Environmental & Resource Economics

Course title - Intitulé du cours	Environmental & Resource Economics
Level / Semester - Niveau /semestre	M1 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	DE CANNIERE - HERRERA - MASSOL
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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Course Objectives – Objectifs du cours :
This course is divided into three parts which will be taught by three different professors.

The first half of the course focuses on the design and evaluation of environmental policy. It examines the choice of policy instruments and considers their efficiency and equity implications. Empirical tools are introduced to evaluate the impact of environmental regulation. Applications throughout the course illustrate how economic theory and data can inform a range of real-world environmental and climate challenges.

The second part of the course is designed to help you apply the theoretical and empirical tools covered throughout the course to real-world, policy-relevant issues. We will start by discussing two case studies that illustrate the health co-benefits of environmental policies. Building on these examples, you will work in small groups to develop and present your own case study. The project should address a concrete policy question and clearly demonstrate how economic tools can inform decision-making. We encourage topics that connect environment and health. The goal of this project is to deepen the understanding of how to operationalize economic concepts in evaluating public policies, strengthen your critical thinking, and improve your ability to communicate policy analysis effectively.

The third part of the course will introduce the field of energy economics. After defining key concepts in energy markets, the course will look more into the characterics of the oil and electricity markets. We will further discuss the main economics of depletable resources (Hotelling) as well as to the specific economic problems observed in resource-rich nations. The course will then review the economics of network-based energy industries and discuss some of the key issues observed in the power and gas sectors. Lastly, the course will concentrate on the contemporary debates pertaining to the interconnection of energy economics and the environmentand the complex interactions between climate policies and the transition observed in the energy sector.

Prerequisites – Pré requis :
Good understanding of intermediate microeconomics.

Grading system – Modalités d'évaluation :
The first part of the course ("Environmental Policies") will be evaluated by a mid-term exam that will take the form of a combination of a written exam and problem sets (the exact format will depend on whether campus, in person, teaching will be the norm). The second part ("Environmental Instruments and health risks") will be evaluated by

student presentations in class and a take-home exam. The third part ("Energy Economics") will be evaluated by a report. Lecture attendance is mandatory for parts 2 and 3.

Bibliography/references – Bibliographie/références :

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

Session planning – Planification des séances

Environmental Policies (C. De Cannière), 15 hours

- Understanding the economic rationale for environmental policy
- Policy instrument choice
- Distributional impacts and equity considerations
- Tools for empirical evaluation of environmental policies
- Insights from applications

Environmental Instruments and health risks (D. Herrera), 7.5 hours

- Valuing mortality and valuing morbidity risk
- Case studies on health and environmental risk

An introduction to Energy Economics and (O. Massol), 7.5 hours

- Introduction
- The global oil and gas markets and the economics of fossil fuels
- The economics of network energy industries (electricity, gas, CO2, H2)
- Interactions between energy and the environment

Distance learning – *Enseignement à distance :*

Depending on the situation, distance learning may be implemented. If necessary, it can be a mix of "Standard lectures", "Interactive virtual classrooms", "Recorded lectures" (videos), with the supportof a Chatroom/Forum, and online exercises may complement evaluation tasks described above under "Grading".