) Ch 1, “Peril or Prosperity? Mapping worldviews of global environmental change”

Axelrod, Vandeveer, and Downie (AVD) Ch 1 “Introduction: Governing the global environment”

### I. The Genesis of “Global Environmental Problems”

**September 13**

**Week 2. Why should we care about global environmental problems?**

In class:
- Finish motivations lecture
- Tools of the trade

C&D Ch 2, “The ecological consequences of globalization”


**September 20**

**Week 3. The spur to “limits”: Regional to global pollutants**

In class:
- Discussion of human security
- Toxins
- Air pollution: Acid rain, Smog, Indoor air pollution
- Human health impacts
- Video: American Experience, “Rachel Carson’s Silent Spring”
- Discussion of Silent Spring

**Due: Reading Critique 1. C&D Ch 1**

Carson, Rachel (1962), *Silent Spring*. Chs. 1-3 (e-reserve)

You may want to get a start on next week’s readings.
September 27

Week 4. The articulation of “limits”: Population, demographics, and resource scarcity

In class:
- Population debates
- Demographic projections
- The IPAT discussion
- Resource scarcity and Limits to growth
- Due: Reading Critique 2. Hartmann

Hartmann, “Rethinking the role of population in human security”. In: Matthew, Richard A.,
Alex de Sherbinin, Alex, David Carr, Susan Cassels, and Leiwen Jiang (2007) “Population
and Environment”Annual Review of Environment and Resources. Vol. 32: 345-373. DOI:
10.1146/annurev.energy.32.041306.100243

Meadows, D.H. et al. (1972). *The Limits to Growth: A report for the Club of Rome’s project
on the predicament of mankind*. New York: Universe Books. Exec Summary:
http://www.clubofrome.org/docs/limits.rtf

C&D Ch 4, “Economic growth in a world of wealth and poverty”


October 04

Week 5. Contested Expertise: Nuclear radiation, waste, and storage

In class:
- Radiation units, doses, and risk
- Nuclear power fuel cycle
- Nuclear waste / Spent fuel storage
- Risk and values in public discourse
- Hand out PS1
- Nuclear expansion after Fukushima
- Due: Reading Critique 3. Pielke Chs 1-2

big picture, science, and democracy”, “Science and decision-making”

Massachusetts Institute of Technology, John Deutsch, Ernest J. Moniz, Stephen Ansolabe-
here, Michael Driscoll, Paul E. Gray, John P. Holdren, Paul L. Joskow, Richard K.
Lester, and Neil E. Todreas. 2003. Read Exec Sum/Ch 1; skim rest. "The Future of Nu-
clear Power." Cambridge, Mass.: Massachusetts Institute of Technology.
http://web.mit.edu/nuclearpower

Optional

Reviews: Climate Change* 2(3) 397-411. DOI 10.1002/wcc.113
October 11

Week 6. **Science as Driver: International Action on the Ozone Layer**

In class:
- Ozone chemistry and recent developments
- Evolution of international ozone politics
- Effect of Montreal on climate change debate
- **Due: PS1**


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**I. The Rio Generation of Global Environmental Problems**

October 18

Week 7. **Rio 1992, Wilderness, and Biodiversity**

In class:
- The genesis and legacy of Rio
- Biodiversity, deforestation
- REDD
- **Due: Reading Critique 4. Soroos**

AVD Ch 2, Soroos, “Global institutions and the environment: an evolutionary perspective” Pielke, Ch. 4 “Values”


Skim:


Optional:

C&D Ch 3, “The globalization of environmentalism”


October 25

Week 8. **International environmental governance: Agents and Laws**

In class:
- Role and functions of international law
- States and nonstate actors
- Catch up on other lecture material
- **Due: Reading Critique 5. Holt**

AVD Ch 3, Peel, “Environmental protection in the 21st Century: The role of international law”

AVD Ch 4, Downie, “Global environmental policy: Governance through regimes”


Optional


AVD Ch 5, McCormick, “The role of environmental NGOs in international regimes”

Nov 01

Week 9. **Science, Scientists, Risk and Precaution**

In class:
- Process of Science and scientists in public discourse
- Uncertainty and values
- Precautionary principle and applications
- **Due: Reading Critique 6. Renn**

Pielke, Ch. 8 “When scientists politicize science”

Pielke, Ch. 9 “Making sense of science in policy and politics.”

November 08

Week 10. Hazardous chemicals and Human Health as global issues

In class:
• Regulation of chemicals
• Health and development

AVD Ch 7, Selin, “Global Politics and Policy of Hazardous Chemicals”

Optional

November 15

Week 11. Oceans and Water

In class:
• Water as a global environmental issue
• Ocean biodiversity
• Wetland loss
• Ocean acidification
• Due: Op-Ed


Refining “Sustainable Development”: Policies and Institutional Approaches

November 22

Week 12. Domestic and Multilateral Institutions for Environmental Protection

In class:
• Cases of the US, EU, and China
• Multilateral lenders

AVD Ch 11, Axelrod, Shreurs, & Vig, “Environmental policy making in the EU”
AVD Ch 13, Lewis and Sims Gallagher, “Energy and Environment in China”
C&D Ch 7, “Global financing and the environment”

Optional
AVD Ch 10, DeSombre, “The US and global environmental politics: Domestic sources of US unilateralism”
November 29
Week 13. Private Investment: The role of Trade and Consumption

In class:
• Trade and environment
• Possible policy approaches: Standards and Voluntary approaches
• Due: Reading Critique 7. Vandeveer

C&D Ch 5, “Global trade and the environment”
C&D Ch 6, “Global investment and the environment”
AVD Ch 15, Vandeveer, “Consumption, commodity chains, and the global environment”

Optional
AVD Ch 8, Esty, “Economic integration and environmental protection”

Dec 06
Week 14. Climate Change

In class:
• Basic climate change science
• Impacts & Adaptation
• Models, policy, and scientific judgment
• Update from Durban Climate Conference
• Due: Reading Critique 8. Hartwell paper

Mastrandrea & Schneider “Climate change science overview” in: Schneider, Rosencrantz, Mastrandrea, Kuntz-Durisetti, eds., Climate Change Science and Policy. 608 pp, Island Press, 2009. (e-reserve)
Pielke, Ch. 6 “How science policy shapes science in policy and politics”
AVD Ch 6, Betsill, “International climate change policy: Toward the multilevel governance of global warming”
Hartwell Paper http://www.lse.ac.uk/collections/mackinderProgramme/theHartwellPaper/

Optional:
Dec 13

Week 15. Recasting “sustainable development” for the next generation of GEPs

In class:
• Last day of class
• Elements of sustainability, development, innovation, entrepreneurship
• Class exercise: Informing the Rio + 20 conference
• Due: Reading Critique 9. C&D Chapter 8

AVD Ch 12, Najam, “The view from the South: Developing countries in global environmental politics”
C&D Ch 8, “Paths to a green world? Four paths to a healthy environment”

Optional

December 15

Week 16. Final Exam

9:00 – 12:00
Room 1203
Details on the final exam:
• Coverage will be comprehensive -- all material/topics in the course are fair game.
• I am looking to see what you know, not trying to trip you up on what you don’t
• I am looking to see that you understand
  o the major scientific drivers of global environmental problems
  o the ways that environmental science and scientists interact with the policymaking process
  o diverse perspectives on the drivers of environmental change and human security
  o The historical changes in approaches to governing environmental problems
• Format will be short answer (paragraph) and longer (1-2 page) essays
• Closed book – though you can bring in one standard sized (8.5 x 11) “crib sheet” of paper with notes that you will then hand in
• The test will be designed to be completed in 3 hours or less.
• No laptops or internet use.
• We provide bluebooks