

MGT-450

Technology, sustainability and public policy

Aklin Michaël

Cursus	Sem.	Type
Digital Humanities	MA1, MA3	Opt.
Management, Technology and Entrepreneurship minor	H	Opt.
Managmt, dur et tech	MA1	Obl.
Managmt, tech et entr.	MA1, MA3	Opt.
Minor in Engineering for sustainability	H	Opt.
Minor in digital humanities, media and society	H	Opt.

Language of teaching	English
Credits	4
Session	Winter
Semester	Fall
Exam	Written
Workload	120h
Weeks	14
Hours	4 weekly
Courses	2 weekly
Exercises	2 weekly
Number of positions	

Summary

Technology is a driver of long-term growth but it can also undermine sustainable development. This course introduces microeconomic models of market and collective action failures, models of complex systems, as well as policy portfolios to address these issues.

Content

Technology is a critical driver of long-term welfare. Yet unconstrained technological development is testing the limits of planetary boundaries and is the source of severe environmental issues. Technological solutions to such problems often exist in theory but are frequently deployed too slowly to avoid harm. This course (1) identifies the connections between technology, welfare, and sustainability, (2) models the sources of both market and collective action failures as well as system-level breakdowns, (3) analyzes the demand for sustainable technologies and studies why firms, households, and societies sometimes reject them, and (4) identifies the optimal design of policies to address these challenges.

Keywords

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

Learning Prerequisites**Recommended courses**

Passing familiarity with microeconomic models 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
- Assess / Evaluate public policies
- Sketch system models

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

Final exam (40%)

Exercises and shorter assignments (60%).

Supervision

Office hours	Yes
Assistants	Yes
Forum	No

Resources

Virtual desktop infrastructure (VDI)

No

Notes/Handbook

Notes will be distributed in class.

Moodle Link

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