UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Decision Making

2122-2-F5105P008

Learning area

APPLIED EXPERIMENTAL PSYCHOLOGICAL SCIENCES

Learning objectives

Knowledge and understanding

- Understand the ideal standards of decision-making both in individual and interactive context
- Understand why people fail to cope with ideal standards
- Heuristics in decision-making and associated biases
- Prospect theory and associated formal modeling of decision making
- Understand how indirect suggestions can influence decisions (nudging)

Applying knowledge and understanding

- Determination of the optimal course of action in different contexts, with examples from clinical decision making and economic decisions
- Analysis of the typical decision course of individuals, with critical analysis of their limits
- Use of professional software for building and visualizing decision trees

Contents

The course will explore and discuss the main theories, recent experimental evidence, and applications on human decision making. Students will also learn basic use of TreeAgePro, a professional software for building and visualizing decision trees and other decision models.

Detailed program

- Choice under certainty
- Judgment under risk and uncertainty
- Choice under risk and uncertainty
- Intertemporal choice
- Prospect theory and Nudging
- Decision Trees with sensitivity analysis
- Markov models
- Cost-Effectiveness Analysis

Prerequisites

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Teaching methods

Teaching methods include the use of lectures, short movies, classroom discussions, group work, and exercises. Smartphone apps that allow students to respond in real-time to open or closed questions will be used. Once a week lectures will be held in a computer lab to both (i) work on short presentation discussing a common topic chosen by the teacher (ii) learn and practice with TreeAgePro. All course materials are made available on the e-learning website of the course. An online forum will also be available on the e-learning website, allowing interaction with both other students and the teacher. Lessons will be held in presence unless further COVID-19 related restrictions are imposed.

Assessment methods

The exam includes a written test to be performed in a computer lab. The test involves three parts: a multiple response test, open questions and an exercise with TreeAgepro. The exam aims at ascertaining the effective acquisition of both theoretical knowledge and the ability to connect and apply the different topics of the course. The answers to each question will be evaluated for correctness, argumentative capacity, synthesis, ability to form links among the different areas, and the ability to present the phenomena critically. The activities performed during the course will be part of the overall evaluation.
For students who request it, an oral interview will also be available on all the topics of the course. The interview can lead to an increase or decrease of up to 10 points compared to the written exam score. The final evaluation after the oral interview will be compulsorily registered.

Textbooks and Reading Materials

Angner, E. (2020). A Course in Behavioral Economics (Third edition.). London: Palgrave.

Further compulsory material will be made available by the teacher during the course on the elearning website.
This course requires the extensive use of software for building and analyzing decision trees. Each attending student will receive a complimentary six-month, not renewable license of the professional software TreeAge. The students that do not attend the course, and the students that will attempt the exam after the license expiration, can use the opensource silverdecisions software.