Natural Resource Economics

Economics 861

Section: G100

Term: 2012 Summer

Instructor: T. Heaps

Discussion Topics:

This course will begin with a discussion of the linkages
between the economy and the environment: two parts of a whole. Then the
principles of basic welfare economics and discounting will be explained. Next,
the economics of fisheries will be discussed including the open access problem
and static and dynamic maximum economic yield. Following this, the economics of
forestry will covered (see
picture). Then the course will return to fisheries and strategies for their
optimal management over time. Finally, the economics of nonrenewable resource
use will be developed and issues relating to optimal extraction patterns,
market structures, taxation, uncertainty and economic growth will be discussed.

                The course
will tend to follow the textbook but with more of an emphasis on the use of
dynamic optimization techniques to investigate the solutions of the various
models. These techniques are essential
for understanding much of the recent literature in natural resource
economics. A prior knowledge of optimization techniques such as optimal
control theory would, therefore, be helpful although such knowledge is not
expected. The techniques needed will be
taught in the course as required.

Grading:

The course grade will be based on written assignments (20%),
a midterm (40%) and a final (40%). Please note that most announcements will be
distributed to the class by e-mail. Some
course material including this outline, a link to the texts Web page and a
number of items providing information on natural resource industries is already
available on the course Web page http://www.sfu.ca/~heaps/861. Other items such as lecture
notes,
assignments and past exams will be added as the semester progresses

Required Texts:

Philip
A. Neher, Natural Resource Economics:
Conservation and Exploitation,
Press, 1990.

Four
useful references for dynamic optimization techniques are:

Colin
W. Clark, Mathematical Bioeconomics, (Wiley 2nd ed., 1990).
Angel de la Fuente, Mathematical
Methods and Models for Economists, (Cambridge University Press, 2000).
Michael Hoy, John Livernois, Chris McKenna, Ray Rees and
Thanasis Stengos, Mathematics for
Economics (third edn.) (MIT Press, 2011)

Natural Resource Economics

Daniel
Léonard and Ngo Van Long, Optimal
Control Theory and Static Optimization in Economics, Cambridge University Press, 1992.

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite:

Notes:

Students requiring accommodations as a result of a
disability must contact the Centre for Students with Disabilities at
778-782-3112 or csdo@sfu.ca
All
students are expected to read and understand SFUs policies with regard to
academic dishonesty (S 10.02 and S 10.03).
These policies are available at the following web addresses:
http://www.sfu.ca/policies/gazette/student/s10-02.html and
http://www.sfu.ca/policies/gazette/student/s10-03.html