

Env Std 900/CES 948/Soc 948
SEMINAR: ECOLOGICAL ECONOMICS
TIME: WEDNESDAYS 3:00-5:30PM
LOCATION: SCIENCE HALL 110

Instructor: Phil Warsaw, pmwarsaw@gmail.com
Co-Instructor: Mike Bell, michaelbell@wisc.edu

Ecological Economics has emerged over the last three decades as a subfield of economics seeking to *integrate* ecological truths into economic theory. Given the inherent connection between both the social and natural sciences in exploring ecological systems, ecological economics operates as an interdisciplinary at the nexus of the social and natural sciences.

This course is designed to introduce students to the complex dynamics of ecological economics: its promise, potential, and challenges. The organization of the course falls into three parts:

- where the field *has been*
- where the field *is going*
- where the field *might go*

The first third of the course is dedicated to teaching the historical and theoretical foundations of the field. This includes the break of ecological economics from environmental economics, along with the foundational challenges ecological economics seeks to address, such as the limits to economic growth, the embeddedness of the economy within ecological systems, and the necessity of environmental justice. During this portion of the course, class will be centered around small group discussion, followed by a short lecture and larger group discussion.

The second third of the course is dedicated to cutting edge topics in the field, as dictated by the students' interests. Pairs of students, or a student alone, will choose and research a topic, and meet with the instructors outside of class to select the readings and discuss the format of the course that week. We will still use small group discussions each week, but other activities will depend on the plan by student presenters on a week to week basis.

The class will conclude with a couple of weeks on the future of the field. Of particular focus here will be the ongoing tensions within the field as to its future direction, and the role of both neoclassical and heterodox economic theories in it. At this point the course will return to the initial structure, centered around small group discussions and short lectures, though the topics will be subject in part to student interests.

Despite being an 'economics' course, extensive knowledge of quantitative methods is not necessary to succeed in this course. Similarly, this is not a class designed to train students in the execution of specific modeling tools. Rather, this is a survey course, designed to demonstrate the major thought through lines within the field, and provide potential points of connection with the existing research interests of the students.

A Note on Student Evaluation

Your grade for this course will be based on the following: weekly responses (30%), in-class presentation (30%) the final paper (35%), and class participation (5%).

If you are taking this class for three credit-hours, you will be required to complete each of the graded activities listed above. If you are taking this class for two credit-hours, you will only be required to complete the in-class presentation and weekly responses. If you are taking this class for one credit-hour, you will only be required to do the weekly responses.

A Note on the Intellectual Journal: Each week, you will be asked to write a short response to the readings of the *previous* week. The weekly journal entry should be in the range 350 - 650 words (about a page and a half). But entries can be as long as you like. Your goal should be to integrate some theme of the week's learning that demonstrates your critical inquiry. The best entries will develop one theme or argument, rather than a scatter of observations. Also, it is important to *document* your theme or argument and to explain your *reasoning*. These journals will provide the basis for small group discussion at the beginning of each class.

A Note on the Final Paper

The central written work of the course will be an original piece of writing by the students, of a length between 10 and 15 pages. This paper should clearly integrate the readings and themes of this course into its composition. However, the format of the paper is entirely up to the students. Examples include a grant proposal, pages from a publishable paper or thesis chapter, or simply an investigation into a topic of interest to the student which may eventually become one of these things. Given the open-ended nature of this prompt, we ask that students meet with the instructors individually about a month into the semester to discuss ideas that you may have for how you wish to proceed. At that point the instructors will either approve of the project or provide feedback on how to strengthen the idea and ask for you to resubmit your idea. This conversation will compose 5 of the 35% for the final paper grade. The final paper is due a week after the last class of the semester.

A Note on Discussion Format

The bulk of each class session will be devoted to an open discussion of the day's reading, in a sequence we might call *reflection* (what the reading says), *refraction* (what the reading should have said), and *projection* (what the reading means for our own work). The daily pattern will thus normally be as follows:

- meeting of the small groups
- discussion of points brought back to the full group from the muddles
- reflection, led by myself or the student organizers for that week
- refraction and projection

A Note on Class Participation

Your grade for class participation will not be a measure of how loud you were, or of how often you spoke. Rather, it will reflect the extent to which you were "there." Grading in this area will be based on the initial assumption that everyone will get full credit, with deductions made for negligent or "unthere" performance, if necessary. (If we think things aren't going well in this area, we'll let you know, and we can talk about it.)

A Note on Getting Ahold of the Readings

All readings will be made available via Canvas no later than a week before the course you are asked to read them, and ideally much sooner than that.

Schedule of Course Readings

Week 1: Origins of Ecological Economics

Faber, M., 2008. How to be an ecological economist. *Ecological Economics*, 66(1), pp.1-7.

Costanza, R., 1989. What is ecological economics? *Ecological economics*, 1(1), pp.1-7.

Røpke, I., 2004. The early history of modern ecological economics. *Ecological economics*, 50(3), pp.293-314.

Røpke, I., 2005. Trends in the development of ecological economics from the late 1980s to the early 2000s. *Ecological economics*, 55(2), pp.262-280.

Week 2: Embedded Economic Systems: Steady State and Degrowth Economics

Cleveland, C.J. and Ruth, M., 1997. When, where, and by how much do biophysical limits constrain the economic process?: A survey of Nicholas Georgescu-Roegen's contribution to ecological economics. *Ecological Economics*, 22(3), pp.203-223.

Daly, H.E., 2007. From a Failed-Growth Economy to a Steady-State Economy, pp. 1-7

Daly, H.E., 1992. Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable. *Ecological economics*, 6(3), pp.185-193.

Kallis, G., Kerschner, C. and Martinez-Alier, J., 2012. The economics of degrowth, pp. 172-180

Kallis, G., 2011. In defence of degrowth. *Ecological Economics*, 70(5), pp.873-880.

Van den Bergh, J.C., 2011. Environment versus growth—A criticism of “degrowth” and a plea for “a-growth”. *Ecological economics*, 70(5), pp.881-890.

Wetzel, K.R. and Wetzel, J.F., 1995. Sizing the earth: recognition of economic carrying capacity. *Ecological Economics*, 12(1), pp.13-21.

Week 3: Ecosystem Services

Bingham, G., Bishop, R., Brody, M., Bromley, D., Clark, E.T., Cooper, W., Costanza, R., Hale, T., Hayden, G., Kellert, S. and Norgaard, R., 1995. Issues in ecosystem valuation: improving information for decision making. *Ecological economics*, 14(2), pp.73-90.

Bennett, E.M. and Balvanera, P., 2007. The future of production systems in a globalized world. *Frontiers in Ecology and the Environment*, 5(4), pp.191-198.

Costanza, R., de Groot, R., Sutton, P., van der Ploeg, S., Anderson, S.J., Kubiszewski, I., Farber, S. and Turner, R.K., 2014. Changes in the global value of ecosystem services. *Global environmental change*, 26, pp.152-158.

Costanza, R., d'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R.V., Paruelo, J. and Raskin, R.G., 1997. The value of the world's ecosystem services and natural capital. *nature*, 387(6630), pp.253-260.

Norgaard, R.B., 2010. Ecosystem services: From eye-opening metaphor to complexity blinder. *Ecological economics*, 69(6), pp.1219-1227.

McCauley, D.J., 2006. Selling out on nature. *Nature*, 443(7107), pp.27-28.

Silvertown, J., 2015. Have ecosystem services been oversold?. *Trends in ecology & evolution*, 30(11), pp.641-648.

Matulis, B.S., 2014. The economic valuation of nature: A question of justice?. *Ecological Economics*, 104, pp.155-157.

Corbera, E., 2015. Valuing nature, paying for ecosystem services and realizing social justice: a response to Matulis (2014). *Ecological Economics*, 110, pp.154-157.

Matulis, B.S., 2015. Valuing nature: A reply to Esteve Corbera. *Ecological Economics*, 110, pp.158-160.

Week 4: Environmental Justice

Anguelovski, I. and Alier, J.M., 2014. The 'Environmentalism of the Poor' revisited: Territory and place in disconnected glocal struggles. *Ecological Economics*, 102, pp.167-176.

Martinez-Alier, J., Healy, H., Temper, L., Walter, M., Rodriguez-Labajos, B., Gerber, J.F. and Conde, M., 2011. Between science and activism: Learning and teaching ecological economics with environmental justice organisations. *Local Environment*, 16(1), pp.17-36.

Paavola, J. and Adger, W.N., 2005. Institutional ecological economics. *Ecological economics*, 53(3), pp.353-368.

Pelletier, N., 2010. Environmental sustainability as the first principle of distributive justice: Towards an ecological communitarian normative foundation for ecological economics. *Ecological Economics*, 69(10), pp.1887-1894.

Warsaw, P.M. Forthcoming 2019. *Ecological Economics and Environmental Sociology: A Social Power Structures Approach to Environmental Justice in Economic Systems*. The Cambridge Handbook of Environmental Sociology. Legun, Katharine, Julie Keller, Michael M. Bell, and Michael S. Carolan, eds. New York and Cambridge: Cambridge University Press.

Weeks 5-9 (approx.): Student Presentations (sample below from Fall 2017 semester)

Week 5: Population Dynamics and Ecological Economics

Muradian, R., Neumayer, E. and Ropke, I., 2006. Migration, globalization and the environment—introduction to the special issue. *Ecological Economics*, 59(2), pp.185-186.

Daly, H.E., 2006. Population, migration, and globalization. *Ecological Economics*, 59(2), pp.187-190.

Røpke, I., 2006. Migration and sustainability—compatible or contradictory?. *Ecological Economics*, 59(2), pp.191-194.

Pimentel, D. and Pimentel, M., 2006. Global environmental resources versus world population growth. *Ecological economics*, 59(2), pp.195-198.

Matutinović, I., 2006. Mass migrations, income inequality and ecosystems health in the second wave of a globalization. *Ecological Economics*, 59(2), pp.199-203.

Heilmann, C., 2006. Remittances and the migration–development nexus—Challenges for the sustainable governance of migration. *Ecological Economics*, 59(2), pp.231-236.

Abernethy, V.D., 2006. Immigration reduction offers chance for softer landing. *Ecological Economics*, 59(2), pp.226-230.

Alcott, B., 2012. Population matters in ecological economics. *Ecological Economics*, 80, pp.109-120.

Week 6: Sustainable Agriculture

Bloemmen, M., Bobulescu, R., Le, N.T. and Vitari, C., 2015. Microeconomic degrowth: the case of community supported agriculture. *Ecological Economics*, 112, pp.110-115.

Krishna, V.V., Drucker, A.G., Pascual, U., Raghu, P.T. and King, E.I.O., 2013. Estimating compensation payments for on-farm conservation of agricultural biodiversity in developing countries. *Ecological Economics*, 87, pp.110-123.

Moon, W., 2011. Is agriculture compatible with free trade?. *Ecological Economics*, 71, pp.13-24.

Shi, T., 2002. Ecological agriculture in China: bridging the gap between rhetoric and practice of sustainability1. *Ecological Economics*, 42(3), pp.359-368.

Jouzi, Z., Azadi, H., Taheri, F., Zarafshani, K., Gebrehiwot, K., Van Passel, S. and Lebailly, P., 2017. Organic farming and small-scale farmers: Main opportunities and challenges. *Ecological economics*, 132, pp.144-154.

Dale, V.H. and Polasky, S., 2007. Measures of the effects of agricultural practices on ecosystem services. *Ecological economics*, 64(2), pp.286-296.

Kragt, M.E. and Robertson, M.J., 2014. Quantifying ecosystem services trade-offs from agricultural practices. *Ecological economics*, 102, pp.147-157.

Week 7: Trade and Unequal Exchange

Andersson, J.O. and Lindroth, M., 2001. Ecologically unsustainable trade. *Ecological Economics*, 37(1), pp.113-122.

Gale, F.P., 2000. Economic specialization versus ecological diversification: the trade policy implications of taking the ecosystem approach seriously. *Ecological Economics*, 34(3), pp.285-292.

Hornborg, A., 1998. Towards an ecological theory of unequal exchange: articulating world system theory and ecological economics. *Ecological economics*, 25(1), pp.127-136.

Hornborg, A., 2014. Ecological economics, Marxism, and technological progress: Some explorations of the conceptual foundations of theories of ecologically unequal exchange. *Ecological economics*, 105, pp.11-18.

Oulu, M., 2015. The unequal exchange of Dutch cheese and Kenyan roses: Introducing and testing an LCA-based methodology for estimating ecologically unequal exchange. *Ecological Economics*, 119, pp.372-383.

Rammelt, C.F. and Boes, J., 2013. Galtung meets Daly: A framework for addressing inequity in ecological economics. *Ecological economics*, 93, pp.269-277.

Samaniego, P., Vallejo, M.C. and Martínez-Alier, J., 2017. Commercial and biophysical deficits in South America, 1990–2013. *Ecological Economics*, 133, pp.62-73.

Week 8: Water Systems

Bark, R.H., Robinson, C.J. and Flessa, K.W., 2016. Tracking cultural ecosystem services: water chasing the Colorado River restoration pulse flow. *Ecological Economics*, 127, pp.165-172.

Garrick, D., Siebentritt, M.A., Aylward, B., Bauer, C.J. and Purkey, A., 2009. Water markets and freshwater ecosystem services: Policy reform and implementation in the Columbia and Murray-Darling Basins. *Ecological Economics*, 69(2), pp.366-379.

Prato, T., 2003. Multiple-attribute evaluation of ecosystem management for the Missouri River system. *Ecological Economics*, 45(2), pp.297-309.

Honey-Rosés, J., Acuña, V., Bardina, M., Brozović, N., Marcé, R., Munné, A., Sabater, S., Termes, M., Valero, F., Vega, À. and Schneider, D.W., 2013. Examining the demand for ecosystem services: the value of stream restoration for drinking water treatment managers in the Llobregat River, Spain. *Ecological Economics*, 90, pp.196-205.

Zander, K.K. and Straton, A., 2010. An economic assessment of the value of tropical river ecosystem services: Heterogeneous preferences among Aboriginal and non-Aboriginal Australians. *Ecological Economics*, 69(12), pp.2417-2426.

Antunes, P., Kallis, G., Videira, N. and Santos, R., 2009. Participation and evaluation for sustainable river basin governance.

Week 9: Cities and Ecological Economics

Button, K., 2002. City management and urban environmental indicators. *Ecological economics*, 40(2), pp.217-233.

Vojnovic, I. and Darden, J.T., 2013. Class/racial conflict, intolerance, and distortions in urban form: Lessons for sustainability from the Detroit region. *Ecological economics*, 96, pp.88-98.

Depietri, Y., Kallis, G., Baró, F. and Cattaneo, C., 2016. The urban political ecology of ecosystem services: The case of Barcelona. *Ecological Economics*, 125, pp.83-100.

Jansson, Å., 2013. Reaching for a sustainable, resilient urban future using the lens of ecosystem services. *Ecological Economics*, 86, pp.285-291.

Fremstad, A., Underwood, A. and Zahran, S., 2018. The environmental impact of sharing: household and urban economies in CO 2 emissions. *Ecological Economics*, 145, pp.137-147.

Colding, J., Barthel, S., Bendt, P., Snep, R., van der Knaap, W. and Ernstson, H., 2013. Urban green commons: Insights on urban common property systems. *Global Environmental Change*, 23(5), pp.1039-1051.

Weeks 10-14: Instructor-led with student input (From Fall 2017 semester)

Week 10: The role of neoclassical economics in Ecological Economics

Spash, C.L., 2013. The shallow or the deep ecological economics movement?. *Ecological Economics*, 93, pp.351-362.

Anderson, B. and M'Gonigle, M., 2012. Does ecological economics have a future?: Contradiction and reinvention in the age of climate change. *Ecological Economics*, 84, pp.37-48.

Pirgmaier, E., 2017. The neoclassical Trojan horse of steady-state economics. *Ecological Economics*, 133, pp.52-61.

Gómez-Baggethun, E. and Muradian, R., 2015. In markets we trust? Setting the boundaries of market-based instruments in ecosystem services governance.

Spash, C.L., 2011. Social ecological economics: Understanding the past to see the future. *American Journal of Economics and Sociology*, 70(2), pp.340-375.

Week 11: Ecofeminism, Feminist and Ecological Economics

Nelson, J.A., 2005. What is Feminist Economics? PDF provided to students.

McMahon, M., 1997. From the ground up: ecofeminism and ecological economics. *Ecological Economics*, 20(2), pp.163-173.

Mellor, M., 1997. Women, nature and the social construction of 'economic man'. *Ecological Economics*, 20(2), pp.129-140.

Nelson, J.A., 1997. Feminism, ecology and the philosophy of economics. *Ecological Economics*, 20(2), pp.155-162.

Nelson, J.A., 2008. Economists, value judgments, and climate change: a view from feminist economics. *Ecological Economics*, 65(3), pp.441-447.

Veuthey, S. and Gerber, J.F., 2010. Logging conflicts in Southern Cameroon: a feminist ecological economics perspective. *Ecological Economics*, 70(2), pp.170-177.

Nelson, J.A., 2009. Between a rock and a soft place: Ecological and feminist economics in policy debates. *Ecological Economics*, 69(1), pp.1-8.

Perkins, E., Kuiper, E., Quiroga-Martínez, R., Turner, T.E., Brownhill, L.S., Mellor, M., Todorova, Z., Jochimsen, M.A. and McMahon, M., 2005. Introduction: exploring feminist ecological economics/gender, development, and sustainability from a latin american perspective/african peasants and global gendered class struggle for the commons/ecofeminist political economy: integrating feminist economics and ecological economics/habits of thought, agency, and transformation: an institutional approach to feminist ecological economics/the network vorsorgendes wirtschaften/engendering organic farming. *Feminist Economics*, 11(3), pp.107-150.

Week 12: The Stern Review and Discount Rates

Stern, N., 2006. Stern Review executive summary. New Economics Foundation, London.

Nordhaus, W.J., 2007. Critical assumptions in the Stern review on climate change. *Science Magazine's State of the Planet 2008-2009: With a special section on energy and sustainability*.

Nordhaus, W.D., 2007. A review of the Stern review on the economics of climate change. *Journal of economic literature*, 45(3), pp.686-702.

Baum, S.D., 2009. Description, prescription and the choice of discount rates. *Ecological Economics*, 69(1), pp.197-205.

Hampicke, U., 2011. Climate change economics and discounted utilitarianism. *Ecological Economics*, 72, pp.45-52.

Lumley, S., 1997. The environment and the ethics of discounting: an empirical analysis. *Ecological Economics*, 20(1), pp.71-82.

Moxnes, E., 2014. Discounting, climate and sustainability. *Ecological economics*, 102, pp.158-166.

Week 13: Indigenous Rights in Ecological Economics

Andreucci, D. and Kallis, G., 2017. Governmentality, development and the violence of natural resource extraction in Peru. *Ecological Economics*, 134(C), pp.95-103.

Choy, Y.K., 2018. Cost-benefit Analysis, Values, Wellbeing and Ethics: An Indigenous Worldview Analysis. *Ecological Economics*, 145, pp.1-9.

Coria, J. and Calfucura, E., 2012. Ecotourism and the development of indigenous communities: The good, the bad, and the ugly. *Ecological Economics*, 73, pp.47-55.

Hardy, D.J. and Patterson, M.G., 2012. Cross-cultural environmental research in New Zealand: Insights for ecological economics research practice. *Ecological Economics*, 73, pp.75-85.

Takeda, L. and Røpke, I., 2010. Power and contestation in collaborative ecosystem-based management: The case of Haida Gwaii. *Ecological Economics*, 70(2), pp.178-188.

Temper, L. and Martinez-Alier, J., 2013. The god of the mountain and Godavarman: Net Present Value, indigenous territorial rights and sacredness in a bauxite mining conflict in India. *Ecological Economics*, 96, pp.79-87.

Zander, K.K., Dunnett, D.R., Brown, C., Champion, O. and Garnett, S.T., 2013. Rewards for providing environmental services—Where indigenous Australians' and western perspectives collide. *Ecological Economics*, 87, pp.145-154.

Zerbe, N., 2005. Biodiversity, ownership, and indigenous knowledge: exploring legal frameworks for community, farmers, and intellectual property rights in Africa. *Ecological Economics*, 53(4), pp.493-506.

Week 14: Synthesis, Review, and Looking Forward

Gruszka, K., Scharbert, A.R. and Soder, M., 2017. Leaving the mainstream behind? Uncovering subjective understandings of economics instructors' roles. *Ecological Economics*, 131(C), pp.485-498.

Kallis, G., Gómez-Baggethun, E. and Zografos, C., 2013. To value or not to value? That is not the question. *Ecological economics*, 94, pp.97-105.

M'Gonigle, R.M., 1999. Ecological economics and political ecology: towards a necessary synthesis. *Ecological Economics*, 28(1), pp.11-26.

Speth, J.G., 2012. American passage: towards a new economy and a new politics. *Ecological Economics*, 84, pp.181-186.

Weiss, M. and Cattaneo, C., 2017. Degrowth—taking stock and reviewing an emerging academic paradigm. *Ecological Economics*, 137, pp.220-230.