

Water Resource Economics

ECON 484/673

Fall 2017
Course Outline

Professor: Roy Brouwer

Class time and location: Tuesdays 11:30 am – 2:20 pm, room HH 138

Office hours: by appointment

Contact information: rbrouwer@uwaterloo.ca

Course description:

This is a topics course. The course consists of classes in which the economics of major global water management challenges will be addressed (water quantity and water quality). Particular attention will be paid to water resource valuation and pricing, focusing on market and non-market valuation methods. In addition, students will play a water game, and write an assignment paper about an existing transboundary water management challenge involving trade-offs between water-dependent energy and food security using a cost-benefit analysis framework. Students are furthermore asked to give a class presentation of a water economics journal article of their choice. The paper assignment and class presentation each count for 25% of their overall grade. The course will end with a final exam, which will make up 50% of the final grade for the course. The exam will be based on the material covered in class.

Required background: Knowledge of microeconomic theory, basic calculus and linear algebra and some experience with differential equations are required.

Readings:

Brouwer, R. and Pearce, D. (2005). Cost-benefit analysis and water resources management. Cheltenham, UK, Edward Elgar Publishing.

Griffin, R.C. (2016). Water resource economics. The analysis of scarcity, policies and projects. Cambridge, MA, MIT Press, 2nd edition.

Olmstead, S.M. (2010). The economics of water quality. Review of Environmental Economics and Policy, 4(1): 44-62. <https://doi.org/10.1093/reep/rep016>.

Olmstead, S.M. (2010). The economics of managing scarce water resources. Review of Environmental Economics and Policy, 4(2): 179-198. <https://doi:10.1093/reep/req004>

Course schedule:

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|------------------------------------|---|
| Thursday 14 September ¹ | General course introduction |
| Tuesday 19 September | Supply of water |
| Tuesday 26 September | Demand for water |
| Tuesday 3 October | Water markets |
| Thursday 12 October ² | Economics in water policy and decision-making |
| Tuesday 17 October | Water Game |
| Tuesday 24 October | Water valuation (1) |
| Tuesday 31 October | Water valuation (2) |
| Tuesday 7 November | Transboundary water management paper assignment |
| Tuesday 14 November | Journal article presentation students ³ |
| Tuesday 21 November | Paper assignment presentation students ³ |
| Tuesday 28 November | Guest lecture Prof. Diane Dupont, Brock University |

Notes:

¹ Change of class from Tuesday to Thursday 6:30-9:30 pm due to the international water conference 'The Role of Water Technology Innovation in the Blue Economy' organized by the course convener. See here for more information: <https://www.elsevier.com/events/conferences/water-research-conference>

² Tuesday 10 October is a study day.

³ Any assignment that is not handed in or presented during the lecture at which it is due will not be marked and will receive a grade of zero. If you miss that lecture due to illness and therefore cannot hand in your assignment, it will be accepted at the next lecture you attend if accompanied by a relevant medical certificate.

Economics Department Deferred Final Exam Policy

Deferred Final Exam Policy found at

<https://uwaterloo.ca/economics/undergraduate/resources-and-policies/deferred-final-exam-policy>

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integrity](#) webpage and the [Arts Academic Integrity](#) webpage for more information.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (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. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

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. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

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 is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

Accommodation for Students with Disabilities

Note for students with disabilities: [The AccessAbility Services office](#), located on the first floor of the Needles Hall extension (1401), 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 AS office at the beginning of each academic term.