Professor: Jan Horst KEPPLER
Contact information: jan-horst.keppler@dauphine.fr
Department: MSO
Semester: 1
Course level: Graduate (M2)

Domain: Economics
Teaching language: French or English, depending on composition of class
Number of in-class hours: 36
Number of course sessions: 9 + Exam
ECTS: 6

Course description and objectives

The class will provide students with an overview of key concepts in both environmental economics and energy economics with a special focus on the performance of European electricity markets. The class will develop those notions in a framework alternating between private and social utility maximization.

Objectives:
The class should enable students to apply the most important notions of environmental and energy economics to basic policy analysis

Prerequisites
Registration in 2nd year Master classes is restricted to graduate students and subject to the approval of the academic advisor for international students and MSO departments.

Learning outcomes
XXX

Assignments and grading

- Written exam

The numerical grade distribution will dictate the final grade. The passing grade for a course is 10/20.

Class participation: Active class participation – this is what makes classes lively and instructive. Come on time and prepared. Class participation is based on quality of comments, not quantity.
Exam policy: In the exam, students will not be allowed to bring any document (except if allowed by the lecturer). Unexcused absences from exams or failure to submit cases will result in zero grades in the calculation of numerical averages. Exams are collected at the end of examination periods.
# Course structure

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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| 1       | Externalities, Fixed Costs and Information  
   a. Private and public goods  
   b. Externalities  
   c. Informational complexity and transaction costs  
   d. The role of governments |
| 2       | The Static Model of Optimal Internalisation of Externalities I  
   a. The Pigouvian approach  
   b. Instruments for Internalization  
   c. The Working of Emissions Markets |
| 3       | The Static Model of Optimal Internalisation of Externalities III  
   a. The distributional implications of the static model  
   b. Grandfathering versus auctioning  
   c. Risk, uncertainty and option value |
| 4       | The Measurement of Externalities I  
   a. Measuring Abatement Cost  
   b. Measuring Social Costs (including loss of option value) |
| 5       | The Measurement of Externalities II  
   a. Distributional implications of environmental policies  
   b. The Coasean critique (Coase against Coase)  
   c. The Rebound Effect |
| 6       | Energy and Sustainable Development  
   a. Sustainable development in the energy sector  
   b. Energy efficiency and the rebound effect  
   c. World energy perspectives |
| 7       | Electricity Markets  
   a. The functioning of electricity markets and price formation  
   b. The investment challenge and the capacity issue |
| 8       | Topics in electricity markets  
   a. Projected costs of generating electricity  
   b. Carbon pricing  
   c. System effects |
| 9       | The Interaction of Carbon and Electricity Markets  
   a. Theories of price formation in the carbon market  
   b. Causality between CO2 prices and energy variables  
   c. Rents of electricity producers due to carbon pricing |
| 10      | Final Exam |
Bibliography


MyCourse
This course is on MyCourse: Yes

Academic integrity
Be aware of the rules in Université Paris Dauphine about plagiarism and cheating during exams. All work turned in for this course must be your own work, or that of your own group. Working as part of a group implies that you are an active participant and fully contributed to the output produced by that group.

Academic calendar
The pedagogical assistant will give you directly the schedule at the begin of the semester