



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Applied Economics in Energy Storage and Energy Generation

2627-2-F7603Q010-F7603Q01002

Aims

This module focuses on how economic agents make decisions that may generate significant social impacts, particularly in the context of energy consumption under strong feasibility and availability constraints. The course adopts a behavioral economics perspective, namely the intersection between economics and psychology.

We begin by providing an overview of the main psychological mechanisms and behavioral biases that lead individuals' choices to deviate from the predictions of traditional economic models. We then turn our attention to policy-making, examining several real-world examples of nudging interventions designed to influence and recalibrate behavior toward more socially desirable outcomes. Finally, we contextualize these concepts within energy economics, exploring how scholars have extended standard microeconomic analysis to incorporate behavioral elements in energy use and consumption habits related to essential utilities.

Contents

- Psychology meets economics: what does behavioral economics study?
- Cognitive and evaluative biases in economic decision-making.
- Behavioral policy-making: nudging and real-world applications.

Detailed program

- Behavioral economics: assumptions and methodological approaches.
- Kahneman's architecture of choice.
- Cognitive and evaluative biases: framing effects, loss aversion and status quo bias, sunk-cost bias, information aversion, intertemporal choices, and present bias.
- Nudging: default options, salience and framing of relevant information, cooling-off periods, soft constraints,

gamification, social norm salience, and SMarT interventions.

- Applications in the field of energy use and consumption behavior.

Prerequisites

- Basic knowledge of microeconomics.

Teaching form

- 2 CFUs in total
- > 8 two-hour lectures (16 hours total), delivered in person (Delivered Didactics) with interactive elements.

Attendance to lectures and interactive exercises is highly recommended.

Textbook and teaching resource

- Lecture slides.
- Notes presented during lectures and additional material on selected topics (e.g., scientific articles), made available through the course e-learning platform.

Semester

I semester (October - January)

Assessment method

The final exam consists of a single written exam at the end of the course, with a score between 18-30 / 30, which comprises the discussion of various topics covered in the course, with an emphasis also on the connections between concepts and processes.

Assessment will be based on the following criteria:

- (1) knowledge and understanding;
- (2) ability to connect different concepts;
- (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

CLEAN WATER AND SANITATION | AFFORDABLE AND CLEAN ENERGY | INDUSTRY, INNOVATION AND
INFRASTRUCTURE | RESPONSIBLE CONSUMPTION AND PRODUCTION | CLIMATE ACTION
