

## Environmentals & Resource Economics

Course title - Intitulé du cours	Environmentals & Resource Economics
Level / Semester - Niveau /semestre	M1 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	ANDERSSON - HAMMIT - LAMP
Other teacher(s) - Autre(s) enseignant(s)	
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Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### Teaching staff contacts - Coordonnées de l'équipe pédagogique :

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Office: MS210 Office hours: Mondays, 8:30-10:00, by prior appointment by email only.

James K. Hammitt Email: [james.hammit@tse-fr.eu](mailto:james.hammit@tse-fr.eu)

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Stefan Lamp Email: [stefan.lamp@tse-fr.eu](mailto:stefan.lamp@tse-fr.eu)

Office: MS102 Meeting after prior appointment by email.

### Course's Objectives - Objectifs du cours :

This course is divided into three parts which will be taught by three different professors.

The first part of the course will focus on economic policies related to environmental problems. It is well known that free markets will fail to provide the optimal provision of environmental goods and services (including mitigating negative effects of environmental pollution). Two examples of such market failures are externalities and the fact that many environmental goods are public goods that will not be provided in a free market. This part of the course will provide an introduction to different economics policies and instruments such as benefit cost analysis, pricing of externalities, etc.

The second part of the course will give an introduction to the field of energy economics. After defining key concepts in energy markets, the course will focus on the understanding of energy demand and analysis at the disaggregated level. We will further discuss the main economics of depletable resources (Hotelling) and look at the interconnection of energy economics and the environment, in particular climate change.

In the last part of the course, we will explore two questions that are important when evaluating environmental policies: valuation of mortality risk and of future consequences. The first concerns how much it is worth spending to reduce toxic pollution and the second concerns how much it is worth

spending now to reduce future harms. For example, the social cost of carbon is the present value of the monetarized damages caused by one more ton of CO<sub>2</sub> emitted today. This analysis is at the frontier between environmental economics, social choice theory and the theory of finance.

#### COURSE OUTLINE

1) An Introduction to Environmental Policies (H. Andersson), 15 hours

- a) The rationale for intervention
- b) Benefit cost analysis
- c) Pigouvian taxes
- d) Valuation of non-marketed goods

2) An introduction to Energy Economics and (S. Lamp), 7.5 hours

- a) Introduction
- b) The economics of energy supply
- c) Understanding energy demand

3) Discounting, uncertainty, and health risks (J.K. Hammitt), 7.5 hours

- a) Discounting the future, the Ramsey rule
- b) Effects of uncertainty
- c) Valuing mortality risk and the future – Special focus on US policies and developing countries

#### **Prerequisites - Pré requis :**

Good understanding of intermediate microeconomics.

#### **Grading system - Modalités d'évaluation :**

Written exam. Attendance in the lectures is mandatory.

#### **Bibliography/references - Bibliographie/références :**

Students will be informed about the required reading at the start of the course and will in addition to any textbook consist of published scientific articles. Lecture notes, required readings, except textbooks, and any exercises will be made available through the Moodle course page.