



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Socio-Political Aspects of Sustainable Industrial Processing

2627-2-F7603Q006-F7603Q00602

Aims

Contemporary society still sees a strong, yet artificial, separation between the technical-scientific dimension and the social dimension in the planning, measurement and monitoring of the environmental sustainability of human-made artefacts. In the case of local sustainability measures and industrial facilities, the majority of conflicts and failures in policies and interventions do not stem from technological limitations but from issues of social acceptability, local governance, risk perception, environmental justice and the participation of the local communities and their populations.

Ignoring the relevance and interconnections of the two dimensions could result in longlasting conflicts (with public bodies, employees and local populations), increasing costs in facilities' development and maintenance, reputational damages.

The module aims to analyze and discuss the role of socio-cultural aspects in sustainable industrial processes planning, as a crucial dimension for enhancing the efficiency of socio-technical arrangements, reducing their negative externalities.

Contents

By the end of the course, students should be able to critically analyze real case studies to better understand why do technologically effective and scientifically sound interventions often encounter social and political resistance at a local level. This will be obtained thanks to a series of intermediate goals:

- understand the differences between technical-scientific and socio-economic assessments of sustainability;
- analyse environmental conflicts relating to facilities and infrastructure;
- interpret the role of local stakeholders in the ecological transition and the role of sustainability measures: decided by whom? Aimed at what? Implemented how?
- apply sociological concepts to analyse processes of acceptance or opposition to innovations;

- integrate environmental indicators with social and local indicators.

Detailed program

The teaching programme will be composed by 5 macro-topics:

1. Sustainability: scientific vs socio-economic perspectives (6h)

- sustainability as a contested concept
- the social construction of environmental problems
- technocratic versus participatory approaches
- (Just) Transition Management

2. Industrial ecology and territorial embeddedness (6h)

- industrial ecology & ecological transition
- decarbonisation & territorial metabolism
- the circular economy, territories & socio-territorial capital
- industrial symbiosis & socio-technical innovation
- Multi-Level Perspective

3. Risk perception and industrial plants (6h)

- objective risk and perceived risk
- trust in institutions
- risk communication
- NIMBY and similar syndromes: limitations and criticisms

4. Governance and stakeholder engagement (6h)

- stakeholders' theory
- public participation
- multi-level governance
- deliberative processes

5. Environmental conflicts and local communities (8h)

- socio-environmental conflicts
- local movements
- environmental justice, procedural justice, recognition justice
- distribution of costs and benefits

Prerequisites

No prerequisites are required to follow the course and take the exam.

Teaching form

9 lessons of three hours each (DE), delivered face-to-face, with classroom-based teaching activities, and 5 hours of interactive discussion (DI).

Textbook and teaching resource

Selected parts of the following texts:

1) Sustainability: scientific vs socio-economic perspectives

Latour, B. (2004). *Politics of Nature*. Harvard University Press.

Latour, B. (2018). *Down to Earth: Politics in the New Climatic Regime*. Polity Press.

Beck, U. (1992). *Risk Society: Towards a New Modernity*. Sage

Giddens, A. (2009). *The Politics of Climate Change*. Polity Press.

2) Industrial ecology and territorial embeddedness

Graedel, T. E., & Allenby, B. R. (2010). *Industrial Ecology and Sustainable Engineering*. Pearson.

Chertow, M. R. (2007). "Uncovering" Industrial Symbiosis. *Journal of Industrial Ecology*, 11(1), 11–30.

Barca, F. (2019). Place-based policy and politics. *Renewal: A Journal of Social Democracy*, 27(1), 84-95.

3) Risk perception and industrial plants

Lupton, D. (2023). *Risk* (3rd ed.). Routledge

Douglas, M. (2013). *Risk and acceptability*. Routledge.

Slovic, P. (2010). *The feeling of risk. New perspectives on risk perception*.

4) Governance and stakeholder engagement

Meadowcroft, J. (2007). Who is in Charge here? Governance for Sustainable Development in a Complex World. *Journal of Environmental Policy & Planning*, 9(3–4), 299–314.

5) Environmental conflicts and local communities

Martinez-Alier, J. (2002). *The Environmentalism of the Poor*. Edward Elgar.

• slides

• **additional material on selected topics**, i.e., reports or documents made available on the e-learning website of the course.

Semester

I semester (October - November/December)

Assessment method

The assessment will consist of an oral exam made of three questions about the contents of the course and the eventual case studies discussed in the teaching period.

Assessment will be based on the following criteria: (1) knowledge and understanding; (2) ability to connect different

concepts and concepts to real case-studies; (3) autonomy of analysis and judgment; (4) ability to correctly use scientific language.

Office hours

Always, after scheduling an appointment via e-mail.

Sustainable Development Goals

INDUSTRY, INNOVATION AND INFRASTRUCTURE | SUSTAINABLE CITIES AND COMMUNITIES |
RESPONSIBLE CONSUMPTION AND PRODUCTION | PARTNERSHIPS FOR THE GOALS
