I. Catalog Description

EC 429 Seminar in Natural Resource Economics (4)

Intensive study of natural resource availability, natural resource management problems, and the roles of markets and government in the development and allocation of natural resources over time. Focus on key natural resource sectors including: energy, nonenergy minerals, forestry, and fisheries. 4 seminars. Prerequisites: EC 201 or EC 202.

II. Required Background or Experience

EC 201 or EC 202.

III. Expected Outcomes

Students in EC 429 will:

a) summarize and analyze the economic history of natural resource management problems in the U.S.,

b) analyze historical, current and future trends in use and availability of natural resources,

c) examine economic theories of natural resource allocation,

d) identify and describe solutions to problems in managing natural resources, the implications of solutions to these problems, and directions for future resource management,

e) examine the interrelationships between economic allocation decisions and policy formulation, and

f) investigate global natural resource management concerns and solutions to global management of natural resources, and

g) compare and contrast traditional and sustainable natural resource management practices.
IV. Text and Readings

Texts:


Readings:


FAO of the United Nations  
State of the World’s Forests 2009  
(Rome, IT: Food and Agriculture Organization, 2009).

Fisher, A. C.  
Resource and Environmental Economics  

Flavin, C., Ed.  
State of the World 2008: Innovations for a Sustainable Economy  
(Washington, D.C. Worldwatch Institute, 2008).

Freeman, A. M., III  
The Measurement of Environmental and Resource Values  
2nd Ed.  

Freese, B.  
Coal: A Human History  

Gibbons, D. C.  
The Economic Value of Water  

Griffin, J. M. and H. B. Steele, 2nd Edition  
Energy Economics and Policy  

Harris, J. M.  
Environmental and Natural Resource Economics: A Contemporary Approach, 2nd Ed.  

Hartwick, J. M. and N. D. Olewiler  
The Economics of Natural Resource Use, 2nd Edition  

Hoffman, A.  
Vision or Villainy: Origins of the Owens Valley  
(College Station, TX: Texas A and M University Press, 1981).

Howe, C. W.  
Managing Renewable Natural Resources in Developing Countries  
(Boulder, CO: Westview Press, 1982).

Howe, C. W.  
Natural Resource Economics  

Humphreys, M., J. S. Sachs, and J. E. Stiglitz, Eds.  
Escaping the Resource Curse  

Johnston, G. M., D. Freshwater and P. Favero  
Natural Resource and Environmental Policy Analysis: Cases in Applied Economics  

Kahn, H., W. Brown and L. Martel  
The Next 200 Years: A Scenario for American and the World  
Kahn, J. R. The Economic Approach to Environmental and Natural Resources (Mason, OH: South-Western, 2005).


Maser, C. Sustainable Forestry: Philosophy, Science and Economics (Delray Beach, FL: St. Lucie Press, 1994).


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V. Minimum Student Materials

Textbooks, notebooks, and access to reference materials and computing facilities.

VI. Minimum College Facilities

Classroom equipped with blackboards/whiteboards, overhead projector, and personal computers, both PC and Mac, with "big screen" monitor for demonstration of interactive lessons/applications of course concepts. Pull-down screen for use of audio-visual equipment, ie. overheads, newsreels.

VII. Course Outline

A. Overview of Natural Resource Field
   1. Characteristics and Definitions
   2. Major Natural Resource Issues
   3. Historical Review of Natural Resource Movements
   4. Resource Scarcity and Factors Mitigating Scarcity
   5. Roll of Economics in Natural Resource Policy Formulation and Management

B. Natural Resource Use and Production
   1. Basic Model of Natural Resource Use
   2. Nature of Natural Resource Stocks
   3. Impacts of Natural Resource Availability on Economic Growth
   4. Optional Resource Use Over Time and Market Behavior

C. Natural Resource Scarcity
   1. Empirical Scarcity Indicators
2. Factors Mitigating Natural Resource Scarcity

3. Intertemporal Comparisons of Well-Being

D. Natural Resource Management

1. Energy Resources

2. Mineral Resources

3. Forestry Resources

4. Common Property Resources

5. Fishery Resources

6. Water Resources

7. Food Resources

E. Sustainable Natural Resource Policy

1. Definition of Sustainable Natural Resource Policy

2. Guidelines for Sustainable Natural Resource Policy

3. Necessary Conditions for a Sustainable Decision-Making

VIII. Instructional Methods

There are four methods of instruction. Students will:

1. participate in seminar discussions pertaining to lecture and required reading materials,
2. prepare a written term paper and an oral presentation of their paper which will be reviewed by the instructor, and
3. complete written examinations on required course materials.

IX. Evaluation of Outcomes

There are four methods of evaluations. Students will:
1. participate in the seminar,
2. prepare and present to the class a paper of 5-7 pages on a specific natural resource issue,
3. submit weekly written analysis of at least two pages on professor directed natural resource materials, and
4) write two essay/problem-solving examinations.