

# SYLLABUS: BAVARIAN GRADUATE PROGRAM IN ECONOMICS



Behavioral Economics: September 1-6, 2019

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## Module Goals

- To provide students with exposure to the evidence on human economic behavior and to test it against the predictions of various neoclassical theories such as: expected utility theory; utility functions that depend only on self-regarding preferences; exponential discounting; Nash equilibrium and its refinements; and models of unbounded rationality.
- To expose students to behavioral economic analyses, which help to address the evidence that is anomalous to the neoclassical theories, and to equip them to construct such models in solving their research problems. These models are as rigorous as neoclassical models but draw on interdisciplinary research between economics, psychology, sociology, socio-biology, and neuroscience.
- To ask the fundamental questions: How should economists practise their craft? What constitutes good scientific practice?

Here is a more detailed outline of the goals. Assess, discuss, and analyse:

- the empirical evidence from generic situations of risk and uncertainty. Examine and analyse alternative behavioural decision theories of risk and uncertainty such as prospect theory and rank dependent utility. To be followed by a discussion of select applications of behavioural decision theories such as the endowment effect, risk preferences of primates, tax evasion, and contract theory.
- the empirical evidence for other-regarding preferences arising from experimental games such as the ultimatum game, trust game and the public goods game. To be followed by a discussion and critique of theoretical models of other-regarding preferences such as the Fehr-Schmidt model and select applications to contract theory & incentives, and to the relation between social preferences and norms.
- the empirical evidence on alternative models of time preference. To be followed by a discussion of alternative models of behavioural time discounting such as the hyperbolic discounting model and select applications to intertemporal choices in macroeconomics and to procrastination.
- the empirical evidence from human behaviour in strategic situations. To be followed by a discussion of select behavioural game theory models such as quantal response equilibrium, level-k models and their applications, and notions of social equilibrium, such as Kantian equilibrium.
- The empirical evidence and models of bounded rationality and mental accounting.

**Background:** An undergraduate course in microeconomics at a good level is a prerequisite. A graduate course in microeconomics will be a great asset, but not required. Curiosity about the real world and open mindedness about exploring newer frameworks of thinking in economics will be conducive to getting the most out of this course. Here is a desirable pre-requisite for the course that should put you in the right frame of mind for it: Before attending the course, students are strongly encouraged to read the Introductory chapter, pages 1-25 in Dhimi (2016) (see exact reference below). You may also wish to read the rest of the introductory chapter (pages 26-69) to get an understanding of modern behavioral economics. Also try some of the exercises at the back of the introductory chapter to see what sorts of questions you might be able to answer using behavioral economics.

Sunday, September 1

19:00 Welcome Meeting/Dinner

Monday-Thursday Daily Schedule:

8:00-9:00 Breakfast  
9:00-10:30 First Session (Lecture)  
10:30-11:00 Coffee Break  
11:00-12:30 Second Session (Lecture)  
12:30-14:00 Lunch  
14:00-16:00 Third Session (Lecture/Problem Set)  
16:00-16:30 Coffee Break  
16:30-18:00 Fourth Session (Problem Set)  
18:00-19:00 Free Time  
19:00 Dinner

Friday Schedule:

8:00-9:00 Breakfast  
9:00-10:30 First Session (Lecture)  
10:30-11:00 Coffee Break  
11:00-12:30 Second Session (Lecture)  
12:30-14:00 Lunch  
14:00-15:00 Third Session (Lecture/Problem Set)

## Course Material

I will make available lecture notes and problem sets. The lecture notes follow closely the material from the main texts listed below but are not a substitute for reading the book and exploring the range of topics on offer

### Textbooks

The main textbooks, that I follow closely, are:

Sanjit Dhama (2019) Foundations of Behavioral Economic Analysis. Volume I: Behavioral Economics of Risk, Uncertainty, and Ambiguity. Oxford: Oxford University Press.

Sanjit Dhama (2019) Foundations of Behavioral Economic Analysis. Volume II: Other-Regarding Preferences. Oxford: Oxford University Press.

Sanjit Dhama (2019) Foundations of Behavioral Economic Analysis. Volume III: Behavioral Time Discounting. Oxford: Oxford University Press.

Sanjit Dhama (2019) Foundations of Behavioral Economic Analysis. Volume IV: Behavioral Game Theory. Oxford: Oxford University Press.

Sanjit Dhama (2016) Foundations of Behavioral Economic Analysis. Oxford: Oxford University Press.

[Note: My 1800-page book, published in 2016, is being split up into 7 volumes. The first four volumes that are already published have been listed above. The newer volumes significantly improve on the 2016 book, in terms of improving the clarity and lucidity of the exposition, correcting errors/typos, and updating the material. Volume 5 on bounded rationality, not published yet, covers some of your lecture material so for this you will need to refer to the correspond material (Part 7) in the 2016 book. The paperback versions of all the books above are very reasonably priced. If you have an interest in behavioral economics that you would like to continue in the future, then it might be a good idea to buy the newer book volumes.]

Here are some other books that you might find useful.

#### I. Background reading

1. Daniel Kahneman (2011) Thinking, fast and slow. Allen-Lane
2. Richard Thaler (2015) Misbehaving: The making of behavioral economics. Norton.
3. Edward O. Wilson (2012) The Social Conquest of Earth. Liverlight.
4. Richard Thaler and Cass Sunstein (2009) Nudge: Improving decisions about health, wealth, and happiness. Penguin

#### II. More advanced books

1. Daniel Kahneman and Amos Tversky (2000) Choices, values and frames. Cambridge University Press.
2. Herbert Gintis (2009) The bounds of reason: Game theory and the unification of the social sciences. Princeton University Press.
3. Herbert Gintis (2017) Individuality and Entanglement. Princeton University Press.
4. Colin F. Camerer (2003) Behavioral game theory: Experiments in strategic interaction. Princeton University Press.
5. Douglas Bernheim, Stefano DellaVigna, David Laibson (2018) Handbook of Behavioral Economics - Foundations and Applications 1. Volume 1, North-Holland.

## Course Outline

The core topics are: behavioral decision theory, other-regarding preferences, behavioral time discounting, behavioral game theory and, time permitting, bounded rationality. The schedule below is an approximate guess of the coverage each day, although I anticipate that behavioral decision theory could spill over into Day 2. We might or might not be able to cover all the subtopics listed below in detail but I will try to explain the basic intuition behind these (as well as other topics that are not listed below). Below I list my books simply as “Foundations Volume n” or “Foundations, 2016”.

### Day 1 (Behavioral Decision Theory)

Foundations, Volume 1: Expected utility theory (Sections 1.2, 1.3). Probability weighting functions (Section 2.2). Rank dependent utility (Section 2.3). Prospect theory (Section 2.4). Limitations of prospect theory (Section 2.9). Human behavior for extreme probability events (Section 2.11). Endowment effect and exchange asymmetries (Section 3.2). Prospect theory preferences in primates (Section 3.3). Prospect theory and tax evasion (Section 3.5).

### Day 2 (Other-regarding Preferences)

Foundations Volume 2: Ultimatum and dictator games (Section 1.2). Gift exchange and trust games (Section 5.3). Public goods games (Section 1.4). How representative is the lab evidence? (Section 1.5). The Fehr-Schmidt model (Section 2.2). Human sociality (Section 3.2). Theory and evidence for incomplete contracts under other-regarding preferences (Sections 4.3.1 to 4.3.3). Norms and social preferences (Section 5.7).

### Day 3 (Behavioral Time Discounting)

Foundations Volume 3: Exponential discounted utility model (EDU) and its properties (Section 1.3.1). Time consistency of consumption plans under EDU (Section 1.3.2). Anomalies of the EDU model (selection of the material from Section 1.4). Quasi-hyperbolic model (Section 2.3.1). Multiple selves and the degree of awareness (Section 3.2.2). Optimal consumption under hyperbolic discounting (Section 3.3). Procrastination and preproperation (Section 3.5).

### Day 4 (Behavioral Game Theory)

Foundations Volume 4: Failure of two and three steps of iterated dominance (Sections 1.2.1, 1.2.2). Centipede game and failure of higher order steps of iterated dominance (1.2.3). Evidence on coordination failures (Section 1.4.1). Historical accidents and choosing among coordination equilibria (Section 1.4.9). Inferring cognition through search and lookups in a bargaining game (Section 1.5.4). The p-beauty contest and the level-k model (Section 2.3.2). The cognitive hierarchy model (Section 2.3.3). The market entry game (Section 2.4.4). Correlated equilibrium and social norms (Section 2.6). The winner’s curse in auctions (Sections 2.8.1, 2.8.2). Kantian rationality (Section 3.2). Microfinance contracts (Section 3.7).

## Day 5 (Bounded Rationality)

Foundations, 2016: Representativeness heuristic, hot hands fallacy, gambler's fallacy (Sections 19.2.1, 19.2.2). The availability heuristic (Section 19.4). The affect heuristic (Section 19.5). Anchoring and adjustment (Section 19.6). Base rate neglect (Section 19.7). Confirmation-bias (Section 19.9). Aspiration adaptation theory (Section 19.14.1). Prospect theory and mental accounting (Section 20.3).

\_\_\_\_\_End of course outline\_\_\_\_\_