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 online 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

Ament, Joseph; Assistant Professor, Department of Community Development and Applied Economics; PHD, University of Vermont
Burke, Matthew; Research Assistant Professor, Department of Community Development and Applied Economics; Ph.D., McGill University
Erickson, Jon; Professor, Gund Institute; PHD, Cornell University
Farley, Joshua C.; Professor, Department of Community Development and Applied Economics; PHD, Cornell University
Fisher, Brendan; Professor, Rubenstein School of Environment and Natural Resources; PHD, University of Vermont
Galford, Gillian Laura; Research Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Brown University
Gould, Rachelle; Associate Professor, Rubenstein School of Environment and Natural Resources; PHD, Stanford University
Jolly, Helina; Assistant Professor, Rubenstein School of Environment and Natural Resources; University of British Columbia
Panikkar, Bindu; Associate 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 6510. Research & Evaluation Methods. 0 or 3 Credits.
Conceptualization, collection and analysis of primary and secondary data; interpretation, and communication of results of applied research and/or evaluation studies for decision makers. Separate lab required. Prerequisite: Three hours of Statistics. Cross-listed with: PA 6030.

CDAE 6540. Advanced Microeconomics. 3 Credits.
Principles and applications of advanced microeconomics: consumer and market demand, firm and market supply, perfect and imperfect markets, partial and general equilibrium, and policy analysis.

CDAE 6590. Applied Econometrics. 3 Credits.
Presents common econometric methods to perform regression analysis on empirical data. Upon completion, students will understand and apply econometric methods to conduct rigorous regression analysis. Students will also better read, interpret and discern research papers' quality using econometric methods.

CDAE 6760. Inclusive ScienceCommunication. 3 Credits.
Advanced exploration, application of science communication theories, contexts, practices with a focus on inclusion, equity, and intersectionality. Examine the relationship between science and society while learning communication skills that promote respect and shared understandings of science among researchers, extension professionals, journalists, public relations specialists, policy officials, and public.

CDAE 6890. Practicum in Extension Educ. 1-12 Credits.

CDAE 6920. Graduate Seminars. 1 Credit.
Report and discuss research projects and findings of Graduate students and faculty, and offer workshops on selected topics in community development and applied economics. May enroll more than once for up to three credits.

CDAE 6990. Special Topics. 1-18 Credits.
Lectures or readings on contemporary issues in Community Development & Applied Economics.

CDAE 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.

CDAE 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.

CDAE 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.

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 5993. 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 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 Privlge & 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 6510. Ecological Economics Methods. 3 Credits.
A survey of frameworks and tools used to analyze and understand linked social and natural systems.

NR 6520. Ecological Economics Practice. 3 Credits.
An applied field course drawing from Ecological Economics theory and methods to help solve real-world problems at the interface among ecological, social, and economic systems.

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.