University of Minnesota
Freshman Seminar for the Biological Sciences (Biol 1905)

The Role of Science, Economics and Politics in Environmental Policy
Fall 2002
Ecology 505
Tuesday 2-3:30 pm

Course Description:

This seminar will investigate the role that science, economics and politics play in determining environmental policy. The goal of basing environmental policy on the "best available science" is broadly accepted. Yet, scientists are often frustrated that political leaders seem to ignore or distort science in setting policy. What role does science play in setting environmental policy? Should environmental policy consider the costs and benefits of environmental protection? How do institutions and the political process shape policy decisions? Through a series of case studies we will investigate the role that science, economics and politics *have actually* played in environmental policies and discuss what role we think they *should* play.

Contact Information/Office Hours:

Professor Steve Polasky

Ecology 503	Classroom Office Bldg. 337E
624-3663	625-9213
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Office Hours: T/Th 1- 2 pm in Ecology 503 (or at a mutually agreeable time)

Course Requirements:

The seminar revolves around the weekly discussion of different environmental policy case studies. Having an interesting and lively discussion requires that each student come to class prepared, which means that each of you needs to do the reading for week, and have thought about the discussion questions, *prior* to coming to class. If you are cannot attend a class session, or are unable to prepare for a class session, please tell me prior to that class session.

Each student will be responsible for leading one class discussion. At least a week prior to your session you should arrange to meet with me so we can discuss appropriate readings and discussion questions. Readings and discussion questions should be made available to students one week prior the discussion class session.

In addition, each student will write one short paper, on the order of two or three pages (double-spaced), on some aspect of one of the case studies. The paper should discuss the

role that science, economics and politics have played, or should play, in environmental policy case study. You will hand in a first draft that will not be graded. I will read the first draft and return it to you with comments. You will then revise your paper based on those comments and turn in a final draft for a grade. The first draft is due in class on November 26. The final draft is due in class on December 10.

Grading:

Participation in Class Discussion	50%
Discussion Lead	25%
Short Paper	25%

Course Outline:

Note: readings and discussion questions for weeks 3 – 15 will be assigned and distributed as we proceed through the semester

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1. Introduction (September 3)

   Course syllabus
   Environmental Policy Example: "Healthy Forests Initiative"

2. Science and Policy (September 10)

   Kaiser, J. 2000. Ecologists on a mission to save the world. *Science* 287: 1188-1192.

   Shonkoff, J.P. 2000. Science, policy and practice: three cultures in search of a shared mission. *Child Development* 71(1): 181-187.

3. Overview of Environmental Policy (September 17)

4. Land Use and Urban Sprawl: Dakota County Open Space Referendum (September 24)

5. Nuclear Waste Storage: The Battle over Yucca Mountain (October 1)

6. Clean Air Act: Setting the National Ambient Air Quality Standards (NAAQS) (October 8)

7. Clean Air Act: The Acid Rain Program and Emissions Trading (October 15)

8. Clean Water Act: Struggling with Non-point Source Pollution with Total Maximum Daily Loads (TMDL) Policy (October 22)

9. Clean Water Act: Section 404 and No Net Loss of Wetlands (October 29)

10. The Safe Drinking Water Act: The Arsenic Standard (November 5)

11. The Endangered Species Act: What Should Be Done to Save the Salmon? (November 5)

12. The Comprehensive Environmental Response, Compensation and Liability Act (Superfund): Who Should Pay, and How Much, for Past Dumping of Hazardous Substances? (November 19)

13. Climate Change I: Reducing Greenhouse Gas Emissions-- Should the U.S. Ratify the Kyoto Protocol? (November 26)

14. Climate Change II: The Role of Carbon Sinks in Climate Policy (December 3)

15. Wrapup and Conclusions: How Might Environmental Policy Be Improved? (December 10)