University of Waterloo
Department of Economics
Economics 491
Advanced Microeconomics
Fall 2022
MW 4-5:20PM, 334 Hagey Hall

Instructor and T.A. Information
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Course Description
This course is about behavioral economics. This is becoming a hot research area. What does behavioral economics mean? It means we explicitly model non-rational behavior. For example, people might not use probabilities correctly, they may use reference points to make choices, they procrastinate, they make mistakes, they forget, or they don't pay attention. Instead of thinking of these as small anomalies that "wash out" and don't affect markets, almost everyone makes mistakes and has imperfect memory; these have significant market consequences. We will first have to spend some time defining rational behavior before going into these behavioral issues.

There are two things you need to do to be successful in this course: come to lecture and do your homework (well, these are necessary but not sufficient conditions). Unlike other courses you may be used to, there will be very little reading. Why? I will cover some advanced topics directly from journals/papers, which I list below but do not expect you to read. Try to get exposure to the course material in many ways by going to see your TA during their office hours or working in homework groups (email me if you need a HW group).

Readings
Lecture notes will be posted several days after each class. The following readings are optional:
- G. Bonanno. Uncertainty, Risk, and Information. Independently Published, 2019.
- G. Bonanno. Decision Making. CreateSpace Independent Publishing, 2017.

- J. von Neumann and O. Morgenstern. Theory of Games and Economic Behavior. Princeton University Press, 1944.
- D. Kahneman and A. Tversky. Prospect Theory: An Analysis of Decision under Risk. Econometrica, 47(2): 263-292, 1979.
- I. Gilboa and D. Schmeidler. Maxmin Expected Utility with Non-Unique Prior. Journal of Mathematical Economics, 18(2): 141-153, 1989.
- P. Klibanoff, M. Marinacci, and S. Mukerji. A Smooth Model of Decision Making under Ambiguity. Econometrica, 73(6): 1849-1892, 2005.
- P. Fishburn and A. Rubenstein. Time Preference. International Economic Review, 23(3): 677-694, 1982.
- D. Laibson. Golden Eggs and Hyperbolic Discounting. Quarterly Journal of Economics, 112(2): 443-478, 1997.
- F. Gul and W. Pesendorfer. Temptation and Self-Control. Econometrica, 69(6): 1403-1435, 2001.
- L. Epstein and S. Zin. Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: A Theoretical Framework. Econometrica, 57(4): 937-969, 1989.
- C. Sims. Implications of Rational Inattention. Journal of Monetary Economics, 50: 665-690, 2003.
- S. Nagel and Z. Xu. Asset Pricing with Fading Memory. Review of Financial Studies, 35(5): 2190-2245, 2022.

Course Requirements and Assessment

Assessment	Date of Evaluation	Weighting
Ten homework assignments	Due in lecture Wednesdays	25%
Participation in in-class poll questions	Every lecture	5%
Midterm 1	October 5 in lecture	20%
Midterm 2	November 9 in lecture	20%
Comprehensive final	TBD	30%
Total		100%

- Homework will be graded on effort only (work in groups OK, submit a copy for each individual).
- Receive full credit for in-class polls with 75%+ answered (effort only).
- Polls consist of 1-2 survey links given each class, and aggregated responses displayed/discussed.

Course Outline

I have picked out what I think are the "main pillars" of behavioral economics and listed them in the course outline below. There will be a lot of problem solving, as these are theoretical/ mathematical models of behavioral decision-making. I will not be using any math beyond calculus, but expect a rigorous graduate school-level treatment of these topics below.

Choice under Uncertainty (finish this before Midterm 1)

- Expected utility
- The axioms
- Rank dependent utility
- Prospect theory
- Ambiguity aversion

Preferences over time (finish this before Midterm 2)

- Exponential discounting
- The axioms
- Beta-delta model
- Flexibility and commitment
- Epstein-Zin

Learning

- Bayes' Rule
- Rational inattention
- Memory
- Level-k model

Late Work
Assume I will not accept it. Email me well before the exam (not previous day) for illness or special accommodations.

Information on Plagiarism Detection
I don't see this being an issue.

Electronic Device Policy
No problem, just don't bother the rest of the class.

Attendance Policy
You should show up to get your in-class poll credit.

Academic Integrity
In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the Office of Academic Integrity webpage for more information.

Discipline
A student is expected to know what constitutes academic integrity to avoid committing an academic offence and to take responsibility for his/her actions. Check the Office of Academic Integrity for more information. A student who is unsure whether an action constitutes an offence, or who needs help in

learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline. For typical penalties check Guidelines for the Assessment of Penalties.

Grievance

A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4. When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Appeals

A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 - Student Appeals.

Note for Students with Disabilities

AccessAbility Services, located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Turnitin.com

Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.