



2018-2019

Nom du cours / Name of the course:

Economics of Nuclear

Enseignant / Professor:

Fabienne PEHUET LUCET
with Michel Berthelemy and Patrice Geoffron

Contact de l'enseignant / Contact Information (Optional)

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Langue d'enseignement / Language :

French and English. (Most material in English)

Overview:

Access to Energy and electricity is at the core of economic growth as well as industry and social development. Governments determine Energy policies and energy mix choices in accordance with country's context and ambitions. Economics is among the main criteria when it comes to launching, developing or changing the respective share of power generation technologies in the energy mix, namely (as of now) share of coal, gas, nuclear, hydro, wind, solar and biomass.

Rising electricity needs worldwide and the need to curb Carbon emissions are influencing new power generation choices in our societies.

This course focuses on the economics of nuclear; it covers the scope and specifics of the nuclear sector, life cycle costs and determining factors of nuclear power generation economics, nuclear markets, financing of nuclear projects.

It will illustrate theory with real past and current cases. Views of current works in economics will be presented as they shed light on some multi-faceted topics.

Pré requis / Prerequisites (optional)

Objectifs du cours / Course Objectives:

This course is designed for students coming from various backgrounds (economists, engineers, finance and business management...), interested in energy policies, energy mix decision making, energy transition and global costs of energy generation technologies.

By the end of this course, the students will enhance their capacity to discuss and form sound opinions about economics of nuclear and related topics such as the cost of nuclear power generation, waste management, nuclear decommissioning, uranium, enrichment, cost and financing of nuclear projects, nuclear in the electricity system ...

Mode d'évaluation / Mode of Assessment

Final Exam, 90 minutes during the last session.
(Will include a QCM.)

Planning / Course Schedule

1	Nuclear Power Sector : Fundamentals
2	Economics of New Nuclear Power Plants projects.
3	Economics of Existing Nuclear Power Generation. Zoom on future NPP models economics.
4	Economics of Nuclear Waste, treatment and disposal Economics of nuclear facilities Decommissioning & Dismantling
5	Economists' views on: external costs, systems costs, cost of flexibility...
6	Exam : 90 Minutes Wrap up: Current discussion topics about nuclear power generation.

Bibliographie / Readings (optional):

Projected Costs of Generating Electricity. OECD NEA/IEA, 2015 edition.

MyCourse

This course is on MyCourse: **Yes or No**

Grading

The numerical grade distribution will dictate the final grade, according to the faculty's recommended grade distribution.

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.

Academic integrity

Soyez conscient des règles de l'Université Paris Dauphine sur le plagiat et la triche aux examens. 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. When you use the web, please state your sources.