University of Waterloo
Faculty of Environment

ENBUS 408 – Best Practices in Regulation
Instrument Choice in Environmental Policy
Fall Term 2018

COURSE SYLLABUS

Course Instructor	Jason Thistlethwaite
Contact Information	j2thistl@uwaterloo.ca; 519-888-4567, Ext. 39102
Office Hours	Friday 9:30am-11:30am or by appointment (I'm usually in my office!)
Office	EV3 4267
Class times	Friday 11:30am-2:20pm
Location	PAS 1241
Course Prerequisite	none

Course Description

This course examines different forms of environmental regulatory instruments, with a focus on market instruments. Environmental regulation has evolved in both form and substance since its emergence as a mainstream source of policy in the 1960s. The course will explore how this regulation has evolved, specifically alternative approaches to command and control instruments, such as disclosure laws, emissions trading, environmental taxes and fees and private regulation. These regulations have become much more prevalent in the last twenty years in both Canada and elsewhere, as regulators seek to take advantage of the efficiency gains and incentive structures that these instruments may provide. This course will consider the underlying economic and political rationale for environmental regulation, as well as some of the criticisms. Some of the focus of the course will be on the regulatory and public policy tools used to manage greenhouse gases as a response to global climate change. In this regard, the course will consider market design issues (how to structure markets so they function effectively and efficiently) across a number of different existing and proposed emissions trading markets. The course will also explore emerging debates over the political economy of environmental and market-based regulation with a closer look at corporate social responsibility and environmental disclosure. These debates will be examined from the perspective of governance, specifically arguments that regulations are unlikely to be implemented or effective without alignment with existing policy, distributions of roles and responsibilities, strategic goals, and available resources.

The key learning objectives for the course are to develop an understanding of the following areas:

- Basic types of environmental regulatory instruments and the reasons for their use
- Application of cost/benefit analysis to environmental policy
- Application of foundational economic concepts to environmental policy creation
- Basic market functions and their relationship to efficiency
- The relationship between market incentives and innovation
- Key forms of market and informational instruments
- Market design issues in emissions trading and offset markets
- Principal critiques of market approaches to regulation
- Emerging forms of environmental governance

Course Materials

Required text: N. Keohane and S. Olmstead, *Markets and the Environment* (Island Press, 2016)

The 2007 version of the text is also available

Supplementary material will be provided online by course instructor.

Course Structure

The class will meet once a week in a lecture/seminar format. The expectation is that all students come to class with the readings prepared and ready to participate in class discussions.

Course Evaluation

Schedule

Assignment	Date Handed Out	Due Date
Problem Set 1	September 21	September 27
Problem Set 2	October 5	October 11
Regulation Assignment	October 19	Nov 2, Nov 9 and 16
Term Paper	November 16	December 5

Problem Sets 30% (2x 15%)

Students will be required to complete short problem sets to assess retention of lecture and reading material. Problem sets will be made available on the Tuesday before lecture via LEARN and are due the following Monday. The problem sets will review the foundational concepts introduced in the class and are geared towards ensuring that

students know and understand the fundamental aspects of market regulation. Each answer set will be marked out of ten.

Students are encouraged to discuss the problems with one another, but each student must hand in their own work.

Problem set 1 assesses the costs and benefits of environmental regulation, and the challenges involved in discounting.

Problem set 2 assesses the role of negative externalities and market failures, the Coase theorum and emissions trading.

Participation: in class 10%

The following requirements are part of the participation assessment:

1) regular class attendance;
2) prior preparation;
3) online and in-class contributions to peer learning;

Because participation is integral to the success of the seminar, attendance at each class is mandatory. Please advise me in advance if you are going to miss a class.

The idea that animates the assessment of the participation requirement in this course is that each member of the course should be contributing to the learning of others.

Expectations

9+	- able to initiate and facilitate the development of ideas - comments are consistently insightful and raise questions or ideas that stimulate the learning of others - demonstrates critical reflection on readings - brings relevant and interesting resources (media, cases, articles) to the attention of others
7-8	- comments and questions demonstrate some critical analysis - consistently shares ideas - effort made to build on ideas of others
6-7	- raises occasional clarifying questions and comments - comments often not of a critical nature and do not demonstrate integration of material
Below 6	- no consistent contribution - little evidence of integrated learning - absent from class

Regulation Assignment and Presentation 30% (20 % assignment + 10% presentation)

Working in groups of three to four, students will be required to complete an assignment that develops and advocates a policy position from a different stakeholder perspective. The purpose of the assignment is to guide students in an investigation of how different stakeholders employ economics and politics as evidence to support their interests. Each student will be randomly assigned to one of five different stakeholders who will take positions on the same policy problem.

1. Industry proponent
2. Industry opponent
3. Environmental NGO
4. Government ministry (responsible for the policy area)
5. Consumer advocate

The group position on the policy must be developed using analysis based on a set of questions provided by the instructor, who will also help to identify literature relevant for the research. The questions will require students to engage in research activities involving policy documents and some secondary literature.

The assignment responses will form part of an in-class presentation on the results from the assignment (maximum 7-10 minutes), which will take place in Weeks 8-11.

Week 1: Managing food waste in Ontario

Week 2: China's air pollution

Week 3: Urban flooding in Toronto

The presentation and question responses will be assessed based on the persuasiveness of the policy position, which requires addressing potential weaknesses raised by other stakeholders. For example, if presenting on a solution to Alberta's GHG emissions, it will be important to identify how your policy will address perceived weaknesses.

We will then hold a 30 minute debate beginning with a 1-minute statement from each stakeholder addressing other policy ideas, potential weaknesses and strengths of their own policy idea. After each statement, each group will have an opportunity to respond with a rebuttal statement followed by open debate. The debate will then be open to questions from the rest of the class.

Term Paper 30%

A 3000 word term paper on a topic that is agreed upon by the student and the instructor will be due on the first day of the exam period. The purpose of the paper is to present a case study based on critical analysis of a historical, existing or emerging form of

environmental regulation. Critical analysis must make use of some of the main concepts in the class that we use to analyze the effectiveness and feasibility of environmental regulation. To structure the paper, it is important to first explore academic literature to highlight the main debates on the merits of regulation addressing the environmental problem. Primary evidence from reports, media, online, or interview sources should then be used to present a clear analysis of the regulations costs and benefits. Topics could include command and control regulations, emissions trading, pollution taxes, disclosure standards, land-use planning, corporate social responsibility (CSR) and certification standards. But students can choose other regulations to study as well including those that do not have explicit environmental impacts, but do lead to outcomes that shape the environment. These regulations could be located at the international, regional, sub-state or municipal level.

Mark	Expectations/Requirements
> 27	Exceptional; Few or no technical errors (typos, spelling, grammar); clarity in writing style; coherent structure and flow; a degree of true originality; demonstration of very strong understanding of underlying substantive content; appropriate reference to source materials; paper presents a coherent and persuasive point of view
24 to 27	Very good; Few technical errors; strong understanding of underlying content; appropriate reference to source material; some attempt at originality; perhaps a few unreferenced points; paper well structured
21 to 24	Good; few technical errors; demonstrates solid understanding of material; well referenced;
18 to 20	Adequate; some technical errors; demonstrates a basic understanding of material; some structure
15 to 18	Marginal; An unacceptable number of technical errors; little attempt to present coherent viewpoint; demonstrates a weak understanding of material; inappropriate or missing references; lack of structure
< 15	Inadequate

Paper Marking Template

Style 15%

Grammar
Diction
Clarity / readability
Citation – as necessitated (footnotes – NOT endnotes)

Structure 15%

Clear introduction (thesis statement; outline)
Logical flow – use of headings; sub-headings
Clear conclusions – answers thesis statement

Sources 30%

Use of primary sources
Use of secondary sources
Depth / originality of research
Relevance
Balance
Integration
Descriptive accuracy and clarity

Analysis 40%

Reasoning / persuasiveness
Theoretical engagement
Depth
Coherence
Originality

Late Assignments and Papers

It is expected that all course assessments be handed in on the date and time that they are due. Failure to do so will result in a mark reduction of ***5% for the first day and 2% for every day thereafter to a maximum of 20%.*** Any assessment item that is more than ***10 days late*** requires the instructor's permission to hand in. Problem sets that are not handed within ***three days*** of the due date will require the instructor's permission to hand in. In these instances, a failure to receive the instructor's permission may result in a refusal to accept the assessment item and a mark of zero on that item.

Course Communication

Communication by the instructor to students will be sent to students 'uwaterloo' email through LEARN or through postings to course LEARN site. Students are responsible for ensuring prompt retrieval of course messages. Any communication from students should be via their 'uwaterloo' account.

University and Faculty Requirements and Notices

- **Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. **www.uwaterloo.ca/academicintegrity/**
- Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at **http://www.lib.uwaterloo.ca/ait/**
- **Research Ethics:** Please also note that the 'University of Waterloo requires all research conducted by its students, staff, and faculty which involves humans as participants to undergo prior ethics review and clearance through the Director, Office of Human Research and Animal Care (Office). The ethics review and clearance processes are intended to ensure that projects comply with the Office's Guidelines for Research with Human Participants (Guidelines) as well as those of provincial and federal agencies, and that the safety, rights and welfare of participants are adequately protected. The Guidelines inform researchers about ethical issues and procedures which are of concern when conducting research with humans (e.g. confidentiality, risks and benefits, informed consent process, etc.). If the development of your research proposal consists of research that involves humans as participants, the please contact the course instructor for guidance and see www.research.uwaterloo.ca/ethics/human/
- **Note for students with disabilities:** The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.
- **Religious Observances: Please inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.**

- **Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please contact your Undergraduate Advisor for details.
- **Discipline:** A student is expected to know what constitutes academic integrity, to avoid committing academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties check Guidelines for Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm
- **Appeals:** A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 –(Student Discipline) may be appealed if there isa ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Detailed Course Outline

- September 7th – Introduction
  - Korbabicz, Ihor. 2018. "What's keeping Canadian millennials up at night?" http://abacusdata.ca/millennial-worries-and-priorities/

- Week 1 – September 14 - Instrument Choice
  - Keohane and Olmstead, c.1
  - D. Fullerton and R. Stavins, (1998) "How Economists see the Environment", *Nature, 395*
  - R. Stewart, (2001) "A New Generation of Environmental Regulation", *Cap. U. L. Rev., 29,* 21. "Shortcomings" (p.4 to 8)
  - N. Gunningham, (2009) "Environmental Law, Regulation and Governance: Shifting Architectures", *Journal of Envt'l L., 21,* 2, (p.182-193)
  - R. Stavins, (2001) "Lessons from the American Experiment with Market-Based Environmental Policies", Resources for the Future

- Week 2 – September 21 - The Costs and Benefits of Environmental Protection
  - *Problem set 1 available on LEARN September 21, due September 27*
    - Keohane and Olmstead, cc.2-3
    - K. Arrow et al., (1996) "Is there a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation", *Science, 272,* 221
    - S. Kelman, (1981) "Cost-Benefit Analysis: An Ethical Critique" *AEI Journal on Government and Society Regulation, 5*
    - L. Goulder and R. Stavins (2002), "An Eye on the Future", *Nature, 419*

- Week 3 – September 28 - Markets and Efficiency
  - Keohane and Olmstead, cc. 4-5
  - N. Stern, (2007), "The Economics of Climate Change"

- Week 4 – October 5 - Markets and Innovation
  - *Assignment 2 available on LEARN October 5, due October 11.*
    - Keohane and Olmstead, cc.8-9
    - M. Porter and C. Van derLinde, (1995), "Green and Competitive: Ending the Stalemate" *Harvard Business Review*
    - N. Ashford et al, (1985) "Using Regulation to Change the Market for Innovation" *Harvard Envt'l L. R. ,9*
    - Ashford and Caldert, (2008) "Economic Efficiency and Technological Dynamic" In Environmental Law, Policy and Economics

- D. Driesen, (2003) "Does Emissions Trading Encourage Innovation?", *Envt'l L. R, 33,* 10094

❖ Week 5 – October 12th – Types of Market Instruments (1)
- Keohane and Olmstead, c.10
- N. Ashford and C. Caldert, (2008) "Economic Subsidies", in *Environmental Law, Policy and Economics*
- N. Olewiler (1990), "The Case for Pollution Taxes" in *Getting it Green: Case Studies in Canadian Environmental Regulation*

❖ Week 6 - October 19 – Types of Market Instruments (2)
- *Regulation assignment and presentation will be available on LEARN October 19*
  - T. Santarius, (2012) "Green Growth Unravelled", *Heinrich Boell Foundation*
  - Salzman and Ruhl (2006) "No Net Loss" – Instrument Choice in Wetlands Protection.
  - M. Jaccard. Want an effective climate policy? Heed the evidence (2016). Policy Options. http://policyoptions.irpp.org/magazines/february-2016/want-an-effective-climatepolicy-heed-the-evidence/

❖ Week 7 – October 26 – Emissions Trading, Offsets and Market Design
- D. Beguin et al. The Way Forward for Ontario: Designing Principles for Ontario's Cap and Trade System. Ecofiscal Commission,
- M. Toman, (2000) "Establishing and Operating the Clean Development Mechanism", Resources for the Future
- M. Gillenwater, "What is Additionality?" GHG Institute
- M. Wara and D. Victor, (2008), "A Realistic Policy on International Carbon Offsets" Stanford University Working Paper

❖ Week 8 – November 2 – Self-regulation and Environmental Disclosure
- *Presentations begin on November 2 for market regulation assignment*
  - M. Barnett and A. King (2008), Good Fences Make Good Neighbours: A Longitudinal Analysis of an Industry Self-Regulatory Institution. *Academy of Management Journal.*
  - B. Arts (2002), Green Alliances of Business and NGOs. New Styles of Self-Regulation or Dead End Roads. *Corporate Social Responsibility and Environmental Management.*
  - J. Green (2013), Order out of Chaos. Public and Private Rules for Managing Carbon. *Global Environmental Politics*.

❖ Week 9 –November 9 – Environmental risk management
- *Presentations continue on November 9*

- E. Page and C. Heyward (2016). Compensating for Climate Change Loss and Damage. Political Studies 2017, Vol. 65(2) 356–372
- T. Aven and E. Zio (2014). Foundational Issues in Risk Assessment and Risk Management. Risk Analysis 34(7):
- P. Pattberg (2012). How climate change became a business risk? Environment and Planning C: Government and Policy 2012, volume 30, pages 613 – 626.

❖ Week 10 – November 16 – Behavioural Economics
- *Presentations continue on November 16*
- *Term Paper assignment handed out 16*
  - I. Basen, "Economics has met the enemy, and it is economics", Globe and Mail, October 15, 2011
  - D. Kahneman (2003), "Maps of Bounded Rationality"
  - L. Venkatachalam, (2008), Behavioral economics for environmental policy. *Ecological Economics*, *67*, 4, (p. 640-645)

❖ Week 11 – November 23 – Governance
- Chaffin, B. C., H. Gosnell, and B. A. Cosens. (2014). A decade of adaptive governance scholarship: synthesis and future directions. *Ecology and Society* **19**(3): 56
- M. Alexander, S. Priest and M. Mees (2016). A framework for evaluating flood risk governance. Environmental Science & Policy 64 (2016) 38–47
- Stoker, Gerry. 2002. Governance as Theory: Five Propositions. International Social Science Journal. (50) 155: 17-28.

❖ Week 12 – November 30 – Political Economy of Market Regulation
- Clapp, J., & Dauvergne, P. (2011). *Paths to a green world*. 2d. Cambridge, Massachusetts: The MIT Press, pp. 1-18
- D. Levy and J. Newell (2002). Business Strategy and International Environmental Governance: Towards a Neo-Gramscian Synthesis. *Global Environmental Politics*.
- J. Andrew and C. Cortese (2013), Free market environmentalism and the neoliberal project: The case of the Climate Disclosure Standards Board. *Critical Perspectives on Accounting*.