



## Course Outline

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Business Undeclared  
School of Business & Economics  
ECON 6010 - **3.00** - Academic

Principles of Environmental and Natural Resource  
Economics

## Rationale

Based on recommendations from the Degree Quality Assessment Board, the following minor course changes are proposed:

- Change the course acronym from ESMN to ECON
- Change the name of the course from Principles of Economic Sustainable Management to Principles of Environmental and Natural Resource Economics
- Add a second degree to the prerequisites and change the names of the degrees

## Calendar Description

Students are introduced to normative economics and receive a board overview of different approaches to economic analysis of the environment and resources. Environmental, ecological and resource problems are discussed and economic solutions are identified, analyzed and critiqued. Topics include an introduction to economic efficiency; externalities, common resources and public good provision issues; the theory of non-renewable natural resources; cost-benefit analysis; ecological economics and green accounting; and the economics of climate change.

## Credits/Hours

**Course Has Variable Hours:** No

**Credits:** 3.00

**Lecture Hours:** 3.00

**Seminar Hours:** 0

**Lab Hours:** 0

**Other Hours:** 0

*Clarify:*

**Total Hours:** 3.00

**Delivery Methods:** (Face to Face)

**Impact on Courses/Programs/Departments:** None is expected

**Repeat Types:** A - Once for credit (default)

**Grading Methods:** (G - Graduate Programs)

## Educational Objectives/Outcomes

1. Discuss natural resources, economy, scarcity and limits to growth.
2. Describe the normative criteria for decision making.
3. Analyze the theory of environmental externalities.
4. Identify the factors that influence the allocation of non-renewable resources over time.
5. Explain the problems associated with common resources.
6. Debate the solutions to common resource problems.
7. Demonstrate how to place a value on the environment.
8. Assess the importance of cost-benefit analysis.
9. Describe the differences between environmental and ecological economics.
10. Compute sustainable economic welfare using the genuine wealth concept.
11. Assess economic and ecological systems.
12. Critique the economics of climate change.

## Prerequisites

Admission to MEEM or MScEEM or approval of degree committee

## Co-Requisites

## Recommended Requisites

## Exclusion Requisites

## Texts/Materials

### Textbooks

1. **Required** Harris, Jonathan M.. *Environmental and Natural Resource Economics, A Contemporary Approach* Houghton Mifflin Company, 2006

## Student Evaluation

The Course grade is based on the following course evaluations.

Online Discussions (10.00%) Assignments (10.00%) Poster Presentation (20.00%) Mid-term Exam (25.00%) Final Exam (35.00%)

## Course Topics

1. Changing Perspectives on the Environment
  - Economics and the environment
  - Traditional environmental economics and ecological approaches
  - Framework for understanding the ecological approach
  - Environmental microeconomics and macroeconomics
2. Review of Markets and Efficiency

- Demand and supply concepts and the role of the market
  - Willingness to pay and to accept a payment concepts
  - Producers and consumers surplus
  - Market efficiency
  - Measuring total welfare and change in welfare.
3. Theory of Environmental Externalities
- External costs and benefits
  - Positive externalities
  - Welfare analysis of externalities
  - Property rights and Coase theorem
  - Limitations of Coase theorem
4. Resource Allocation Over Time
- Allocation of nonrenewable resources
  - Hotelling's rule and time discounting
5. Common Property Resources
- Common property, open access, and property rights
  - Application on fishery
6. Public Goods Provision
- Theory of public goods
  - Free riders and game theory
  - Environment as a public good
  - Global environment policy as a public good
6. Valuing the Environment
- Introduction to cost-benefit analysis
  - Brief description of techniques of valuation
  - Balancing the present and future: the discount rate
  - Social discount rate
  - Dealing with risk and uncertainty
- Comparing cost and benefits
7. Principles of Ecological Economics
- Natural capital
  - Macroeconomics and ecology
  - Long-term sustainability and the Precautionary Principle
8. National Income and Environmental Accounting
- Greening the national income accounts
  - Applications of environmental and resource accounting
  - Measuring well-being: social and ecological dimensions
9. Modeling Economic and Ecological Systems
- Energy and resource flow analysis
  - Input-output analysis
  - Economic and ecological modeling
10. Global Climate Change Issue
- Causes and consequences of climate change
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Economic analysis of climate change

#### 11. Modeling Climate Change Impacts

- Climate change models
- Assessment of models
- Interpreting simulations results
- Weitzman's critic of integrated assessment models

### **Methods for Prior Learning Assessment and Recognition**

Students can apply for PLAR but it cannot be used to meet the program residency requirement.

### **Last Action Taken**

Implement by Graduate Studies Committee Chair Debbie (Proxy GSC Chair) Krebs

Current Date: 27-Oct-20