

# Optimization of energy system



## En bref

- › **Langues d'enseignement:** Anglais
- › **Méthodes d'enseignement:** En présence
- › **Forme d'enseignement :** Travaux pratiques
- › **Ouvert aux étudiants en échange:** Oui

## Présentation

### Description

- \* Semester 9
- \* Duration : Within one semester
- \* Type: Mandatory
- \* Student workload: Lecture (CM): 12 hours, Tutorials (TD): 9 hours
- \* Applicability: SOLEM course only
- \* Teaching and learning method : seminar, case studies, discussion
- \* Module examination: 1 written exam (100%)

**Responsible person for the module:** Pierre OUEDRAOGO, Doctoral researcher at French Environment and Energy Management Agency (ADEME), IREG laboratory, IAE, USMB

**Ph.D in economics - Research fields:** Circular Economy, Repair, Reuse, Recycling, Life Cycle Assessment, Public Policies, Electrical and Electronic Equipment

**Thesis:** Levers of the circular economy : are they complementary? [Personal Website](#)

### Objectifs

**Major intended learning outcomes:**

Upon completion of the module students will:

- \* understand how a firm makes cost-minimizing decisions and how its cost varies with its output.
- \* have learnt how a competitive firm chooses its output in short and long term.
- \* be able to apply the theory of microeconomics in energy system.
- \* understand and identify the main differences between the different markets form.
- \* have learnt how oligopolistic firms decide on output and prices.
- \* understand why Cartels rises and what successful cartelization require?
- \* be able to make analysis of cartel pricing

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## Heures d'enseignement

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|----|-----------------|----|
| CM | Cours Magistral | 9h |
| TD | Travaux Dirigés | 9h |

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## Pré-requis obligatoires

Admission to 2nd semester

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## Plan du cours

### Content of the module:

- \* Introduction: General context and course outline
- \* Chapter 1: The Theory of the Firm
- \* Chapter 2: The Firm in Perfectly Competition Market
- \* Chapter 3: Market Power: Monopoly and Monopsony
- \* Chapter 4: Monopolistic competition and Oligopoly
- \* Chapter 5: The Cartels

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## Bibliographie

### Textbooks:

- \* Roberts S. Pindyck and Daniel L. Rubinfeld «Microeconomics» – 8th edition (The Peason series in economics)
- \* Jean-Pierre Hansen, Jacques Percebois « Energie#: Economie et Politiques#» 3ième édition (deboeck)

### Websites:

- \* <https://www.bbc.com/news/business-61188579>
- \* [https://www.francetvinfo.fr/monde/environnement/cop/cop28-les-pays-exportateurs-de-petrole-realisent-qu-ils-perdent-le-contrôle-analyse-un-participant-apres-la-lettre-de-l-opep-contre-un-accord-sur-la-sortie-des-energies-fossiles\\_6233085.html](https://www.francetvinfo.fr/monde/environnement/cop/cop28-les-pays-exportateurs-de-petrole-realisent-qu-ils-perdent-le-contrôle-analyse-un-participant-apres-la-lettre-de-l-opep-contre-un-accord-sur-la-sortie-des-energies-fossiles_6233085.html)

\* <https://www.geo.fr/geopolitique/quest-ce-que-lopep-organisation-des-pays-exportateurs-de-petrole-214045>

## Infos pratiques

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### Lieux

› Le Bourget-du-Lac (73)

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### Campus

› Le Bourget-du-Lac / campus Savoie Technolac