ST. FRANCIS XAVIER UNIVERSITY
Department of Economics

ECONOMICS 381: Natural Resource Economics

Instructor: Dr. Patrick Withey   Winter 2020

Lectures: **8:15 AM–9:30 Tuesday and 9:45 – 11:00 Friday MULH 3026**
Office: MULH 3067
Office Hours: Office Hours: Wednesday 11:10 AM- 1:00 PM and Friday 11:10-1:00
               PM; or by appointment
Personal web page: http://people.stfx.ca/pwithey
Course web page: Moodle
Email: pwithey@stfx.ca

Course Description:

Examines the role of natural resource industries in the Canadian and world economies, including minerals, fossil fuels, forest resources, fisheries and endangered species, and water resources. The course introduces students to the use of economic tools in analyzing problems of renewable and nonrenewable resource management. Topics include: welfare and inter-temporal analysis of resource exploitation; ownership and property rights issues in resource use and management; the nature of resource markets; biodiversity conservation and sustainability.

Required Textbook: None

I will provide lecture slides and any other material needed. Much of this material will come from the following two textbooks, which are on reserve in the library:

- Natural Resource Economics, 2nd Edition, 2008. Barry C. Field. Waveland Press.
- Environmental and Natural Resource Economics. Tietenberg and Lewis, 9th Edition. Pearson.

Prerequisites: Econ 201, Math 106 (recommended)

Grading:

Your final grade will be determined as follows:

Midterms	40%	Dates: Feb 14 and March 20
Assignments	10%	Tentative due dates: Feb 7, March 13
Final examination	50%	TBA

You will write two midterm tests during the term, which will be based on material from the lectures, textbook and any supplemental reading that may be assigned. You must also complete two assignments, which will give you an indication of what to expect on the exams. Assignments will be given out one week in advance of the due date. You must write the final exam in order to pass the course.

Note that assignments **may** use some basic mathematical programming to illustrate the concepts learned in class numerically. The software used will either be Excel or GAMS; GAMS can be downloaded for free at **(http://www.gams.com/download/).**

SYLLABUS

The following topics are tentative and changes may be made as the course progresses. The readings refer to Field, but similar topics are found in Tietenberg and Lewis.

1. **Introduction –** Chapter's 1 and 2
2. **Building Blocks – Review from Econ 281 -**Chapter's 3-7
   a. Supply and demand; dynamic efficiency; role of discounting
   b. Externalities and Public policy
3. **Economics of non-renewable natural resources**
   a. Math Overview – my notes
   b. Mining Economics– Ch. 10
4. **Economics of renewable natural resources**
   a. Forest Economics – Ch12
      i. Non-timber values; Forest management under risk
   b. Fisheries Economics- Ch13
   c. Water Resources – Ch15
5. **Bioeconomics and biodiversity**
   a. Economics of wildlife management: bioeconomic analysis – Ch18
   b. Economics of biodiversity – Ch19
6. **Energy Economics** Ch. 11 and my notes on modelling energy markets

Approach to the course and class participation: Students are expected to attend all classes and be present in class on time. The course will be primarily lecture based and lectures will be based on the course slides (and the reserve textbooks). Lecture slides will be posted online but may be incomplete. Students are responsible for all material presented in class. While lectures will be mostly theoretical, we will introduce real world examples and the concepts and theory introduced in class will be reinforced through assignments, which also give you an indication of what to expect on the examinations.

Missed midterm exams: There will be no make-up midterm exams. If you miss a mid-term exam, then the weight of that midterm will be placed on the final. Students may not miss both midterms.