

## **COURSE**

NR 341 -- Ecological Economic Theory

Meetings between Gund Institute, McGill University, and York University on Wednesdays from 2:30 to 5:25 pm EST

## **INSTRUCTOR**

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204D Aiken Center, T 10:00 – 11:30 am, W 11:30 am - 1:00 pm

Also by appointment or via Skype (ID = jdericks)

## **OVERVIEW**

Ecological economics is part of an on-going effort to reconcile economic theory and policy with accepted knowledge from other disciplines. Neoclassical welfare economics dominates economic policy worldwide, but is currently in a state of crisis over the dismantling of its two fundamental pillars: (1) a theory of human behavior embodied in a narrow view of individual rationality and selfishness, and (2) a theory of economic production built on an equally narrow view of competition, efficiency, and a marginal productivity theory of distribution. Many neoclassical theorists have largely abandoned rational choice and perfect competition as characterizations of the economic process; however, economic policy recommendations are still based on these outdated representations of human behavior, commodity production, and human wellbeing.

This course will address the major points of contention between neoclassical welfare economics and ecological economics. By virtue of being the only heterodox school of economics focusing on both the human economy as a social system, and as one constrained by the biophysical world, ecological economics recasts the scope and method of economic science. Ecological economic models of behavior encompass consumption and production in the broadest sense, including their ecological, social, and ethical dimensions, as well as their market consequences. As such it is a field of inquiry encompassing heterodox schools of thought including biophysical, behavioral, evolutionary, institutional, post-Keynesian, radical, feminist, and social economics. Ecological economics has particularly distinguished itself by its problem-based approach to methodological development and inquiry. The course will first establish the core of neoclassical economic theory, and then provide a critique of the core behavior and production models. We'll then turn to building an ecological economics as a transdisciplinary foundation for economic theory and practice.

## **OBJECTIVES**

1. Develop a core understanding of the basic tenants of neoclassical economic theory.
2. Develop an interdisciplinary critique of neoclassical economic theory.
3. Develop a transdisciplinary foundation for economic problem-solving in the context of the scale and complexity of 21<sup>st</sup> century social and environmental problems.
4. Develop peer mentoring relationships and connections to the ecological economics learning community.
5. Research, develop, and present a conference-style presentation on the theory and application of ecological economics.

## **ORGANIZATION**

The class is organized around as a series of seven online modules, each including a progression of readings, pre-recorded lectures and videos, and online assignments and assessments. Each module is designed to be completed over a one or two-week period, including facilitated discussions on Wednesdays via linked classrooms at UVM, McGill, and York universities. During each module, students will post their own work to a UVM Blackboard site, critique and comment on the work of others, and both lead and fully participate in Wednesday discussions. Readings and lectures will be available in the Course Materials folder. The class will organize an online conference to be held at the end of the term with attendance from colleagues working in ecological economics and related fields. Presentations and a written research synopsis will allow each student to assess, critique, and extend an aspect of ecological economics.

## **EVALUATION**

Student evaluation will include the following components and approximate point allocations:

1. Module Blackboard assignments and assessments (7 assignments tied to modules totaling 35 pts)
2. Facilitation or co-facilitation of a Wednesday afternoon discussions (10 pts)
3. Peer review (5 pts)
4. Final presentation, research synopsis, and any intermediary milestone assignments (50 pts)

## **CLASS DISCUSSION and FACILITATION**

Throughout the class we'll be practicing an ethic of inclusiveness. Each student brings to our class their own unique and valuable experiences and perspectives. Moreover, ecological economics aspires to be a transdisciplinary field that demands consideration of a wide range of ideas and thoughts. During class discussions and group work, we'll be encouraging everyone to participate; it is also the responsibility of each student to ensure that each of their peers has a voice. During break-out discussions, each campus will select one or more moderators and reporters (depending on number of break-out groups). The moderator's job is to keep the conversation moving, insure that no sub-set of voices dominates, and draw out as many voices as possible during discussions. The reporter's job is to listen, capture the ideas and sentiments of

their colleagues, and synthesize the main points to report back to the larger class. This responsibility will change from week to week so that everyone has an opportunity.

## **SCHEDULE**

### **January 18**

Class Introduction

Objectives:

- Class introduction, technology preview, interests and ideas.
- Assign: Module 1 - Foundations of an Ecological Economics (1 week)

### **January 25**

Foundations of an Ecological Economics

Objectives:

- Build familiarity with the historical roots and differing [ontology](#), [cosmology](#), and [epistemology](#) of neoclassical vs. classical economics.
- Summarize main differences in an "economic" vs. an "ecological" worldview.
- Assess the strengths and weaknesses of disciplinary vs. transdisciplinary ways of knowing.
- Assign: Module 2 - Neoclassical Economic Theory (1 week)

Guest Lecture: [David Korten](#), Living Economies Forum

### **February 1**

Neoclassical Economic Theory

Objectives:

- Begin to learn the vocabulary of the economist.
- Gain familiarity with the core neoclassical model of the consumer and producer.
- Bring together the consumer and producer in a general equilibrium framework.
- Practice the use of graphs to explain economic concepts.
- Begin to develop the ecological economic critique of Walrasian welfare economics.
- Assign: Module 3 - Natural Resource Economics & Dynamic Optimization (2 week)

### **February 8**

Natural Resource Economics & Dynamic Optimization

Objectives:

- Describe economic allocation dynamics of renewable, nonrenewable, and environmental resources using first-order difference equations.
- Understand the assumptions and demonstrate the mathematics of intertemporal discounting.
- Solve natural resource allocation problems through dynamic optimization using the method of Lagrange multipliers and spreadsheet models.
- Summarize the critique of ecological economics on measuring economic welfare using GDP.

**February 15**

Natural Resource Economics & Dynamic Optimization (continued)

Objectives:

- Complete Module 3
- Assign: Module 4 - Environmental Economics & Market Failure (1 week)

**February 22**

Environmental Economics & Market Failure

Objectives:

- Review the basic market equation and resulting laws of supply and demand
- Introduce market failure, including public goods, externalities, and exceptions to perfect competition
- Apply concepts of market failure to the management of biotic and abiotic resources
- Assign: Module 5 - Ecological Economics & Sustainable Scale (2 week)

Guest Lecture: TBA

**March 1**

Ecological Economics & Sustainable Scale

Objectives:

- Frame the primary objective of ecological economics of "sustainable scale"
- Explore the biophysical foundations of the economy
- Build a model of the economy embedded in the biosphere and compliant with the laws of thermodynamics
- Consider implications for economic policy of an embedded worldview
- Begin to develop research topics for class papers

**March 8**

Ecological Economics & Sustainable Scale (continued)

- Complete Module 5
- Assign: Module 6 - Ecological Economics & Just Distribution (2 week)

Guest Lecture: TBA

**March 15**

NO CLASS – UVM Spring Break

**March 22**

Ecological Economics & Just Distribution

Objectives:

- Frame the secondary objective of ecological economics of "just distribution"
- Explore the philosophical roots of questions of justice and fairness

- Contrast the philosophical approach to justice (highlighted with Rawls' Theory of Justice) with sociobiological perspectives on social cooperation
- Consider the implications of an embedded human on liberty and policy
- Develop first drafts of abstracts for end-of-year research presentations

### **March 29**

Ecological Economics & Just Distribution (continued)

Objectives:

- Complete Module 6
- Assign: Module 7 - Ecological Economics & Efficient Allocation (1 week)

Guest Lecture: TBA

### **April 5**

Ecological Economics and Efficient Allocation

Objectives:

- Revisit the core goal of efficient allocation from mainstream economics, now with a full ecological economics lens
- Consider the role of cost-benefit analysis in the formation and design of economic and environmental policy
- Finish annotated bibliographies for research presentations, and begin to draft presentation outlines

### **April 12**

Online Conference Planning

Objectives:

- Finish any outstanding conversations on course material
- Design “Economics for the Anthropocene” online conference, including invitations
- Assign final presentations for 4/26 and 5/3

### **April 19**

Online Conference Planning

Objectives:

- Rehearse and peer review of online conference presentations
- Final preparations for conference

### **April 26**

Online conference, day 1

### **May 3**

Online conference, day 2

### **May 12**

Research synopsis and final bibliography due