MGT-450

Technology, sustainability and public policy

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

Language of teaching	English
Credits	4
Session	Summer
Semester	Spring
Exam	Written
Workload	120h
Weeks	14
Hours	**4 weekly**
Lecture	2 weekly
Exercises	2 weekly
Number of positions	

Summary

Technology is a driver of long-term welfare. Yet it also sometimes threatens sustainable development. This course investigates the links between technology and sustainable development, models causes of failures of sustainable technology, and evaluates public policies that could address them.

Content

Technology is a critical driver of long-term welfare. Yet new technologies have both been the source of unprecedented wealth and the cause of much hardship. Fossil fuel-based energy technologies, for instance, enabled the Industrial Revolution but contribute to severe environmental problems such as air pollution and climate change. Technological solutions to such problems often exist in theory but are frequently deployed too slowly to avoid harm. This course will investigate (1) the connections between technology, welfare, and sustainability, (2) the supply of sustainable technologies and why innovation sometimes fails in this area, (3) the demand for sustainable technologies and why firms, households, and societies sometimes reject them, and (4) policies to address these failures.

Keywords

sustainability, sustainable development, technology adoption, economic development, public policy, economics, society, politics

Learning Prerequisites

Required courses

No prerequisite. Students will be expected to be willing to familiarize themselves with work from a wide range of disciplines.

Recommended courses

Passing familiarity with economic and/political modeling (eg game theory) is useful but not essential.

Learning Outcomes

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

- Synthesize knowledge on sustainability, technology, and public policy
- Model social processes
- Design solutions to complex problems
- Assess / Evaluate solutions to complex problems

Transversal skills

- Demonstrate a capacity for creativity.
- Demonstrate the capacity for critical thinking
- Communicate effectively with professionals from other disciplines.

Teaching methods

The course will include lectures, in-class exercises, and discussions.

Expected student activities

Students are expected to attend the class and participate in discussions and exercises.

Assessment methods

Modeling assignment (30%)
Policy brief (30%)
Final exam (40%)

Supervision

Office hours	Yes
Assistants	Yes
Forum	No

Resources

Virtual desktop infrastructure (VDI)

No

Moodle Link

- https://go.epfl.ch/MGT-450