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FOR 320 Forest Economics

Course Syllabus

Instructor

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Lectures

Tuesday and Thursday from 12.10 to 13.30 in FOR 305.

Consultation

Tuesday and Thursday 14.30 to 16.00 or by appointment.

Pre-requisite Courses

Students enrolling in FOR 320 should have passed ECON 111s Microeconomics and MAT 150 (or equivalents). If you have not, please let me know and commit yourself to study extra hard.

Course Description and Objectives

In this course you will learn how to apply economics to forest management and policy analysis at an intermediate level of complexity. I understand that the content of earlier microeconomics studies might be buried somewhere under some cobwebs in the back of your mind, hence, the first couple of weeks of the course is designed to quickly remind you of some key economic principles. Please ask questions at any time during class and participate in class discussions.

The main objectives of the course are to give you – future natural resource managers – the knowledge and skills to:

- understand why markets fail to efficiently allocate forest resources in a variety of contexts;
- recommend policies to correct market failures;
- be familiar with the different non-market valuation techniques and know how to interpret non-market valuation literature; and
- estimate the optimal economic forest rotation.

The following table summarises the proposed schedule of lectures for the course.

Week beginning Monday	Lecture content
29 August	Introduction to forest economics Important microeconomic concepts and principles
5 September	Demand, supply and market equilibrium Elasticity and production economics
12 September	Welfare economics Market failure
19 September	Property rights Government intervention to correct market failure
26 September	Capital budgeting in forestry Optimal economic rotation
3 October	Optimal economic rotation Optimal timber stocking
10 October	Resource rents and rent capture Forest taxation
17 October	Timber supply, demand and pricing Mid-semester exam
24 October	Valuation of non-timber forest products Valuation of non-timber forest products
31 October	Multiple use forestry Evaluating natural resource management policy
7 November	Evaluating natural resource management policy Sustainable economic development
14 November	Forestry and economic development International trade and certification of forest products
21 November	Macroeconomics of the environment Thanks Giving Holidays
28 November	Tropical deforestation Climate change
5 December	Course review and questions
12 December	Final exam

This schedule may be amended if we spend more time than budgeted on particular subject areas and according to interests expressed by the class.

Prescribed Text:

Klemperer, W.D. (1996), *Forest Resource Economics and Finance*, McGraw-Hill, New York.

Lectures will typically not closely follow the prescribed text, but I strongly encourage you to read the sections or chapter relevant to each lecture to reinforce the lectures. Additional non-prescribed text readings are also listed at the end of each lecture's notes, which are available from the reserved materials desk at the Mansfield Library and from me.

Other Useful Texts:

Conrad, J. M. (1999), *Resource Economics*, Cambridge University Press, Cambridge.

Field, B. C. (2001), *Natural Resource Economics: an Introduction*, McGraw Hill, New York.

Grafton, R. Q., Adamowicz, W., Dupont, D., Nelson, H., Hill, R. J. and Renzetti, S. (2004), *The Economics of the Environment and Natural Resources*, Blackwell, Maldon.

Kahn, J. R. (2005), *The Economic Approach to Environmental and Natural Resources (Third Edition)*, Thomson South-Western, Mason.

Mankiw, N. G. (2004), *Principles of Microeconomics, Third Edition*, Thomson South-Western, Mason. (and earlier editions)

Pearse, P. H. (1990), *Introduction to Forestry Economics*, University of British Columbia Press, Vancouver.

van Kooten, G. C. and Bulte, E. H. (2000), *The Economics of Nature: Managing Biological Assets*, Blackwell, Malden.

van Kooten, G. C. and Folmer, H. (2004), *Land and Forest Economics*, Edward Elgar, Cheltenham.

Any introductory microeconomics, natural resource economics or environmental economics textbook that you are comfortable reading.

You will find Conrad (1999) and Grafton *et al.* (2004) a little difficult to read in places.

With the exception of Mankiw (2004), a copy of each of these texts is reserved in the Mansfield Library as a '2 hour reserve unrestricted', which means you can take the books out of the library and home overnight. Pick up books from the reserved materials desk.

Proposed Assessment

Homework and class participation (each class)	20%
Mid-semester exam (class of 20 October, but may change)	20%
Essay (due Monday 28 November)	25%
End of semester exam (10 am, 13 December)	35%

Assessment for graduate students will be negotiated at the beginning of the semester. My preference is for a second essay or a single more substantive paper to replace the homework.

I hand out lecture notes at the beginning of each class. The review questions at the end of the notes are for homework and are due at the beginning of the following lecture. Please hand in your answers on loose pieces of paper (multiple sheets stapled or otherwise fastened), with your name and Griz number clearly printed at the top of the first page. If you prefer to submit hand-written answers, please write legibly. In assigning marks for homework and class participation, emphasis is placed on effort, not on being correct. However, if you hand in 'rubbish', it will be graded accordingly. Time will be spent at the beginning of the class reviewing questions that the class as a whole found challenging. Arrange a time to see me if you require assistance with questions not reviewed in class.

Each week of homework is worth approximately 1% of your course grade (total of 15%). If you cannot hand in homework the following lesson, please see or email me or you will be assigned a zero mark for that piece of homework. Participation in class accounts for 5% of your grade. Everyone should aim to achieve the 20% allocated to homework and class participation.

The mid-semester exam will be on all coursework to that date, unless otherwise specified. The end of semester exam will cover all coursework material, but with emphasis on material covered since the mid-semester exam. If there are circumstances that will prevent you from attending an exam or handing in the essay on time, please see me as early as you can and we will try to arrange an alternative. Except in extreme circumstances, failure to notify me about your absence before the day of an exam will result in a mark of zero for that piece of assessment. Late essays will be penalised at the rate of 10% of the essay grade per day (including weekends).

Proposed Grading for the Course:

I prefer to use a traditional letter grade only, not B+ and C-, etc.

A	≥85%
B	70-85%
C	55-70%
D	45-55%
F	≤45%

Essay Questions

I have proposed several essay topics below from which you are free to select one. Alternatively, you can suggest an essay topic of your own liking to me. The essay should be written in the style of a journal article, with an abstract, body text in sections (beginning with an introduction), and finishing with a discussion, conclusion and references. The essay should include sound economic reasoning supported by appropriate references to back up your argument. You are encouraged to incorporate economic diagrams to support your argument, so long as they are referred to and discussed in the text.

If you enjoy working in groups, please do conduct research together, but ensure you write your essays individually. It is much easier to write an essay on a topic you are interested in.

A 3000 word limit applies, excluding references and appendices.

Please cite references within the text in the author-date style, e.g. '(Jones 2002)' or 'Jones (2002) asserted that...'. Only include page numbers in citations for direct quotes. Full details in the references section should include all authors, year of publication, full title, publisher and city of publication of books and reports, and volume, issue and page numbers for journal articles. References may be formatted in any standard of your choosing, but make sure you are consistent. If you are unsure about reference formatting, see me or download the 'guidelines for authors' for a journal of your choice and follow their referencing style.

1. In recent years, fire suppression costs incurred by the USDA Forest Service have escalated dramatically. Some commentators within and outside the Service have questioned the economic efficiency of fire suppression activities. Indeed, some argue that in many cases it is beneficial to let the fires burn. Discuss how costs and benefits of fire suppression vary in the landscape and the implications for economically efficient fire suppression policy.
2. Is the decline of the timber industry in Montana socio-economically efficient? In the face of this trend, what (if any) policies do you recommend governments implement to assist the industry and its workers? Be sure to include some background to Montana's timber industry and to strongly argue your case in economic (not emotive) terms.
3. Should forest growers be provided financial incentives? If so, what types of incentive schemes would you recommend and why?
4. Around the world, rights to forest resources are held under private property rights regimes, state-owned property rights regimes and communal (commons) property rights regimes. With reference to economic theory, briefly discuss the environmental advantages and disadvantages of each type of property right. Does the available real world evidence for forest management suggest that one type of property rights regime always generates superior environmental outcomes to another? Under what circumstances might local forest communities manage forests better under a communal property rights system than the state or private enterprises and individuals? Be sure to include references to classic papers by Hardin and Ostrom in your essay.
5. Non-market valuation: is some number better than no number for policy analysis?
6. Critique a non-market valuation method of your choice.
7. Critically evaluate the notion that biodiversity can be preserved by commercially exploiting it.

8. Log export bans have often been imposed by governments to promote development, employment and reduce deforestation. Using specific countries as examples, discuss the economic implications of these policies. For one of the countries you have discussed, what policies would you recommend to promote development and employment in the forestry sector, while at the same time reducing deforestation?
9. Formulate a hypothesis about the relationship between economic variables and deforestation. For example (i.e. you don't have to explore all of these possibilities), what is the relationship between deforestation and population growth or gross domestic product? Does this relationship vary by region of the world? How does it differ between countries that contain primarily dry forests and countries that contain rainforests? What is the relationship between indices of government efficiency, corruption and deforestation? Use data from the World Bank, United Nations and World Resources.
10. Look at deforestation in a particular country, for example (but not limited to) Brazil, Indonesia or the Philippines. How has market failure affected deforestation in your chosen country? Has the respective government implemented any policies to alleviate the market failures and were these policies successful? What policies can you suggest to alleviate the market failures?