ECOLOGICAL ECONOMICS

http://www.uvm.edu/giee/

OVERVIEW

Ecological Economics examines the relationships between ecological, social, and economic systems while working to solve humanity’s environmental challenges. It is based on the understanding that the socio-economic system is a subsystem of a larger ecological life support system, and strives to create an ecologically sustainable, socially equitable, and economically efficient future. The certificate is a problem-based, interdisciplinary program focused on developing a practical framework for integrating socio-economic and ecological systems. Students will acquire a theoretical and pragmatic basis to carry these skills into the world of practice.

DEGREES

Ecological Economics CGS

FACULTY

Erickson, Jon; Professor, Gund Institute; PHD, Cornell University
Farley, Joshua C.; Professor, Department of Community Development and Applied Economics; PHD, Cornell University
Galford, Gillian Laura; Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Brown University
Gould, Rachelle; Assistant Professor, Rubenstein School of Environment and Natural Resources; PHD, Stanford University
Panikkar, Bindu; Assistant Professor, Rubenstein School of Environment and Natural Resources; PHD, Tufts University
Ricketts, Taylor H.; Professor, Rubenstein School of Environment and Natural Resources; PHD, Stanford University
Zia, Asim; Professor, Department of Community Development and Applied Economics; PHD, Georgia Institute of Technology

Community Development Applied Economics Courses

CDAE 5990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

CDAE 6210. Econ of Sustainable Food Syst. 3 Credits.
Utilizes common economic tools, ideas and applications to analyze issues concerning the sustainability of food using a combination of readings, lectures and discussions. Cross-listed with: FS 6210.

CDAE 6260. Community Economic Development. 3 Credits.
Examines how rural and urban communities address poverty, unemployment and other economic problems through job creation and retention, workforce training and support, and other development strategies. Cross-listed with: PA 6260.

CDAE 6350. Qualitative Research Methods. 3 Credits.
Provides an overview of qualitative research methods and an opportunity to apply such research methods for topics focusing on food systems and health. Cross-listed with: FS 6350.

CDAE 6391. Master’s Thesis Research. 1-18 Credits.
Research for the Master’s Thesis.
CDAE 7000. Sustainable Dev PEG Doc Sem. 1 Credit.
Focus will rotate among three main themes: project resource
development skills and techniques (e.g. grant writing and
management); stakeholder engagement; and dissertation proposal
preparation. Prerequisite: Sustainable Development Policy,
Economics, & Governance Doctoral student.

CDAE 7491. Doctoral Dissertation Research. 1-18 Credits.
Research for the Doctoral Dissertation.

CDAE 7700. Political Econ of Sustain Dev. 3 Credits.
Introduction to the political economy of sustainable development
from the theoretical perspective of complex adaptive socio-ecological
systems. Political economy assesses relationships between the state,
market, and civil society to understand how humans satisfy their
material needs (human provisioning) through interaction with their
social and natural environments.

CDAE 7710. Sustain Dev Policy & Gov. 3 Credits.
History, evolution and foundations of sustainable development policy
at multiple levels of governance, ranging from the United Nations
to local communities/cities. Learn about analyzing/evaluating
wide range of sustainable development policies. Emphasis on
understanding complex system dynamics modeling and adaptive
management approaches to address sustainable development
challenges.

CDAE 7990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

CDAE 7991. Internship. 1-18 Credits.
On-site supervised work experience combined with a structured
academic learning plan directed by a faculty member or a faculty-staff
team in which a faculty member is the instructor of record, for which
academic credit is awarded. Offered at department discretion.

CDAE 7993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student,
which occurs outside the traditional classroom/laboratory setting
under the supervision of a faculty member, for which credit is
awarded. Offered at department discretion.

CDAE 7995. Graduate Independent Research. 1-18 Credits.
Graduate student work on individual or small team research projects
under the supervision of a faculty member, for which credit is
awarded. Offered at department discretion.

Natural Resources Courses
NR 5450. Data Vis & Communication. 3 Credits.
Focuses on fundamentals and practice of data visualization and
communication. Learn the ways humans use cognitive and perceptual
abilities to comprehend information, best practices for creating
compelling and effective data visualizations, and the many nuanced
factors influencing the successful application of practices. Includes
work with an existing research data set. Prerequisite: Graduate
student or Instructor permission.

NR 5460. Geospatial Computation. 3 Credits.
Geospatial Computation is the study of general computational
methods applied to spatial and spatiotemporal data for exploratory,
confirmatory, descriptive or predictive analysis. Introduces
foundational concepts applications in spatial data science within the
context of GIS. Computational approaches in spatial simulation,
exploratory data analysis, predictive analysis and geospatial
data visualization. Prerequisite: Graduate student or Instructor
permission.

NR 5990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

NR 6060. Envisioning a Sust Future. 2 Credits.
Seminar orienting Graduate students to RSENR and providing
frameworks for collaborative leadership, whole systems thinking, and
intercultural competency.

NR 6070. Applied Ecol., Env. & Society. 2 Credits.
Critically examines the process and ethics of science, including
scientific reasoning, theory, hypotheses, and integration with
experimental design, discovery, and ethics. Students will begin to
form their professional networks and understand the historical and
contemporary influences of professional networks on research and
scholarship.

NR 6110. Leadership for Sustainability. 3 Credits.
Provides an experiential and theoretical orientation to foundational
practices, principles, and skills of sustainability leadership with
an emphasis on ecological/systems thinking, sustainability, and
leadership.

NR 6120. Power Privilege & Catalyz Change. 3 Credits.
Focuses on leadership skills and systems frameworks for engaging
with issues of diversity, power, and privilege and the implications of
these topics on leaders’ capacity. Designed to meet the Rubenstein
School of Environment & Natural Resources graduate diversity
requirement. Prerequisite: NR 6110.

NR 6391. Master's Thesis Research. 1-18 Credits.
Research for the Master’s Thesis.

NR 6392. Master's Project Research. 1-12 Credits.
Research for the Master's Project.

NR 6410. Ecological Economic Theory. 3 Credits.
A transdisciplinary study of the economic system as embedded and
interdependent on social institutions and environmental systems.

NR 6420. Ecosystem Services. 3 Credits.
Examines the economic and other benefits nature provides to people.
Covers the ecological foundations of quantifying ecosystem services,
the economics of valuing them, and the practical issues involved
with putting them to work for conservation. Prerequisite: Instructor
permission.

NR 6430. Fndmtls of Geog Info Systems. 0 or 3 Credits.
Concepts and methods in Geographic Information Systems (GIS)
presented at an accelerated pace for Graduate students using ArcGIS
software.
NR 6720. Transdisc Leadshp & Creatvty. 3 Credits.
Explores the theoretical and practice-based fields and lineages associated with transdisciplinary leadership and creativity while providing a solid structural and relational grounding for students in the Transdisciplinary Leadership, Creativity & Sustainability Doctoral Program.

NR 6730. Transdisc Mthds&Modes of Inqry. 3 Credits.
Focuses on practices for engaging with inquiry, methods, and practice as students develop more clarity about the research questions, practices, structure, methods, and lineages that will inform their dissertation proposal and research.

NR 6760. Graduate Teaching Practicum. 2 Credits.
Natural Resource teaching practicum for Doctoral students in the Rubenstein School. Course is required if students are following the academic option. Should be taken concurrently or one semester in advance of completion of the doctoral teaching requirement. Prerequisite: Doctoral student.

NR 6880. Ecological Leadership Seminar. 3 Credits.
Explores emerging topics and themes related to the theory and practice of ecological leadership. Can be taken in successive semesters (up to two times), as learning module topics will change.

NR 6890. Ecological Ldership Practicum. 3 Credits.
An advanced exploration of ecological/systems thinking, sustainability, leadership skills, and leveraging change; offering students the opportunity to integrate these concepts and skills through an applied leadership practicum. Prerequisite: NR 6880.

NR 6990. Special Topics. 1-18 Credits.
Graduate topics and material that may eventually develop into a regular course offering.

NR 6991. Internship. 1-18 Credits.
On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

NR 6993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NR 6995. Graduate Independent Research. 1-18 Credits.
Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NR 7491. Doctoral Dissertation Research. 1-18 Credits.
Research for the Doctoral Dissertation.

NR 7740. Creative Practice & Dissertatn. 3 Credits.
For Doctoral students nearing the end of dissertation research and beginning the integration, diffraction, synthesis, and meaning-making process essential to their dissertation. Provides structure, support and feedback in the creative act of crafting a dissertation. Prerequisites: NR 6720, NR 6730.

NR 7990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

NR 7991. Internship. 1-18 Credits.
On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

NR 7995. Graduate Independent Research. 1-18 Credits.
Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.