Course Syllabus

Econ 4160, Behavioral Economics, Spring 2024, January 18 – May 1

PROFESSOR: Dr. Gerelt Tserenjigmid

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Office hours: Thursday 3:00 pm to 4:00 pm (Location: PCPSE Office 531)

Class time: 12:00pm – 1:30pm (Location: McNeil Building 286-7)

TEACHING ASSISTANT: Yoshiki Ando

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Office hours: Monday 2:30pm – 4:30pm (Location: PCPSE 500)

Class Overview: Overwhelming empirical evidence suggests that people often systematically deviate from predictions of standard models in economics. Behavioral economics is an emerging subfield of modern economics that incorporates insights from psychology and other social sciences into economics to improve the realism of standard models. In this course, we review some of the most standard models in economics such as utility maximization, expected utility theory, and discounted utility, and discuss evidence from the lab and field on how human behavior systematically departs from these models. We then study several well-known behavioral theories such as prospect theory, reference-dependent utility, and hyperbolic discounting that can explain such deviations. We also discuss the implications of these behavioral theories and the challenges they face.

Textbook: 1. Sanjit Dhami, *The Foundations of Behavioral Economic Analysis*, Oxford University Press, 2016.

Other books: 2. Daniel Kahneman, *Thinking, Fast and Slow*, 2013.

3. Richard Thaler and Cass Sunstein, *Nudge*, 2021.

4. Colin Camerer, *Behavioral Game Theory*, 2003.

5. Colin Camerer, George Loewenstein, and Matthew Rabin, *Advances in Behavioral Economics*, 2004

6. Douglas Bernheim, Stefano Della Vigna, and David Laibson, *Handbook of Behavioral Economics*, Volume 2, 2019

Course Structure: The course covers the following six important topics in behavioral economics:

- Utility maximization and context-dependence,

- Risky choice and prospect theory,

- Time preference and present bias,

- Learning and biased beliefs,

- Strategic interactions and cognitive hierarchy,

- Social preference and fairness (if time permits).

Exams: There will be two midterm exams and one final exam. Each midterm will count for 20% of your overall grade, whereas the final will count for 30%. There is no cumulative final (i.e., the final only covers the topics not covered by the midterms). The final will be a take-home exam and midterm exams will take place in the regular classroom; the tentative dates and times are as follows:

- Midterm 1: February 29

- Midterm 2: Mid-April (TBD)

- Final: May (TBD).

Homework: There will be 6 problem sets (one for each topic). The problem sets are all equally weighted and will count for 20% of your overall grade. The problem sets can, and should, be worked in groups, though each student must turn in their problem set.

Class Attendance and Participation: Class attendance is expected. There is no good textbook you can closely follow, and it is not easy to learn this material from the notes. I also strongly encourage class participation: questions, comments, and doubts. The remaining 10% of your overall grade is for class attendance and participation.

Tentative Weekly Schedule:

1. Introduction to behavioral economics (Week 1)

   Additional Reading: Camerer and Loewenstein (2004) "*Behavioral economics: past, present, future*," Chapter 1 of [6].
   Dellavigna (2009) "Psychology and economics: evidence from the field", Journal of Economic Literature. de Clippel and Rozen (2023) "Bounded Rationality in Choice Theory: A Survey"

2. Utility maximization and context-dependence (Week 2-3)

- Standard utility maximization,

- Puzzles: decoy effect, compromise effect, choice overload, violations of transitivity, status quo bias, and the endowment effect,

- Context-dependence,

- Reference-dependence.

- Salience theory.

Additional Reading: de Clippel and Rozen (2023) "*Bounded rationality in choice theory*," Journal of Economic Literature.

3. Risky choice and prospect theory (Week 4-5) – Reading: Dhami Chapters 1-2

- Expected utility theory and risk aversion,

- Puzzles: certainty effect, Allais paradox, loss-aversion, Rabin's paradox, and time-varying risk aversion,

- Prospect theory,

- Regret theory.

Additional Reading: Barberis (2013) "*Thirty years of prospect theory in economics: a review and assessment*," Journal of Economic Perspectives.

4. Time preference and present bias (Week 6-7) – Reading: Dhami Chapters 9-10

- Discounted utility,

- Puzzles: present bias, decreasing Impatience, procrastination, common difference effect, and magnitude effect,

- Hyperbolic discounting,

- Commitment and self-control.

Additional Reading: Frederick, Loewenstein, and O'Donoghue (2002) "*Time discounting and time preference: a critical review*," Journal of Economic Literature.

5. Learning and biased beliefs (Week 8-9) – Reading: Dhami Chapter 19

- Bayes' rule,

- Puzzles: the law of small numbers, base rate neglect, underreaction and overreaction to news, overconfidence, confirmation bias, correlation neglect, and motivated beliefs,

- Grether's rule,

- Other theories for biased beliefs.

Additional Reading: Benjamin (2019) "*Errors in probabilistic reasoning and judgment biases*," Chapter 2 of [7].

6. Strategic interactions and cognitive hierarchy (Week 10-11) – Reading: Dhami Chapters 12-13

   - Iterated deletion of dominated strategies and Nash equilibrium,

   - Ten little treasures of game theory,

   - Level-k and cognitive hierarchy models,

   - Quantal response equilibrium.

Additional Reading: Goeree and Holt (2001) "*Ten little treasures of game theory and ten intuitive contradictions*," American Economic Review.

7. Social preference and fairness (Week 12-13) – Reading: Dhami Chapters 5-6 (if time permits)

   - Ultimatum and dictator games,

   - The Fehr-Schmidt model.

Additional Reading: Fehr and Schmidt (2003) "*Theories of fairness and reciprocity: evidence and economic applications*," Advances in Economics and Econometrics.

January 15, 2024.