

AEB 6453 (section 8307, 3 credits)
Natural Resource Economics
Fall 2006

INSTRUCTOR

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SECRETARY

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OFFICE HOURS

I have an open door policy; you are welcome to knock on my door, email, or call me anytime. If you want to be sure I'll be in when it is convenient for you, please schedule an appointment. For the fastest response, use email. Please note that I teach another class during 7th and 8th periods on Tuesdays and Thursdays so I will be unavailable from approximately 1:30pm to 4:00pm on those days of the week.

CLASS TIMES and LOCATION

Monday 5th period (11:45am-12:35pm), McCarty A room 1142
Wednesday 5-6th periods (11:45am-12:35pm; 12:50-1:40pm), McCarty A room 1142

PURPOSE and OBJECTIVES

This course covers the economic theories and modeling of nonrenewable and renewable resource extraction. The principal objectives of this course include: (1) to develop an in-depth understanding of models used to determine economically optimal extraction rates; and (2) to construct, estimate, and analyze empirical models used for natural resource management. With these objectives, students will acquire skills to create real-world natural resource management tools that support economically optimal policies.

PREREQUISITES

Graduate-level microeconomics (i.e., ECO7115 or AEB6106). The course is one of five Field Prime Courses in FRED, thus, it is designed for Ph.D. students that intend to complete research projects in the field of natural resource economics.

COURSE MATERIALS

There is one required text for this course:

Conrad, Jon M. (1999). *Resource Economics*, New York: Cambridge University Press, pp. 213.

Other required readings will be made available to all students through WEBCT. For more advanced supplemental material, the following text is recommended:

Conrad, J.M. and C.W. Clark. (1987). *Natural Resource Economics: Notes and Problems*, New York: Cambridge University Press.

PROTOCOL and COURSE POLICIES

- Class attendance is required in the sense that you will be responsible for all material covered. I will not take role, nor will I provide copies of my notes. Consider making arrangements with other students for class notes if needed.
- To be eligible for full credit, assignments must be submitted at the beginning of class on the due date. If you will be submitting an assignment late, hand it to me directly or give it to Rose; do not place it in my box or under my door (especially the latter since the janitors tend to assume anything on the floor is garbage).
- The penalty scheme for late assignments is 10% per day, beginning immediately after the time due. Weekends and holidays are not counted in determining the number of late days.
- The bonus scheme for early assignments is 10% and it will be awarded to all assignments received prior to 9pm of the night prior to the due date. Note that this option requires electronic submission.
- If you have a question regarding grading, please contact me immediately. If you wish to 'appeal' a grade (i.e., get more points), you must state your case in writing within one week. Be specific about your concern and the resolution you desire. Include your original assignment since I will re-evaluate your entire submission.
- In the event of an illness etc., you must contact me *before* the assignment is due. Failure to notify me in advance of the deadline will cause the assignment or exam to be subject to the penalties described above.

STUDENT EVALUATION

Your grade will be based on how many points you earn out of 500. The majority of those points (60%) will be from weekly assignments; the remainder (40%) will be from a cumulative final exam. Course grades will be assigned as follows:

<u>Grade</u>	<u>Percentage</u>	<u>Total points</u>	<u>Performance</u>
A	90% or more	≥450	excellent
B+	87 - 89.9%	435-449	very good
B	80 - 86.9%	400-434	good
C+	77 - 79.9%	385-399	adequate
C	70 - 76.9%	350-384	acceptable
D+	67 - 69.9%	335-349	marginally acceptable
D	60 - 66.9%	300-334	weak
E	< 60%	≤ 299	unacceptable

UF POLICIES and ASSISTANCE

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Academic Dishonesty

As a result of completing the registration form at UF, every student has signed the following statement:

"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

In addition, *"we, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*

Plagiarism is a serious offense at UF. For additional detail, see the following website: [http:// web.uflib.ufl.edu/instruct2/studentplagiarismpage.html](http://web.uflib.ufl.edu/instruct2/studentplagiarismpage.html). Note that suspensions and expulsions are *not* rare consequences for plagiarism. The key is to always provide citations to give proper credit to deserving authors (i.e., when using a verbatim string of seven or more words).

Counseling Services

Resources are available on campus for students having personal problems or lacking clear career and academic goals that may interfere with their academic performance. These resources are listed in the following table. See the Graduate Student Handbook (<http://gradschool.rgp.ufl.edu/current-files/current-handbook.pdf>) for contact information for additional services

Counseling Service	Center	Location	Telephone
Personal and career	Univ. Counseling Center	301 Peabody Hall	392-1575
Personal	Student Mental and Physical Health	Student Health Care Ctr.	392-1171
Career assistance	Career Resource Center	Reitz Union	392-1601

Disabilities

Students with disabilities are not required to register with any agency on campus. However, if you would like to request specific classroom accommodations as a result of a disability, you need to register with the Office for Student Services (OSS).

COURSE OUTLINE & READINGS

Hartwick, J.M. and N.D. Olewiler. (1998). *The Economics of Natural Resource Use*, 2nd ed. Reading, MA: Addison-Wesley Educational Publishers, Inc.

A. *Introduction* (Conrad, chapters 1 and 2) and *Discounting*

Krutilla, J.V. (1967). "Conservation Reconsidered." *The American Economic Review*, 57(4): 777-786.

Baumol, W.J. (1968). "On the Social Rate of Discount." *The American Economic Review*, 58(4): 788-802.

Norgaard, R.B. and R.B. Howarth. (1991). "Sustainability and Discounting the Future," p. 87-101, in *Ecological Economics: The Science and Management of Sustainability*, R. Costanza, ed. New York, NY: Columbia University Press.

Winkler, R. (2006). "Does 'Better' Discounting Lead to 'Worse' Outcomes in Long-Run Decisions? The Dilemma of Hyperbolic Discounting." *Ecological Economics*, 57: 573-582.

B. *The Economics of Fisheries* (Conrad, chapter 3)

Homans, F.R. and J.E. Wilen. (1997). "A Model of Regulated Open Access Resource Use." *Journal of Environmental Economics and Management*, 32: 1-21.

Wilen, J.E. (2000). "Renewable Resource Economics and Policy: What Difference Have We Made." *Journal of Environmental Economics and Management*, 39: 306-329.

Leal, D.R., M. De Alessi, and P. Baker. (2006). *Governing U.S. Fisheries with IFQs: A Guide for Federal Policy Makers*. Bozeman: Property and Environment Research Center (PERC), pp. 20.

At-Sea Processors Association, APA. (2006). "Individual Transferable Quota Programs Using Market-Based Solutions to Solve Fisheries Management Problems," pp. 3.

Allen, R. (2005). "How Legislated Criteria for Individual Transferable Quotas Could Defeat the Purpose of Transforming Fishermen from the Fox Raiding the Henhouse into the Farmer Guarding the Henhouse," p. 211-223, in *Managing Our Nation's Fisheries II: Focus on the Future*, D. Witherell, ed. Washington DC: NOAA.

Macinko, S. (2005). "In Search of Transition, Community, and a New Federalism: Six Questions to Confront on the Road Towards a National Policy on Dedicated Access Privileges," p. 236-243, in *Managing Our Nation's Fisheries II: Focus on the Future*, D. Witherell, ed. Washington DC: NOAA.

C. *The Economics of Forestry* (Conrad, chapter 4)

Deacon, R.T. (1985). "The Simple Analytics of Forest Economics," p. 275-302, in *Forestlands: Public and Private*, R.T. Deacon and M.B. Johnson, eds. Cambridge, MA: Ballinger Publishing Company.

Hartman, R. (1976). "The Harvesting Decision when a Standing Forest has Value." *Economic Inquiry*, 14(1): 52-58.

Chang, S.J. (2001). "One Formula, Myriad Conclusions, 150 Years of Practicing the Faustmann Formula in Central Europe and the USA." *Forest Policy and Economics*, 2: 97-99.

D. *The Economics of Nonrenewable Resources* (Conrad, chapter 5)

- Stiglitz, J.E. (1976). "Monopoly and the Rate of Extraction of Exhaustible Resources." *The American Economic Review*, 66(4): 655-661.
- Farzin, Y.H. (1984). "The Effect of the Discount Rate on the Depletion of Exhaustible Resources." *The Journal of Political Economy*, 92(5): 841-851.
- Kolstad, C.D. (2000). "Energy and Depletable Resources: Economics and Policy, 1973-1998." *Journal of Environmental and Resource Economics*, 39: 282-305.

ADDITIONAL READINGS (OPTIONAL) THAT USE TECHNIQUES FROM CLASS
(In alphabetical order)

- Anderson, L.G. (2004). "Open-access Fishery Performance When Vessels Use Goal Achievement Behavior." *Marine Resource Economics*, 19(4): 439-458.
- Brukas, V., B. Jellesmark Thorsen, F. Helles, and P. Tarp. (2001). "Discount Rate and Harvest Policy: Implications for Baltic Forestry." *Forest Policy and Economics*, 2: 143-156.
- Hampicke, U. (2001). "Remunerating Nature Conservation in Central European Forests: Scope and Limits of the Faustmann-Hartman Approach." *Forest Policy and Economics*, 2: 117-131.
- Horan, R.D. and C.A. Wolf. (2005). "The Economics of Managing Infectious Wildlife Disease." *American Journal of Agricultural Economics*, 87(3): 537-551.
- Langholtz, M., D.R. Carter, D.L. Rockwood, J.R.R. Alavalapati, and A. Green. (2005). "Effect of Dendroremediation Incentives on the Profitability of Short-Rotation Woody Cropping of *Eucalyptus grandis*." *Forest Policy and Economics*, 7: 806-817.
- Rondeau, D. and J.M. Conrad. (2003). "Managing Urban Deer." *American Journal of Agricultural Economics*, 85(1): 266-281.
- Sohngen, B. and R. Mendelsohn. (2003). "An Optimal Control Model of Forest Carbon Sequestration." *American Journal of Agricultural Economics*, 85(2): 448-457.
- Uusivuori, J. and J. Kuuluvainen. (2005). "The Harvesting Decisions When a Standing Forest with Multiple Age-Classes Has Value." *American Journal of Agricultural Economics*, 87(1): 61-76.
- Vukina, T. C.E. Hilmer, and D. Lueck. (2001). "A Hotelling-Faustmann Explanation of the Structure of Christmas Tree Prices." *American Journal of Agricultural Economics*, 83(3): 513-525.
- Zhang, D. (2001). "Faustmann in an Uncertain Policy Environment." *Forest Policy and Economics*, 2: 203-210.