ECON 350, Sustainable Development: Tentative Syllabus

Course Description
This course provides an overview of the economics of sustainable development. We review the interactions between the environment, the economy, human resources, and public policy. Ecological constraints (climate, disease ecology, physical resources) significantly shape the economic development, wealth and poverty and anthropogenic activities (farming, resource depletion, demographic stresses, and energy use) change the physical environment. We compare and contrast sustainability science and the public economics of sustainable development with other representations of sustainability including the 3R’s, Natural Capitalism, self-sufficiency and moral imperatives. We consider why Hawaii is widely regarded as an ecological basket case and what solutions are suggested by environmental economics. Topics include the economic, environmental, and cultural dimensions of sustainability; global warming and energy use: water resources and watersheds; traffic congestion and other environmental problems in Hawaii; biodiversity and endangered species; pollution solutions; unsustainable recycling; and “smart,” “greedy,” and “win-win” growth.

Learning objectives
(1) learn to distinguish and critically evaluate alternative approaches to sustainable development; (2) apply microeconomics to evaluate policies for pollution control, climate change mitigation, recycling, water resource management, invasive species control, the conservation/ restoration of natural capital and (3) engage in critical thinking and applications of public policy analysis to other aspects of sustainable development.

Required text

Laulima resources
Most of the references in this syllabus are already linked to laulima. If you are not directed to the specified resource, access laulima at https://laulima.hawaii.edu/portal. Provide your UH user id and password. Click the menu tab Econ-350. Click the “Resources” tab on the left then click “Lecture” or “References” folder.

Requirements and weights
Quizzes (5): 33%2
Final: 30%3
Project/paper: 24%4
Homework and citizenship: 13%5

1 Office hrs: W 1:30-3 and by appt.; 514 Saunders. Additional contact: Majah Ravago, majah@hawaii.edu
2 No make-up quizzes. Pre-excused and doctor-documented absences will be taken into account for grading purposes.
3 Final is comprehensive. See UHM Schedule of Classes for schedule. Dec. 17, 2009, 9:45-11:45am.
4 Each group produces a paper and makes a Power Point presentation. Groups will select group leaders and discuss tentative roles for each member. The acknowledgement section of the term paper should include a description of the roles played by members, including team coordinator. Proposals due at the beginning of the 5th week. Presentation Power Points due on day of presentation. Revised Power Pt due one week later. Term paper (group) due on day of penultimate class. Grading rates success in using economic policy analysis to illuminate an issue and/or elevate a debate.
5 Late homework will not be accepted. Those pre-excused or w/ doctor’s note will not be penalized.
Topics and readings

b. Deontological, Teleological and Virtue Ethics

II. Environmental and resource economics
a. Externalities, market failure, and Pigouvian taxes: ch 4
c. Resource economics: ch 5&6
d. Energy economics
   i. Roumasset, Fesharaki, and Isaac (pdf)
   ii. The modern energy shock
   iii. Hubert's peak: http://www.theoildrum.com/node/5521
   iv. As Prices Rise, Farmers Spurn Conservation Program
f. Measuring non-market benefits

III. Global warming
a. Hackett, ch 11.
   http://www.islandpress.org/assets/library/73_jhchallengeglobalwarming.pdf
   http://online.wsj.com/article/SB124657655235589119.html
e. An Inconvenient Truth
International Panel on Climate Change on Wikipedia.
h. Tarui, N. Discounting for Mitigation of Climate Change (PPt, Laulima)
k. Nine Inconvenient Untruths (via British High Court)
l. Stern Review: The Economics of Climate Change (Executive Summary)*
n. Do you know what ANWR is?
o. Unstopable Global Warming: Every 1500 years

* Readings marked w/ asterisk are recommended but not required.
q. Fuel Subsidies Overseas Take a Toll on U.S.

r. Lose-lose biofuels.

s. Policy Options for Greening Hawaii’s Carbon and Energy Profiles

t. Two more cents on Waxman-Markey: Envi-Econ blog

u. Cap and trade essay for reason

IV. Economic growth and development

a. Thinking long term: Hackett, ch. 13


V. The Economics of Sustainable Development

a. Hackett, Part III


c. Solow, “Sustainability: An Economist’s Perspective.” Chapter 26 in Stavins, Economics of the Environment*

e. Sense and sustainability

f. Smart, Greedy, Sustainable
g. Issues in the Economics of Sustainable Local Communities

VI. Other visions of sustainability: natural capital, energy, NGO’s


c. Sustainable development http://en.wikipedia.org/wiki/Sustainable_development#cite_note-0


f. J. R. McNeill, Something New Under the Sun*


k. 178 Sustainability images.
l. Selections from Hawkin, Blessed Unrest: How the Largest Movement in the World Came into Being and Why No One Saw It Coming, 2007.*
VII. Traffic congestion
   a. Arnott, Rave, and Schob, Alleviating Urban Traffic Congestion (MIT, 2005).*
   c. Selections from www.honolulutraffic.com

VIII. Regulating renewables: Water, fish, and marine ecosystems
   b. Water for Life: the history and future of water on Oahu
   e. Privately Owned Fisheries May Help Shore Up Stocks - NYTimes.com
   g. International Food Policy Research Institute, Fish to 2020, Washington, 2003*
   j. Privately owned fisheries
   k. Privately Owned Fisheries May Help Shore Up Stocks
   l. Economics of scales: A new way of saving fisheries shows it can work; it deserves more attention
   m. Fishing and conservation
   n. Costello, et.al “Can Catch Shares Prevent Fisheries Collapse?”
   o. Take a look at fishing cooperative to meet catch quotas

IX. The Challenge of Biodiversity
   F. Kaiser et al., Environmental Valuation and the Hawaiian Economy, exec summary.
   G. Economics of Invasive Species
   H. Livingston and Osteen, “Integrated Invasive Species Prevention and Control Policies” and TNC, “Stop the Silent Invasion”.
   I. Brewbaker et al., “Protect Environment to Preserve Economy” Advertiser http://the.honoluluadvertiser.com/article/2003/May/04/op/op05a.html
X. Health and Poverty
   A. WHO Commission on Macroeconomics and Health, Macroeconomics and Health: Investing in Health for Economic Development, 2001*

Indicative schedule (THIS WILL CHANGE)
1: Course overview; review of microeconomics. Competitive equilibrium is efficient w/o externalities. In-class assignment on graphing and calculating market equilibrium and social optimum. Due in class 2. Homework: skim Hackett ch. 3, read chapter 4, especially figure 4.3.
3: Two-period model of non-renewable resources. Homework: solve 2-period oil problem from lecture, except w/ c = 6, and r = 10%. Reading assignment: finish ch. 5. Choose group project topics: benefit-cost of rail; b/c of Lanai/Molokai windfarms; assessment/economics of Sustainability 2050; Waxman-Markey and Obama energy policy; BWS/water management
5: If disposables generate an external cost, correct it with a tax. A recycling subsidy will result in excess production. Real world recycling problem results from two underlying distortions. We under-price legal disposal and litter-law enforcement is not perfect. Solution is to increase price of legal disposal (but not to the first-best price) and allow a small subsidy of recycling. Mandates are likely to produce costs greater than benefits. Introduction to fisheries economics. Reading assignment: finish chapter 6.
6: Fisheries economics (cont.). Review of DOY, MEY, MSY, OA. When is DOY equivalent to MEY? When is it OA? Derivation of Pearce equation. What is MUC for non-renewables? For renewables?
7: Q&A. Quiz. Assignment: and read first 8 pages of chapter 7; skim rest of 7 and 8.
9: Proposals due. Discuss graphs in 8 and 9 and beginning of 10.
10: Makena Coffman’s overview of Manoa Climate Commission. Presidents’ commitment: achieve carbon neutrality. But how much by buying carbon offsets ala Gore/Kerry? First reduce waste, e.g. delamping, education. Mitigation: compliance w/ Act 234. Taxes or cap & trade? Hybrid cap and trade: give a portion (e.g. 85%) of efficient emission to existing firms as entitlement, then auction the rest. Firms that choose to reduce to below entitlement can sell some of their entitlement. So far no provision for offsets. This imposes unwarranted costs on Hawaii’s people. Easiest solution: slap/auction quota on imports of oil, coal, and natural gas. Further imports can be allowed via offsets for net sequestered carbon. Adaptation: seawalls, pumps, artificial beaches, or flexible zoning?
11: Hawaii’s renewable energy portfolio policy. Policy Options for Greening Hawaii’s Carbon and Energy Profiles. Ch 11 on global warming. Homework: Write 10 assertions, implications, innuendos, recommendations, or techniques of persuasion that are wrong, misleading, or exaggerated. For each, provide a brief critique. You can also substitute critiques of Inconvenient Truth and explain why said critique is wrong, misleading, etc. Feel free to use “Nature, not Human Activity, Rules the Climate” as a source of critiques or assertions that you will criticize.

14: Q&A; quiz. Read ch 12.

15: Chapter 12. Sustainable development: history of thought – from Venn to modified Dasgupta. Venn as satisfying three objectives. This throws out policy analysis. Modified Dasgupta: just extend traditional policy analysis to include interactions and dynamics (w/ intergenerational equity). Sustainability science adds interaction between parts of the natural system, e.g. aquifer head, SGD, and limu. Curse of paradise.


17: Sense and sustainability , part II (positive sustainability). Chapter 15. Assignment. Prepare one or more questions from Smart, Greedy, and Sustainable Growth Smart, Greedy, Sustainable .

18: Alice Waters clip from 60 minutes, Crossroads ppt from Laulima.

19: Ch. 16. Part I: Common property resources. Part II: “Keeping money in Hawaii.” If we eliminated all leakage by self-sufficiency policies, then multiplier thinking means that a $1 injection will infinitely grow the economy. TANSTAAFL!


21: Review of maximin vs. positive sustainability. Dasgupta SS 2007 the idea of SD

22: New Institutional Economics (Hardin, Demsetz (beaver vs. buffalo), Ostrom advocacy vs. Coasean comparative institutions). North restated the Demsetz conjecture, albeit substituting political costs to the primary action group, e.g. costs of getting an Act of Enclosure passed in the British Parliament. Anderson-Hill clarification using fencing as the costs of enforcement. Three quadrant formalization of increasing governance with resource scarcity enabling comparative institutional analysis.


25: Dr. K. Burnett. Invasive species. Assignment: Skim downloadable readings from unit VI.

26: Q&A. Quiz.


28: Population and Agricultural Development (including induced innovation)

29: Group term paper due (hard copy by 4:15). Also send electronic version. Discuss Honolulu Advertiser piece connecting Hawaii’s environment and economy. Valuing indirect benefits: congestion externalities. Protect environment to preserve economy. http://the.honoluluadvertiser.com/article/2003/May/04/op/op05a.html In class homework: Lester Brown’s plan B. List 6 claims, implications, recommendations, or argument characteristics (e.g. logic fallacies, use of metaphors in place of analysis and evidence) and 6 critiques. (Critiques of critiques can also be used.)