



University of Victoria

Course Syllabus

Department of Economics

ECON 482/530: Advanced Resource Economics

(CRN: 21056/21061)

Instructor:

Dr. G. C. van Kooten

Office: BEC 330

Office hours: Wednesday 3:15-4:45 pm; or by arrangement

Location and Time:

BEC 363

Tues/Wed/Fri: 10:30 – 11:20

Course website: <http://www.vkooten.net/> (under the 'Resource Econ' tab)

Pre-requisites: ECON 313 or permission of the Department

Course Description: An advanced course covering the traditional topics of resource economics – fisheries, forestry, optimal extraction of non-renewable resource and climate change, where the latter topic includes the future role of electricity, the economics of electricity grids and the integration of renewable sources of energy (wind and solar) into existing grids. Thus, the course will also address the future of coal, oil and natural gas, and the question of Canada's oil sands, pipelines, and the potential role of nuclear energy in reducing CO₂ emissions. As part of the course will require solving numerical problems, students may be required to use advanced features in Excel and/or a software program such as R, Matlab/Octave or Python.

Learning outcomes: Students successfully completing the course will be able to better understand the role of natural resources in society and, in particular, the part that energy plays in economic growth and development. They will have an enhanced knowledge of the economic implications of national and international policies to mitigate climate change. Students will also be able to solve numerical problems using one or more computer software packages that are also increasingly used in government and business. Finally, students should have a better understanding of how to provide a systematic written analysis of natural resource policy consistent with the standards for conference presentation (including posters) or journal publication.

Course Format: The course will be taught in a combined lecture/seminar/lab format. Students will be required to participate in the discussion. Major components of the course will include learning how numerically to solve various resource problems and a term project (e.g., a term paper, research poster, work related to one's graduate research or undergraduate essay).

Grading:	Term work*	15%
	Term paper	35%
	Midterm exam*	15% (Wed, February 12, 2019)
	Final exam	35%

* This will be based on several assignments. I leave open the option, depending on the makeup of the class, to roll the midterm exam into the term work, so that the total weight of the term work would be 30%.

Grading Scheme: The University's undergraduate grading scale with numerical score/letter grade equivalency, and descriptions can be found at the following: [University Grading Schedule](#)

TEXTBOOK:

There is no specific textbook for this course. A recommended text is:

Conrad, Jon M., 2010. *Resource Economics. Second Edition*. Cambridge, UK: Cambridge University Press.

Students interested in the Conrad book will need to purchase it through Amazon or some other provider.

Some material of value can be found in:

van Kooten, G. Cornelis, 2020. *Applied Economics, Trade and Agricultural Policy Analysis*. Available at www.vkooten.net (first item under the 'Agriculture' tab). This is a living document so be sure to look for the latest version. Material of interest to students in Resource Economics will be identified in class.

Finally, lecture notes on some topics and additional readings will be provided as needed.

TENTATIVE COURSE OUTLINE

1. Introduction: The planet's future?

- Background readings: [Betting on the Planet](#) by John Tierney (NY Times Dec 2, 1990) and [Apocalyptic Climate Change](#) by Michael Shellenberger (Forbes Nov 25, 2019)

2. Basic Concepts

- Mathematics of resource economics and solving problems using computer software

3. The Economics of the Fishery

4. The Economics of Forestry

van Kooten, G.C. & H. Folmer. *Land and Forest Economics* (Edward Elgar, 2004) Chap. 11.

5. The Economics of Energy Resources

- The economics of electricity grids and the 'missing money' problem
REPA Working Paper #2015-07 at <http://web.uvic.ca/~repa/publications.htm>

6. Economics related to Climate Change

- Climate change and [misinformation](#): Sea level rise (Lomborg and 110 million [people below sea level](#)), [Margaret Thatcher](#), [Corrupted Science](#), & [Case of Venice Extreme rainfall events](#)
- Climate modelling and Integrated Assessment Models (IAM). Selected readings from:
Nordhaus, W.D., 2019. Climate Change: The Ultimate Challenge for Economics, *American Economic Review* 109(6): 1991-2014. DOI: 10.1257/aer.109.6.1991
Nordhaus, W.D., 2018. Evolution of Assessments of the Economics of Global Warming: Changes in the DICE Model, 1992-2017, *Climatic Change* 148(4): 623-640.
Nordhaus, W.D., 2013. Integrated Economic and Climate Modeling. Chapter 16 in *Handbook of Computable General Equilibrium Modeling, Volume 1A, 1st Edition* (pp.1069-1131) edited by P. Dixon and D. Jorgenson. Dordrecht, NL: Elsevier. (DICE model found at <https://sites.google.com/site/williamdnordhaus/dice-rice>)
Pindyck, R.S., 2013. Climate Change Policy. What do the Models Tell Us? *Journal of Economic Literature* 51(3): 860-872.
van Kooten, 2013. Various chapters.
- Pricing carbon: Taxes, carbon offsets and carbon markets
REPA Working Paper #2015-07 at <http://web.uvic.ca/~repa/publications.htm>
van Kooten, G.C. and C.M.T. Johnston, 2016. The Economics of Forest Carbon Offsets, *Annual Review of Resource Economics* 8(1): 227-246.
Johnston, C. & G.C. van Kooten, 2015. Back to the Past: Burning Wood to Save the Globe, *Ecological Economics* 120:185-193.

NOTES REGARDING COURSE POLICIES

Students need to consult on the University Calendar's and the Department's regulations for information pertaining to academic integrity (plagiarism and cheating), attendance, term assignments and debarment from exams, grading, late assignments, academic concessions, travel plans, students with a disability, and policy related on inclusivity and diversity. See: <http://www.uvic.ca/socialsciences/economics/undergraduate/home/courses/course-policies.php>. MAKE SURE YOU ARE FAMILIAR WITH THESE COURSE POLICIES.

Some of these requirements and additional ones are highlighted below.

Policies on Academic Integrity and Plagiarism: Students are expected to observe the same standards of scholarly integrity as their academic and professional counterparts. Students found to have engaged in unethical academic behavior are subject to penalty by the University. To learn about plagiarism, see the above website and click on "Academic Integrity". Note that plagiarism detection software may be used.

Cheating on Work, Tests and Examinations Cheating includes, but is not limited to:

- copying the answers or other work of another person
- sharing information or answers when doing take-home assignments, tests or examinations except where the instructor has authorized collaborative work
- having in an examination or test any materials or equipment other than those authorized by the examiners
- accessing unauthorized information when doing take-home assignments, tests or examinations
- impersonating a student on an examination or test, or being assigned the results of such impersonation
- accessing or attempting to access examinations or tests before it is permitted to do so

Students found communicating with one another in any way or having unauthorized books, papers, notes or electronic devices in their possession during a test or examination will be considered to be in violation of this policy. (See also "Academic Integrity" at above website.)

University Policy on Examinations and Work and Travel Arrangements: Students are required to ensure that work plans do not conflict with examinations. There will be no special accommodation if work plans conflict with examinations. Students are advised not to make travel plans until after the examination timetable has been finalized. Students who wish to finalize their travel plans at an earlier date should book flights for after the end of the examination period (see above website under "Academic concession"). There will be no special accommodation if travel plans conflict with exams (see above website under "Travel plans").

Policy on Use of Email: I cannot respond to emails because of Canada Research Chair commitments. Questions on course material should be asked during office hours or in class. If there is critical matter, such as inability to attend class, an exam or prolonged illness, please contact my assistant Mrs. Linda Voss at repa@uvic.ca, making sure to include the course name and number and the issue in the subject line. The standard format for writing a letter must be used in any such email correspondence. This means it should start off with a salutation (e.g. Dear...), include full sentences and conclude with a signature that includes your name (e.g. "Sincerely, *your full name*"). Use of 'hey' as a salutation and text message lingo is NOT acceptable.

Course Experience Survey (CES): I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to <http://ces.uvic.ca>. You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

1. What strengths did your **instructor** demonstrate that helped you learn in this course?
2. Please provide specific suggestions as to how the **instructor** could have helped you learn more effectively.
3. Please provide specific suggestions as to how this **course** could be improved.

Attendance: University attendance policy states: “Students are expected to attend all classes in which they are enrolled. ... An instructor may refuse a student admission to a lecture or laboratory because of lateness, misconduct, inattention or failure to meet the responsibilities of the course. Students who neglect their academic work, including assignments, may be refused permission to write the final examination in a course. Instructors must inform students at the beginning of term, in writing, of the minimum attendance required at lectures ... in order to qualify to write examinations.” (See above website under “Attendance”). **Students who miss more than three lectures could be disbarred from writing the final examination.**

I will not take attendance but use unannounced quizzes to track attendance. **If you are absent from a quiz or examination for medical reasons, it is your responsibility to have the doctor complete the [attached medical form](#).** Failure to do so will mean a grade of zero for that item.

Electronic Devices: All electronic devices not used to take notes must be handed in prior to class OR kept in your backpack. Any student found using phones, messaging, etc. during class will be given a warning. Upon the second occurrence, the student will be required to write a second term paper as this constitutes inattention; the term paper will cover the material missed due to inattention and will be marked as a regular term assignment and included as part of the term paper grade.