



The Hebrew University of Jerusalem

Syllabus

Psychological aspects in Decision-Theory - advanced topics - 51784

Last update 10-08-2016

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: psychology

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: Mt. Scopus

Course/Module Coordinator: Sacha Bourgeois-Gironde (Sacha Girondi, Hebrew name)

Coordinator Email: sbgironde@gmail.com

Coordinator Office Hours:

Teaching Staff:

Prof Sacha Bourgeois-Gironde

Course/Module description:

Recent trends of decision-theory under uncertainty may seem to have grown in independence of a realistic vision of human psychology. In this year's course I will discuss a few state-of-the-art topics in decision-theory which raise the issue of its psychological realism. Positively, it should lead to conceive of a better integration of formal decision-theory, normative concerns about rationality, and experimental psychology.

The requirement of psychological realism concerns, on the one side, the consistency assumptions bearing on individual preferences and beliefs and, on the other side, the conception of the rationality of persons in the terms of a decision-theory.

Accordingly this course will address topics related to the following advanced issues:

- Preference completeness. The incompleteness of preferences / by contrast with indifference and preference for later resolution of choice (flexibility). How to imagine a behavioral test that discriminates between these different states of mind.
- Second-order subjective probability. The distinction between ambiguity (lack of information about probabilities of events) and ambiguity-aversion in formal models. Should we model aversion to ambiguity in terms of second-order subjective probabilities? How is it different from the assumption and measure of confidence towards one's first-order probability judgements? The connection between confidence and belief will be explored.
- Rationality tests. Can we test rationality? Recent proposals have been made in terms of semi-fictitious dialogues between an expert of decision-making and a subject that presents apparent violations of decision-theory principles, or, a bit differently, in terms of metacognitive self-assessments. We will analyze the nature, scope and limits of such a proposal and try to reach a better characterization of "dialogical rationality", the sources of which, as one can see, are Platonic.

Course/Module aims:

This course provides a double entry in decision-sciences as a discipline still to be unified, by exploring specific ways to reconcile its more formal aspects (decision-theory proper) and the broad range of data acquired in experimental psychology about human (and animal) decision-processes.

Learning outcomes - On successful completion of this module, students should be able to:

- Have a better view of what decision-theory is about and have even gotten acquainted with advanced aspects of it.
- Being able to build relevant experimental paradigms to test formal decision-theoretical hypothesis.
- For the most successful students: being able to construct alternative models incorporating the right dose of psychological sophistication.

Attendance requirements(%):

Teaching arrangement and method of instruction: The course is multidisciplinary (decision-theory, psychology, philosophy). No formal prior knowledge is required.

Sessions will alternate lectures by the instructor and presentations by students (in English or Hebrew) based on designated papers and topics.

Course/Module Content:

##1-2: General introduction. Completeness of preferences: The problem. Extant models and experimental attempts.

#3: Second-order subjective probability (1): The problem. Interpreting the formal models.

#4: Second-order subjective probability (2): The confidence approach.

#5: Rationality tests. Dialogical rationality.

##6-12 will consist of specific forays in these topics alternating guided presentations by students and instructor's comments and extensions.

Required Reading:

Gilboa, I. (2009). *Theory of decision under uncertainty*. Cambridge: Cambridge university press.

Additional Reading Material:

Al-Najjar, N. I., & Weinstein, J. (2009). The ambiguity aversion literature: a critical assessment. *Economics and Philosophy*, 25(03), 249-284.

Bleichrodt, H., & Wakker, P. P. (2015). Regret Theory: A Bold Alternative to the Alternatives. *The Economic Journal*, 125(583), 493-532.

Bourgeois-Gironde, S. (2010). Regret and the rationality of choices. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1538), 249-257.

Eliaz, K., & Ok, E. A. (2006). Indifference or indecisiveness? Choice-theoretic foundations of incomplete preferences. *Games and Economic Behavior*, 56(1), 61-86.

Gilboa, I., Postlewaite, A., & Schmeidler, D. (2009). Is it always rational to satisfy Savage's axioms?. *Economics and Philosophy*, 25(03), 285-296.

Hill, B. (2013). Confidence and decision. *Games and Economic Behavior*, 82, 675-692.

Slovic, P., & Tversky, A. (1974). Who accepts Savage's axiom? *Behavioral science*, 19, 368-373.

Course/Module evaluation:

End of year written/oral examination 40 %

Presentation 0 %

Participation in Tutorials 20 %

Project work 0 %

Assignments 40 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information:

The lectures are intended to a multidisciplinary audience: students from psychology, philosophy, economics and rationality are very welcome.

Teaching Language English - but Hebrew can be used by students Teaching Language