Topics in Environmental Economics

Course title – Intitulé du cours	Topics in Environmental Economics
Level / Semester – Niveau /semestre	M2/S2
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Arnaud REYNAUD
Other teacher(s) – Autre(s) enseignant(s)	Nicolas TREICH
Other teacher(s) – Autre(s) enseignant(s)	Benjamin OUVRAD
Other teacher(s) – Autre(s) enseignant(s)	
Other teacher(s) – Autre(s) enseignant(s)	
Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	30
TA Hours – Volume horaire TD	
TP Hours – Volume horaire TP	
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

Arnaud Reynaud
Email : arnaud.reynaud@inra.fr
Office : MS204 Meeting after prior appointment by email.

Nicolas Treich
Email: nicolas.treich@inra.fr
Office: MS212 Meeting after prior appointment by email.

Benjamin Ouvrard
Email : benjamin.ouvrard@inrae.fr

Course Objectives – Objectifs 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, ambiant tax, nudges,
etc.), or about their social acceptability.

Through these thematics, we will see how to construct an economic experiment to test simple hypotheses.

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.

Practical information about the sessions – Modalités pratiques de gestion du cours :

Grading system – Modalités d'évaluation :

Each topic will be evaluated separately and the final grade will be the sum of each grade obtained inthe 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 :

Students will be evaluated according to the following tasks :

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.

2. 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.
   The students will perform this task at home or in class (to be discussed).
   This second task will represent 40% of the grade.

In both tasks, some additional questions will be asked (based on the lectures).

Finally, participation/presence in class will represent 10% of the grade (except if the course had to be taught with Zoom).

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).

Some propositions below:

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 uou not like Pigou, or dou you not understand him ? Tax aversion and revenu 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.

Session planning – Planification des séances :

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

2. From theory to lab experiments: Setting up an experiment to study green policies
    a. Examples of behavioural (environmental) economics models (conformity, optimism/pessimism, implementation of a nudge)
    b. Setting up an experiment
        i. Behavioural hypotheses
        ii. Design considerations
    c. Examples of experiments

3. Analyzing data
    a. Non-parametric tests
    b. Econometrics

4. Conclusion : informing policymakers

Distance learning – *Enseignement à distance :*

Distance learning can be provided when necessary by implementing :

- Interactive virtual classrooms