MGT-407

Economics of innovation & management in energy

Jaag Christian Ivo

Cursus	Sem.	Type
Management, Technology and Entrepreneurship minor	E	Opt.
Managmt, tech et entr.	MA2, MA4	Opt.

Language of teaching	English
Credits	2
Withdrawal	Unauthorized
Session	Summer
Semester	Spring
Exam	Written
Workload	60h
Weeks	14
Hours	**2 weekly**
Courses	1.5 weekly
Number of positions	

It is not allowed to withdraw from this subject after the registration deadline.

Remark

Special schedule. See the MTE website: http://cdm.epfl.ch/mte/study-plan

Summary

This course explores the theoretical and empirical perspectives on individual and industrial demand, supply, public policies including (de)regulation and management, in the energy sectors (oil, natural gas and electricity).

Content

1. Market equilibrium and market failure
2. Economic characteristics of energy, sustainability
3. Regulation in the energy sectors
4. Geopolitical and environmental aspects
5. Market structure and management in the energy sectors
6. Innovation opportunities & incentives

Remark: the course will be taught the first 7 weeks of the semester

Keywords

Energy - Energy economics - Energy regulation - Energy innovation - Energy management

Learning Outcomes

By the end of the course, the student must be able to:

- Explain the main economic and political forces behind energy demand and supply as well as the rationales for economic policy in the energy sectors
- Use economic tools and principles to analyze energy issues
- Formulate energy policy instruments

Transversal skills

- Communicate effectively with professionals from other disciplines.
- Use a work methodology appropriate to the task.
- Demonstrate the capacity for critical thinking

Teaching methods

- Lectures by the course instructor
- Seminars by experts from the energy sectors
- Projects by participating students

Expected student activities

- Attendance at lectures
- Doing a short project in groups

Assessment methods

- 40%: Project carried out during the course : oral presentation and slides
- 60%: Written test

Supervision

Office hours	No
Assistants	Yes
Forum	No
Others	Contact by email: christian.jaag@epfl.ch

Resources

Virtual desktop infrastructure (VDI)

No

Bibliography

Relevant journals:

- Energy policy : http://www.journals.elsevier.com/energy-policy
- Journal of Regulatory Economics: http://www.springer.com/economics-industrial+organization/journal/11149
- Review of Network Economics: http://www.degruyter.com/view/j/rne
- Competition and Regulation in Network Industries: http://www.crninet.com
- NBER Papers in Environmental and Energy Economics: http://www.nber.org/papersbyprog/EEE.html

Relevant links:

- Swiss Federal Office of Energy: http://www.bfe.admin.ch/index.html?lang=en
- Energy Strategy for Europe: http://ec.europa.eu/energy/index_en.htm
- International Energy Agency: http://www.iea.org/aboutus/
- World Energy Council: http://www.worldenergy.org/

Ressources en bibliothèque

- Journal of Regulatory Economics
- Swiss Federal Office of Energy
- International Energy Agency
- Review of Network Economics
- Energy policy

- Competition and Regulation in Network Industries
- NBER Papers in Environmental and Energy Economics
- Energy Strategy for Europe
- World Energy Council