CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

Course Title: Seminar in Environmental Economics
EC 435
Date of Preparation: May 2009
Prepared by: Anne Bresnock

COURSE OUTLINE

I. Catalog Description

EC 435 Seminar in Environmental Economics (4)

An examination of the relationship between environmental problems and economic institutions. The theory of externalities and market failure are studied with application to air, water and hazardous waste management topics. 4 seminars. Prerequisites: EC 201 or EC 202.

II. Required Background or Experience

EC 201 or EC 202.

III. Expected Outcomes

Students in EC 435 will:

a) characterize the past and present state of environment wellbeing with respect to air, water and waste management,

b) identify and apply basic microeconomic theories to the study of environmental issues,

c) analyze environmental issues from an economic perspective in order to ascertain solutions to environmental problems,

d) extend analysis of environmental issues to include other relevant perspectives, ie. ecology, ethics, planning,

e) summarize and evaluate the implications and contributions of policy alternatives, business and industry initiatives, and technologies pertinent to managing environmental problems,

e) identify successful national and international environmental cases studies government and industry, and

f) compare and contrast the premises and recommendations of environmental economics and ecological economics.

IV. Text and Readings

Texts:

Esty, D. C. and A. S. Winston Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage (Hoboken, NJ: John Wiley and Sons, Inc., 2009).

Flavin, C. State of the World 2009: Into A Warming World (Washington, D.C. Worldwatch Institute, 2009).

Field, B. C. and M. K. Field Environmental Economics, 5th Ed. (San Francisco, CA: McGraw-Hill, 2009).

Stavins, R. N. Economics of the Environment: Selected Readings, 5th Ed. (New York, NY: W. W. Norton and Company, 2005).

Tietenberg, T. Environmental Economics and Policy, 5th Ed. (Upper Saddle River, NJ: Prentice Hall, 2007).

Tietenberg, T. Environmental and Natural Resource Economics, 7th Ed. (Upper Saddle River, NJ: Prentice Hall, 2006).

Readings:

Adler, R. W., J. C. Landman, and D. M. Cameron The Clean Water Act 20 Years Later (Covelo, CA: Island Press, 1993).

Anderson, D. A. Environmental Economics and Natural Resource Management, 3rd Ed. (New York, NY: Routledge Taylor and Francis Group, 2010).

Anderson, F. R., A. V. Kneese, P. D. Reed, P. D. Reed, S. Taylor, and R. B. Stevenson Environmental Improvement Through Economic Incentives (Baltimore, MD: The Johns Hopkins University Press,1977).

Anderson, T. L. and D. R. Leal Free Market Environmentalism, Revised Ed. (New York, NY: Palgrave, 2001).

Arnold, F. S. Economic Analysis of Environmental Policy and Regulation (New York, NY: John Wiley and Sons, Inc. 1995).

Bailey, R., Ed. The True State of the Planet: Ten of the World's Premier Environmental Researchers in a Major Challenge to the Environmental Movement (New York, NY: The Free Press, 1995).

Barnett, H. C. Toxic Debts and the Superfund Dilemma (Chapel Hill, NC: University of North Carolina Press, 1994).

Bast, J. L.., P. J. Hill, and R. C. Rue Eco-Sanity: A Common-Sense Guide to Environmentalism (Lanham, MD: Madison Books, 1994).

Bates, D. V. Environmental Health Risks and Public Policy: Decision Making in Free Societies (Seattle, WA: University of Washington Press, 1994).

Baumol, W. J. and W. E. Oates Economics, Environmental Policy, and the Quality of Life (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1979).

Becker, R. O. Cross Currents: The Perils of Electropollution ((Los Angeles, CA: Jeremy P. Tarcher, Inc., 1990).

Benedick, R. E. Ozone Diplomacy: New Directions in Safeguarding the Planet (Cambridge, MA: Harvard University Press, 1998).

Blowers, A., Ed. Planning for A Sustainable Environment (London: Earthscan Publications Ltd, 1995).

Boardman, A. E., D. H. Greenberg, A. R. Vining, and D. L. Weimer Cost-Benefit Analysis: Concepts and Practice, 2nd Ed. (Upper Saddle River, NJ: Prentice Hall, 2001).

Bowers, J. Sustainability and Environmental Economics: An Alternative Text (Essex, England: Longman, 1997).

Bromley, D. W., Ed. The Handbook of Environmental Economics (Cambridge, MA: Blackwell, 1995).

Burgenmeier, B., Ed. Economy, Environmental, and Technology (Armonk, NY: M.E. Sharpe, 1994).

Burgenmeir, B., Ed. Economy, Environment, and Technology: A Socio-Economic Approach (Armonk, NY: M. E. Sharpe, 1994).

Cairncross, F. Costing the Earth: The Challenge for Governments, the Opportunities for Business (Cambridge, MA: Harvard Business School Press, 1993).

Chapman, D. Environmental Economics: Theory, Application, and Policy (Boston, MA: Addison Wesley Longman, Inc., 1999).

Costanza, R., Ed. Ecological Economics: The Science and Management of Sustainability (New York: Columbia University Press, 1991).

Cooper, R. N. Environment and Resource Policies for the World Economy (Washington, D. C. The Brookings Institute, 1994).

Costanza, R., O. Segura and J. Martinez-Alier Getting Down to Earth: Practical Applications of Ecological Economics (Covelo, CA: Island Press, 1996).

Dasgupta, P. Human Well-Being and the Natural Environment (Oxford, UK: Oxford University Press, 2001).

Davies, J. C. and J. Mazurek Pollution Control in the United States: Evaluating the System (Washington, D. C.: Resources for the Future, 1998).

Devine, R. S. Bush Versus the Environment (New York, NY: Anchor Books, 2004).

Dixon, J. A., L. F. Scura, R. A. Carpenter, and P. B. Sherman Economic Analysis of Environmental Impacts (London, UK: Earthscan Publications Ltd., 1986).

Dorfman, R. and N. S. Dorfman, Eds. Economics of the Environment, 3rd Ed. (New York: W.W. Norton and Company, 1993).

Easterbrook, G. A Moment on the Earth: The Coming of Age of Environmental Optimism (New York: Penguin Books, 1995).

Elkington, J., J. Hailes and J. Makower The Green Consumer (New York: Penguin Books, 1990).

Elsom, D. Smog Alert: Managing Urban Air Quality (London: Earthscan Publications Ltd., 1996).

Freeman, A. M., III, R. H. Haveman and A. V. Kneese The Economics of Environmental Policy (New, NY: John Wiley and Sons, 1973).

Freeman, A. M., III The Measurement of Environmental and Resource Values 2nd Ed. (Washington, D.C. Resources for the Future, 2003).

Fischer, F. and M. Black, Eds. Greening Environmental Policy: The Politics of A Sustainable Future (New York: St. Martin's Press, 1995).

Friedman, T. L. Hot, Flat, and Crowded: Why We Need A Green Revolution – and How It Can Renew America (New York, NY: Farrar, Straus and Giroux, 2008).

Goodstein, E. S. Economics and the Environment, 5th Ed. (Hoboken, NJ: John Wiley and Sons, Inc., 2008).

Gore, A. An Inconvenient Truth (Emmanus, PA: Rodale, 2006).

Gottlieb, R. Forcing the Spring: The Transformation of the American Environmental Movement (Covelo, CA: Island Press, 1993).

Gowdy, J. and S. O'Hara Economic Theory for Environmentalists (Delray Beach, FL: St. Lucie Press, 1995).

Gramlich, E. M. A Guide to Benefit-Cost Analysis, 2nd Ed. (Englewood Cliffs, NJ: Prentice Hall, 1990).

Graves, P. E. Environmental Economics: A Critique of Benefit-Cost Analysis (Boulder, CO: Rowman and Littlefield Publishers, Inc. 2007).

Hackett, S. C. Environmental and Natural Resources Economics: Theory, Policy and the Sustainable Society, 3rd Ed. (Armonk, NY: M.E. Sharpe, 2006).

Hanley, N., J.F. Shogren and B. White Environmental Economics in Theory and Practice (New York: Oxford University Press, 1997).

Harris, J. M. Environmental and Natural Resource Economics: A Contemporary Approach, 2nd Ed. (Boston, MA: Houghton Mifflin Company, 2006).

Hollander, J. M. The Real Environmental Crisis: Why Poverty, Not Affluence, is the Environment's Number One Enemy (Berkeley, CA: University of California Press, 2003).

Hufschmidt, M. M., D. E. James, A. D. Meister, B. T. Bower, and J. A. Dixon Environment, Natural Systems, and Development: An Economic Valuation Guide (Baltimore, MD: The Johns Hopkins University Press, 1983).

Jansson, A. M., M. Hammer, C. Folke and R. Costanza Investing in Natural Capital: The Ecological Economics Approach to Sustainability (Covelo, CA: Island Press, 1994)

Johansson, R. The Economic Theory and Measurement of Environmental Benefits (Cambridge, UK: Cambridge University Press, 1987).

Johnston, B. R. Who Pays the Price? The Sociocultural Context of Environmental Crisis (Covelo, CA: Island Press, 1994).

Kahn, J. R. The Economic Approach to Environmental and Natural Resources (Mason, OH: South-Western, 2005).

Kneese, A. V. and C. L. Schultze Pollution, Prices, and Public Policy (Washington, D. C.: The Brookings Institute, 1975).

Krishnan, R., J. M. Harris and N. R. Goodwin A Survey of Ecological Economics (Covelo, CA: Island Press, 1995).

Labatt, S. and R. R. White Carbon Finance: The Financial Implications of Climate Change (New York, NY: John Wiley and Sons, Inc., 2007).

Lomborg, B., Ed. Global Crises, Global Solutions (Cambridge, UK: Cambridge University Press, 2004).

Lomborg, B. The Skeptical Environmentalist: Measuring the Real State of the World (Cambridge, UK: Cambridge University Press, 2001).

Lovelock, J. The Revenge of Gaia: Earth's Climate Crisis and the Fate of Humanity (New York, NY: Basic Books, 2006).

Lutter, R. and J. F. Shogren, Eds. –Painting the White House Green: Rationalizing Environmental Policy Inside the Executive Office of the President (Washington, D.C.: Resources for the Future, 2004).

Lynas, M. High Tide: The Truth About Our Climate Crisis (New York, NY: Picador, 2004).

Maler, K. G. Handbook of Environmental Economics, Vols. I – III (Amsterdam, NE: North-Holland, 2003 – 2006).

Makower, J. Good, Green Jobs: How Business is Putting the Environment to Work for California (Sacramento, CA: California Department of Conservation, 1995).

Mazur, A. True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948 – 1971 (Washington, D.C.: Resources for the Future, 2004).

McNeill, J. R. Something New Under the Sun: The Environmental History of the Twentieth-Century World (New York, NY: W. W. Norton and Company, 2000).

Meltz, R., D. H. Merriam, and R. M. Frank The Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation (Covelo, CA: Island Press, 1989).

Mishan, E. J. Cost-Benefit Analysis: New and Expanded Edition (New York, NY: Praeger Publishers, 1976).

Mitchell, R. C. and R. T. Carson Using Surveys to Value Public Goods: The Contingent Valuation Method (Washington, D. C.: Resources for the Future, 1989).

Morris, P. and R. Therivel Methods of Environmental Impact Assessment (Vancouver, BC: UBC Press, 1995).

Myers, N. and J. Kent Perverse Subsidies: How Tax Dollars Can Undercut the Environment and the Economy (Covelo, CA: Island Press,2001).

Nadeau, R. L. The Environmental Endgame: Mainstream Economics, Ecological Disaster, and Human Survival (New Brunswick, NJ: Rutgers University Press, 2006).

OECD Environmental Damage Costs (Paris, FR: OECD, 1974).

Oates, W. E., Ed. The RFF Reader in Environmental and Resource Policy, 2nd Ed. (Washington, D.C.: Resources for the Future, 2006).

O'Hara, K. J., S. Iudicello, and R. Bierce A Citizen's Guide to Plastics in the Ocean: More than a Litter Problem (Washington, D. C.: Center for Marine Conservation, 1988).

Panayotou, T. Green Markets: The Economics of Sustainable Development (San Francisco, CA: ICS Press, 1993).

Pearce, D. W. Blueprint for A Green Economy 4 (London: Earthscan Publications Ltd., 1995).

Pearce, D. W., A. Markandya and E. Barbier Blueprint for A Green Economy (London: Earthscan Publications Ltd., 1992).

Pearce, D. W. and D. Moran The Economic Value of Biodiversity (London: Earthscan Publications Ltd., 1994).

Pearce, D. W. and R. K. Turner Economics of Natural Resources and the Environment (Baltimore, MD: The Johns Hopkins University Press, 1990).

Portney, P. R., Ed. Public Policies for Environmental Protection (Washington, D.C.: Resources for the Future, 1990).

Rao, P. K. The Economics of Global Climate Change (Armonk, NY: M. E. Sharpe, 2000).

Ray, A. Cost-Benefit Analysis: Issues and Methodologies (Baltimore, MD: The Johns Hopkins University Press, 1984).

Regan, T., Ed. Earthbound: New Introductory Essays in Environmental Ethics (New York NY: Random House, 1984).

Ricklefs, R. E. The Economy of Nature, 3rd Ed. (New York: W.H. Freeman, 1993).

Russell, C. S. Applying Economics to the Environment (Oxford, UK: Oxford University Press, 2001).

Schoenbrod, D. Saving Our Environment from Washington: How Congress Grabs Power, Shirks Responsibility, and Shortchanges the People New Haven, CN: Yale University Press, 2005).

Shabecoff, P. Earth Rising: American Environmentalism in the 21st Century (Covelo, CA: Island Press, 2000).

Sharp, Z. Annual Editions: Environment 08/09 (Dubuque, IO: McGraw-Hill/Dushkin 2009).

Silver, C. S. and D. S. Rothman Toxics and Health: The Potential Long-Term Effects of Industrial Activity (Washington, D.C.: World Resources Institute, 1995).

Simpson, R. D., M. A. Toman and R. U. Ayres, Eds. Scarcity and Growth Revisited: Natural Resources and the Environment in the New Millennium (Washington, D. C. Resources for the Future, 2005).

Smith, Z. A. Environmental Politics and Policy in the West (Dubuque, IA: Kendall/Hunt Publishing Company, 1993).

Sinden, J. A. and A. C. Worrell Unpriced Values: Decisions without Market Prices (New York, NY: John Wiley and Sons, 1979).

Speth, J. G. Red Sky at Morning: America and the Crisis of the Global Environment (New Haven, CN: Yale University Press, 2004).

Speth, J. G. The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability (New Haven, CN: Yale University Press, 2008).

Stern, N. The Economics of Climate Change: The Stern Review (Cambridge, UK: Cambridge University Press, 2007).

Sterner, T. Policy Instruments for Environmental and Natural Resource Management (Washington, D. C.: Resources for the Future, 2003).

Tietenberg, T. H. Emissions Trading: Principles and Practice, 2nd Ed. (Washington, D.C.: Resources for the Future, 2006).

Toman, M. A., Ed. Climate Change: Economics and Policy – An RFF Anthology (Washington, D.C.: Resources for the Future, 2001).

Van De Veer, D. and C. Pierce The Environmental Ethics and Policy Book: Philosophy, Ecology, Economics (Belmont, CA: Wadsworth Publishing Company, 1994).

Weart, S. R. The Discovery of Global Warming (Cambridge , MA: Harvard University Press, 2003).

Weimer, D. L. and A. R. Vining Policy and Analysis: Concepts and Practice, 2nd Ed. (Englewood Cliffs, NJ: 1992).

Whitmore, H. W. Global Environmental Macroeconomics (Armonk, NY: M. E. Sharpe, 1999).

World Commission on the Environment and Development Our Common Future (Oxford, UK: Oxford University Press, 1987).

Zerbe, R. O., Jr. and D. D. Dively Benefit-Cost Analysis In Theory and Practice (New York: Harper Collins Publishers, 1994).

V. Minimum Student Materials

Textbooks, notebooks, and access to library materials and personal computers.

VI. Minimum College Facilities

Classroom suitable for seminar discussions and presentations equipped with computer audio-visual access, ie. "smart" classroom.

VII. Course Outline

A. Overview of Environmental Economics

1. Political, Economic, and Ecological Paradigms
2. Framework for Analyzing Environmental Problems
3. Private Property vs Common Property Rights
4. Theory of Externalities
5. Theory of Market Failure

B. The Economics of Pollution Abatement

1. Command-and-Control Policies
2. Emission vs Ambient Pollution Control Strategies
3. Tradeable Permit Markets
4. Market Incentive Pollution Policies

C. Air Quality Management

1. Characteristics and Definitions of the Problem
2. Historical Review of Command-and-Control Policies
3. Efficiency and Cost-Effectiveness of Current Policies
4. New Strategies for Pollution Abatement
5. Regional and Global Concerns
6. Stationary Sources

7. Mobile Sources

D. Water Quality Management

1. Characteristics and Definitions of the Problem
2. Historical Review of Command-and-Control Policies
3. Efficiency and Cost-Effectiveness of Current Policies
4. New Strategies For Pollution Abatement

E. Solid and Hazardous Waste Management

1. Characteristics and Definitions of the Problem
2. Historical Review of Command-and-Control Policies
3. Efficiency and Cost-Effectiveness of Current Policies
4. New Strategies for Solid and Hazardous Waste Management

F. Distributional Issues Pertaining to Pollution Control Policies

1. Income and Employment Effects
2. Inter- and Intragenerational Impacts
3. Local vs Regional vs Global Impacts

G. New Paradigms in Environmental Economics

1. Sustainable Practices
2. Ecological Economics
3. Comparison of Command-and-Control Policies and New Policy Directions

VIII. <u>Instructional Methods</u>

There are four methods of instruction. Students:

a) participate in instructor-led seminar discussions pertaining to lecture and required reading materials,
b) write statements of purpose and annotated bibliographies for their paper topics,
c) prepare written and oral presentations of a specific environmental economics issue, and
d) complete written examinations on required course materials.

IX. Evaluation of Outcomes

There are four methods of evaluations. Students will:

a) be evaluated based on oral contributions in the seminar,
b) prepare and present to the class a summary of their term paper of 10 - 15 pages on a specific environmental issue,
c) submit weekly written analysis of at least two pages on environmental reading material pertaining to their paper topics, and
d) write two essay/problem solving written examinations.