

## Topics in environmental economics

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### Course's Objectives – Objectif du cours :

The objective of this course is to introduce students to three specific topics in environmental economics :Economics of Animal Welfare, Water Economics, and Behavioural Environmental Economics.

Short descriptions of each topic:

Economics of Animal welfare: The purpose of this course is to approach the question of animal welfare through the lens of economics. This is a very new course, and it is likely that this is the first course ever on that topic worldwide. The course will present applications of standard economics to the issue of animals but will also address new topics such as the relaxation of anthropocentrism in welfare economics or the behavioral economics of meat eating. In doing so, the course will address topics at the interface of economics and public policy, animal sciences, philosophy, psychology, and political economy.

Water Economics: The purpose of this part of the course is to study different research questions that will help improve our understanding of the challenges faced by policy makers in the water sector. These include the modelling and estimation of water demand and the design of water tariffs. The lectures will also explain how to assess the value of water and wastewater services when water coverage is not universal and the impact of access to water and wastewater services on households' health and welfare. Upon completion, students should demonstrate a good knowledge of the general structure of the water sector and to describe particular characteristics and interrelation between different players of this industry.

Behavioural Environmental Economics : The objective of this topic will be to provide the students general knowledge on behavioral economics applied to environmental problems.

In particular, we will study how economic experiments can inform policymakers about the efficiency of incentive tools designed to improve environmental quality (pigouvian tax, ambient tax, nudges, etc.), as well as their social acceptability. Through these topics, we will also see how to construct an economic experiment to test simple hypotheses.

Course outline

Economics of Animal Welfare :

1. Introduction to the economics of animal welfare
2. Multidisciplinary views of animals – Anthropology, Animal sciences, and law
3. The ethics of animal welfare
4. Willingness to pay for animal welfare
5. Meat – Market, externalities, psychology, politics, etc.

#### Water Economics :

1. Cost of water and wastewater utilities;
  - a. modelling of water demand
  - b. water tariff design
2. Valuing access to water services and its impact on households' health and welfare
3. Irrigation water management; water markets; water pollution from agriculture

#### Behavioural Environmental Economics :

1. Introduction: *Homo economicus*, cognitive biases and (green) nudges
2. From economic theory to experimental economics
3. Beliefs and decision making with applications in environmental and agricultural economics
4. Analyzing the results of economic experiments
5. *Nudges*, manipulation and moral costs

#### Prerequisites – Pré-requis :

No special prerequisites except for knowledge about economics obtained either prior or to, or during the first semester of TSE M2 E&E.

#### Grading system – Modalités d'évaluation :

Each topic will be evaluated separately and the final grade will be the sum of each grade obtained in the three topics.

Economics of animal welfare : Grades will be based on take-home exams for each topic and a written report in which students identify and constructively discuss an environmental/ecological problem related to one of the topics of the course (the preferred topic to be chosen by the student him-/herself). The written report will be presented and discussed in a seminar at the end of the course.

Water Economics : Grades will be based on take-home exams for each topic and a written report in which students identify and constructively discuss an environmental/ecological problem related to one of the topics of the course (the preferred topic to be chosen by the student him-/herself). The written report will be presented and discussed in a seminar at the end of the course.

#### Behavioural Environmental Economics :

1. R homework : the objective will be to conduct the main tests that are expected following the implementation of an economic experiments.  
Students will have to present the main results in a report form and to give their recommendations regarding the outcomes they obtained with their tests.  
The R code will have to be sent with the report.  
This first task will represent 50% of the grade.
1. Discussion of a protocol : students will have to discuss the protocol of a published paper, and to assess the adequacy the objectives of the paper. They will also have to answer some questions related to the course. The students will perform this task at home.  
This second task will represent 50% of the grade.

Bibliography/references – Bibliographie/références :

Economics of animal welfare : The required reading will be based on published peer-reviewed articles and lectures notes (that will be given to the students before each session).

Water Economics : The required reading will be based on published peer-reviewed articles and lectures notes (that will be given to the students before each session).

Behavioural Environmental Economics : The required reading will be based on published peer-reviewed articles and lectures notes (that will be given to the students before each session).

Chetty (2015), « Behavioral economics and public policy: a pragmatic perspective », *American Economic Review*, 105(5), pp. 1–33.

Croson and Treich (2014), « Behavioral environmental economics : Promises and Challenges », *Environmental and Resource Economics*, 58(3), pp. 335-351.

Kallbekken *et al.* (2011), « Do you not like Pigou, or do you not understand him ? Tax aversion and revenue recycling in the lab », *Journal of Environmental Economics and Management*, 62, pp. 53-64.

Kesternich *et al.* (2017), « Recent Trends in Behavioral Environmental Economics », *Environmental and Resource Economics*, 67(3), pp. 403-411.