Universitat Pompeu Fabra Barcelona
Department of Economics and Business

MASTER OF RESEARCH IN ECONOMICS, FINANCE AND MANAGEMENT

BEHAVIORAL DECISION MAKING I	32587

COURSE

6 ECTS	TERM 2	OPTATIVE	WORKLOAD: 150H

This information is for the 2026/27 session.

Professors

Prof. Gaël Le Mens

Teaching guide

Introduction

People routinely make choices in complex environments they do not fully understand. In such settings, they cannot consciously evaluate the available alternatives on all their attributes and then make a utility-maximizing choice. Nevertheless, people still make choices and bear the consequences of these choices. How do they manage to do this? In this research seminar, you will learn the **foundations** of the academic field that focuses on this question**: Behavioral Decision Making**. The field has been pivotal in the development of behavioral economics and recent Nobel Laureates who contributed to it include Daniel Kahneman (2002) and Richard Thaler (2017).

Traditional behavioral economics courses focus on judgment and decision errors and how they systematically deviate from the prescriptions of rational model. In this course**, I will present a different perspective that emphasizes the links between learning and decision making**. The idea that to understand judgments and decisions, one should analyze the context of learning that comes before such judgments and decisions. We will see that, once we incorporate learning and experience in our analytical framework, the picture that emerges is much more positive about human abilities than what is implied by the traditional perspective: human judgments and decisions are highly adaptive to the environments in which people evolve, especially in situations in which we repeatedly encounter similar contexts and can learn from feedback. We will also tie research in

judgment and decision making to the recent developments in AI, and in Large Language Models.

After taking this course, you will have acquired new conceptual frameworks and tools that are useful for the generation of innovative research ideas in fields such as micro-economics, applied and political economics, finance, or management. This course is also relevant if you plan to work in the industry in areas in which understanding and predicting how consumers and citizens will react to the introduction of new policies, technologies, services or products is important.

This class can be taken by MS students from the BSE and by MRES students. It can be taken **individually**, as a pair of courses together with Behavioral Decision Making II, or as part of the **behavioral economics and decision-making track**. More information on this track is provided below, in section 5.

Teaching methodology

The course has a **research** focus. The teaching methodology will consist in lectures, in-class experiments, interactive class discussions, and presentations of recent papers. You will have regular assignments that ask you to critically engage with what you read in one of the assigned paper, program some simple computer simulations of a decision or judgment model (in the language of your choice, python, matlab, R, excel…), and / or analyze experimental or field data.

The material (readings, slides) will be posted in the course Box folder.

Pre-requisites: ability and motivation to think in terms of formal models, working knowledge of a high-level programing language (e.g., python, R, matlab).

Course Logistics

Course attendance: **Attendance to the in-class sessions** is **mandatory**. The session will start 5 mins after the official time. Please make sure to be in class before this time and use a **name tag** so that I can learn your names.

Assignments to be prepared before various sessions (questions about readings, data analysis / computer simulation exercises, etc.)

Deliverables for the project:

- Three in class presentations for the research project (including preparation materials such as questionnaires about the project, pre-registration form, etc.).

- Completion of the **training course provided by CIREP (University Research Ethics Committee – https://www.upf.edu/web/cirep/training-and-resources),** necessary for you to become aware of key issues related to doing research with human participants.

- Final paper

Schedule and topics covered (tentative)

Session	Topic
1	Introduction - Framing Effects, Prosecutor Fallacy, Diversification Heuristics
2	Primacy effects, generalization, what makes for a good decision, what makes for a good judgment?
3	Evaluating probability judgments, Bayes Theorem, Heuristics, Representativeness 1
4	Representativeness 2, Availability, Anchoring, Generalization from Experimental Findings
5	The Experimental Ideal – The Bias Bias part 1: hot and fallacy, regression to the mean
6	The Bias bias part 2: framing effects, overconfidence
7	Multiple attributes judgments, part 1: introduction and information search
8	**Project presentation 1**: Research Questions
9	Multiple attributes judgments, part 2: Combining information, Accuracy vs Effort, Compensatory vs non-compensatory models, models vs human judges (experts or not)
10	Information sampling and evaluations, part 1: negativity biases, preference formation, popularity and evaluations, applications to AI recommendations
11	Information sampling and evaluations, part 2: social influence and application to online review systems
12	**Project presentation 2**: Data collection and analysis plan
13	Concept and categories, part 1: Prototypes, exemplars, categories as PDF, Stereotyping and prejudice
14	Concept and categories, part 2: How categories affect social valuation, ambiguity, measuring typicality from text data with LLMs
15	Concept and categories, part 3: Evaluating categories and social groups from experience
16	Information sampling, learning, and Categories, part 1: how politicians allocate attention to policy issues on Twitter
17	Information sampling, learning, and Categories, part 2: social influence: do people follow the behavior of the majority or the majority behavior?
18	Online feedback and opinion extremization - online rankings and the popularity of fake news.
19	**Project presentation 3**: Results and conclusions
20	Conclusions, discussion of memorable concepts / ideas.

Assessment and Grading System

- Research project: 60%. The main component of the evaluation will be based on one research project. See details in section
- Oral contribution to in-class discussion (including paper presentation / discussion / discussion of assignments): 40%
  There will be no exam in this course.

Note on use of AI tools such as ChatGPT or Claude Code: I see AI tool as 'mind extension devices' and thus am encouraging students to use them as they see fit (as a conversation partner to brainstorm about ideas, to learn about something, to help with computer programing, etc.). **Responsibility for what is written lies with the student**, even if it contains mistakes produced by an AI tool.

Attendance is a compulsory requirement for this course. In the event of an absence, students must notify the professor(s) and provide an appropriate justification. Unjustified absences may ultimately imply that a student cannot be evaluated for the course.

Project instructions

Preliminary note: I expect most students to follow these instructions which I designed to give structure to the project and to make its execution as simple as possible. But, if you really want to work on a project that does not fit in the description below, I am open to discussion. Come and talk to me during the break or after class!

The research project should consist of an original idea that fits within the topic of the course, and that could potentially be converted into a full-fledged research paper. This project will give you a chance to

1. Go more deeply in a topic of interest to you.
2. Think theoretically in terms of a mechanism producing a predicted pattern of judgment / decisions.
3. Give you the opportunity to **design** and **run** your **first experiment**.

Topic: The topic is up for you to choose; within the following constraints you should focus on explaining a pattern **of human judgments or decisions**. These could be individual or collective (e.g., group decisions).

Content of the paper: The paper should include:
A theoretical part that proposes a **mechanism** that leads you to formulate hypotheses about how some factors **causally affect** judgments / decisions. The theory can be presented in a formal way (e.g., a model with equations, propositions, theorems) or verbally. Importantly, the mechanism should lead to the formulation of **causal** claims: (think of the causal claims I made when discussing the 'Alan' experiment in session 2; 'if we manipulate X, we expect to see Y').
The description of a **pre-registered experiment** designed to **test** one or several of the causal claims. These should include an exogenous manipulation and measurement of the effect of this causal manipulation.
A report of the **results** of the experiment, including statistics such as 95%CIs, p values, etc.
A short **discussion** and conclusion section in which you discuss what was learnt (in terms of contribution to knowledge) from the results. If results turned out to be inconclusive, it is a good place to discuss why, and to suggest next steps for the project

(e.g., an idea about a follow up study that overcomes a limitation of the study presented in the paper).

Teams: Teams of 1-3 students.

Deliverables: There are 4 deliverables (the dates are tentative and subject to potential changes).

1. Session 8: Presentation about the research question and causal claim to be tested.
2. **Session 13:** Presentation of the data collection and analysis plan and submission of a **pre-registration report** (use the template available at https://aspredicted.org/). If you feel this does not fit the needs of your projects, you can find different templates here (https://help.osf.io/article/158-create-a-preregistration). Note that I am not asking you to publish it on these platforms (though you are free to do it, but to use one of these templates to create a pre-registration document that you will submit to the teaching team before running the study).
3. **Session 19**: Presentation of the project including the results.
4. Written report (theory, experimental design, presentation of the results of the analysis and conclusions). Limit length: **3**000 words (main manuscript). You are encouraged to include a Materials and Methods appendix. This should include the text of the questions asked to the participants, some screenshots, and some details about the empirical analyses. You do not need to include the analysis code for analyzing the data, but the nature of the analyses should be very clear (i.e. what equation were estimated, what statistical tests were run). To get a sense of the desired level of details, think that somebody who reads your paper + appendices should be able to replicate your study. And somebody with access to your data should be able to replicate your analyses and obtain the same results.

Additional Comments

Team and topic: You should form groups according to your research interests and this project should be something meaningful to you. Therefore, you should try to work on a topic that is connected to your broader research interests.

Experiment: I am asking you to develop an experiment that **tests a *theoretical claim*** (you do not have to come up with a new theory from scratch, though if you do, this is even better! But you can devise a test of an existing theory). Importantly: this experiment should **not** be a replication of an existing experiment. At the same time, a good heuristic to follow when designing experiments, is to be as close as possible to existing experiments (e.g., mimic what another experiment did to present information to participants or use the same questions as those used in another experiment to elicit beliefs and choices).

To prevent you from falling into technical complexities that will be impossible to overcome during the short timeframe of the project, I am imposing several constraints:

1. The experiment should be administered **online** through a survey tool (e.g. Qualtrics). The lab manager (Pablo Lopez-Aguilar) will create Qualtrics accounts for all of you.
2. The experiment should not require more than 15 minutes of participants' time.
3. The experiment should NOT involve interactive behavior (trying to do this will likely take too much time to sort out the programming difficulties that will inevitably arise – though I am ok with relaxing this constraint if you convince me I should).
4. **Before** running the study, you should obtain approval by a member of the teaching team (Patrick or Gael).

Participants: As a student in the BDM1 class, I am expecting you to take part in the experiments of your colleagues. Conversely, you can expect other students in the class to take part in your study. You are also encouraged to use your network of friends and family, social media contacts, to obtain more participants.

Connections to theory: I would like to emphasize that your project must have very **tight connections with one or several theories**. Although serendipitous learning can and does sometime occurs from experiments, we will discuss at length that it is very hard to learn much from experimental findings that are not strongly connected to theory.

In choosing a topic, you should go for simplicity!

Bio of Instructor

Gaël Le Mens is a Professor at Universitat Pompeu Fabra (UPF) and an Affiliated Professor of the Barcelona School of Economics (BSE).

Professor Le Mens studies how people, organizations, and AI systems **learn from experience**. A central theme of his research is that the information available to learning agents is often shaped by their own past decisions. Because people, organizations, and AI systems tend to seek out options they believe to be valuable and avoid those they believe to be poor, they may learn from **self-selected and systematically biased samples of experience**. As a result, learning can reinforce inaccurate beliefs rather than correct them.

His research also examines how the **environments** in which **learning** takes place—including markets, organizations, societies, technological interfaces, training datasets, and AI fine-tuning processes—shape the information agents encounter and the beliefs they form. Understanding these mechanisms can help improve the design of organizations, social systems, and AI technologies to foster more accurate beliefs and better decision-making.

His current 2.5 Million Euros **ERC Advanced Grant** project investigates how interactions with AI assistants such as ChatGPT and Claude shape belief formation and collective outcomes. The project examines how people **come to trust responses produced by**

AI assistants in domains where they cannot easily verify their accuracy, how trust is influenced by the design of these systems, and how AI-assisted learning affects belief diversity, opinion convergence and polarization, and the distribution of policy attitudes.

Professor Le Mens' research has been published in leading scientific journals, including *Psychological Review, Proceedings of the National Academy of Sciences (PNAS), Science Advances, Psychological Science, Cognition, Journal of Personality and Social Psychology, American Journal of Political Science, Sociological Science, Organization Science, Management Science*, and *Administrative Science Quarterly*.
He has taught graduate courses at INSEAD, London Business School, ESADE, and Università della Svizzera italiana, and has given guest lectures at Stanford University and the Massachusetts Institute of Technology (MIT).

Gaël Le Mens earned his PhD from Stanford School of Business.

Behavioral economics and decision-making track.

Fall term (September – December)

- Topics in Economic Theory: Behavioral Decision Theory (I and II, taught by Larbi Alaoui and Jose Apesteguia).

Winter term (January – March)

- Behavioral Decision Making I: Attention, Experience and Influence (taught by Gaël Le Mens)

Spring term (April – June)

- Behavioral Decision Making II: The Psychology of Economics Decisions (taught by Daniel Navarro-Martinez).
- Experimental Economics (taught by Rosemarie Nagel)

These courses cover different, and complementary, approaches to analyzing decision making. Topics in Economic Theory: Behavioral Decision Theory (I and II) falls within behavioral economics and decision theory and focuses on modeling behavioral phenomena that do not fall within standard rational choice theory. Behavioral Decision Making I: Attention, Experience and Influence focuses on how attentional processes, past experiences, the social environment, and recommendation systems affect beliefs and preferences. Behavioral Decision Making II: The Psychology of Economics Decisions draws from research in both behavioral economics and psychology to investigate topics such as preference reversals, self-control, the role of emotions in decision making, and choice architecture. Experimental Economics teaches methods used in the field of experimental economics and discusses experiments that focus on interactive situations.