

A Syllabus for Behavioral Economics

Fall 2025

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Course Type:

Major Compulsory Course for **Management Field** graduate students at NSD.

Major Elective Course for **Economics Field** graduate students.

This graduate student course will be quantitative and research oriented. This course will carefully balance the amount of empirical (experimental) and theoretical contents to meet the needs for management and economics students. Thus, it will have more experimental and psychological contents compared to a standard behavioral economics class in world-top economics PhD programs, and more quantitative modeling than behavioral science courses designed for marketing/management majors.

Course Description: Behavioral economics studies how people make choices. Neoclassical economic theory assumes that economic agents are rational. However, empirical research often discovers discrepancies between rational behavior and people's actual behavior. Behavioral economics builds upon changing some assumptions of standard economic models to obtain more realism. Behavioral economics uses insights from psychology to decide which assumptions need to be revised and how to best revise them to make the models more realistic.

We build the theoretical framework in a sequential structure like traditional economic theory. We start from standard consumer choice theory with no risk and uncertainty, but we introduce cognitive biases into the standard procedure and form behavioral theories about consumer choice. Then sequentially, we introduce risk and uncertainty and separately discuss two important aspects: judgment (how people form probability in their mind), and decision-making (how people make choices based on probabilistic information). Afterwards, we introduce more complex dimensions such as time horizon (intertemporal choice) and interaction (game theory) and discuss how bounded rationality would impact behaviors. Finally, based upon these behavioral economic principles, we discuss how we can apply these findings to improve the quality of choices and consumer welfare.

We will present both theoretical models and empirical evidence from experiments or real world data. By looking into these theories and facts, students can:

- (1) Understand the beauty and necessity of applying psychological principles and findings to economic decision making.
- (2) Master how behavioral economics can be applied in real-world scenarios, such as finance, marketing, politics, and interpersonal relations, and use these tools to solve real-world problems.
- (3) Learn technical skills necessary to understand and begin formal research in behavioral economics.
- (4) Build an open, inquisitive, and critical economic thinking style through behavioral lens.

Course audience: Graduate and advanced undergraduate students who have interest in behavioral and experimental research or use behavioral tools in applied economics (developmental, labor, health, environmental) fields.

Prerequisites: Advanced Microeconomics; Intermediate Econometrics.

Credits: 3 (3h/week)

Time: 2:10-5:00pm, Monday

Participation: Attendance is mandatory (one missing class **without previous inquiry** will lead to a 15% penalty of your in-class performance grade). You are expected and strongly encouraged to attend the lectures because we need to build a systematic knowledge system for the behavioral economics field. So, missing a 3-hour lecture (and the discussion along with it!) will be a big threat for this goal.

Studying in groups will be useful and could serve as a commitment device to avoid procrastination and help you resist temptation from distractions (which happens to be an important topic of our course).

Course Grading:

Attendance and In-class Performance: 20%

Short in-class presentation (10-15min): 5%

Long in-class presentation (35-40min): 15%

Final Presentation: 30%

Final Project and Presentation: 30%

Office Hour: 11:50pm-1:50pm, 北大科技园创新中心 4 楼（全球健康发展研究院）小会议室, or by appointment

You are expected to chat at least once with me before choosing your topic of final proposal!

Teaching Assistant Requirement: 1-2

References:

《行为经济学》, David Just

《实地实验》 Gerber and Green, —— More on the Empirical Side

《助推：终极版》 Thaler and Sunstein, —— More on the Empirical Side

Section I: Introduction

Week 1: Introduction to bounded rationality (2025/09/08)

Big picture course.

Why do we need behavioral economics? A guide to what the course (and behavioral economics in general) can and cannot teach you; a sketch for important behavioral findings that might have shocked economists and policy makers.

Section II: Behavioral Economics – Choices under Bounded Rationality

Part II: Choice under Certainty

Pre-lecture reading and review: rational choice theory in standard neoclassical economics (a review of microeconomics).

Week 2: Attention and Perception (2025/09/15)

Attention as a scarce resource: basics of rational inattention and salience (theory and models) (example: entropy, information searching and information costs)

Opportunity cost neglect, sunk cost bias, anchoring and adjustment, narrow framing, and many other cognitive biases may limit people's value perception of goods.

Evaluability theory – in what sense people are sensitive to quantitative differences.

Short presentation 1 – Salience (15min)

Week 3: Reference-dependent Preferences (2025/09/22)

Several sources of evidence suggest that people tend to judge the value of alternatives relative to some reference point. Endowment and Loss aversion. Other types of reference dependent behavior, such as framing effect, decoy effect, and menu dependence.

Models that have been used to capture reference dependence, and applications to marketing, finance and subjective well-being.

Short Presentation 2 – Decoy effects (15min)

Short Presentation 3 – Relative thinking or focusing (15min)

Supplemental Readings (Optional): Rational Inattention and Salience (50 minutes).

Matějka, F., & McKay, A. (2015). Rational inattention to discrete choices: A new foundation for the multinomial logit model. *American Economic Review*, 105(1), 272-298.

Dean, M., & Neligh, N. (2023). Experimental tests of rational inattention. *Journal of Political Economy*, 131(12), 3415-3461.

Chetty, R., Looney, A., & Kroft, K. (2009). Salience and taxation: Theory and evidence. *American economic review*, 99(4), 1145-1177.

Part III: Perception and Choice under Risk and Uncertainty

Pre-lecture reading and review: Basics of Probability and Statistics, Conditional Probability; Law of Total Probability; Bayes' Rule; Stochastic Dominance.

Week 4: Probability Judgment Biases (2025/09/29)

Biased beliefs about random sequences (gambler's fallacy, hot hand biases, law of small numbers, etc.) and sampling distribution (partition dependence, sample-size neglect, etc.)

Biases about belief updating. Base rate neglect and conservatism bias. Representative heuristic.

Motivated reasoning (prior-based and preference-based). Overconfidence. Correlation Neglect.

Real-world evidence and applications of erroneous probabilistic judgment.

Long Presentation 1: Hot-hand Fallacy

Short Presentation 4: Correlation Neglect

Week 5: Judgments Under Risk and Uncertainty (2025/10/13)

Pre-lecture reading and review: Expected Utility Theory; Stochastic Dominance; Risk Aversion.

Experimental evidence on systematic deviations from the Expected Utility Theory. The Allais Paradox. Prospect theory and the full version of loss aversion. Probability weighting. Empirical observation about probability weighting and quantitative analysis.

Ambiguity aversion and related concepts. Experimental evidence about differences in judgment under uncertainty. Ellsberg paradox. MaxMin Expected utility. Compound lottery aversion. Overconfidence.

Long Presentation 2: Prospect theory – new advances.

Short Presentation 5: Ambiguity aversion and applications in health.

A wrap-up of biased judgment and decision-making under risk and uncertainty with examples regarding health and finance.

Supplemental Readings (Optional): Judgment and Decision-making under Risk and Uncertainty

Paper Pool:

Gonzalez, R., & Wu, G. (1999). On the shape of the probability weighting function. *Cognitive psychology*, 38(1), 129-166.

Attema, A. E., Brouwer, W. B., & l'Haridon, O. (2013). Prospect theory in the health domain: a quantitative assessment. *Journal of health economics*, 32(6), 1057-1065.

Maccheroni, F., Marinacci, M., & Rustichini, A. (2006). Ambiguity aversion, robustness, and the variational representation of preferences. *Econometrica*, 74(6), 1447-1498.

Ortoleva, P., & Snowberg, E. (2015). Overconfidence in political behavior. *American Economic Review*, 105(2), 504-535.

Part IV: Selected Interesting Topics of Behavioral Economics

Week 6: Non-standard preferences regarding time. (2025/10/20)

Time cognition biases: exponential growth bias, planning fallacy, time vs. money perception (brief intro).

Present bias and hyperbolic discounting; flow [reference and peak-end rule; duration neglect] effect and related models.

Sophisticated Self Model (an interactive analysis between the “current self” and the “future self”. Demand for commitment. Applications for health decisions (drug abuse, exercising, fitness club membership, etc.) and savings decisions.

Nudges and interventions about managing self-control problems.

Long Presentation 3: Situational strategies for rebuilding a rational time preference

Short Presentation 6: Preference for menus (temptation)

Week 7: Introduction to Behavioral Game Theory (2025/10/27)

Empirical evidence on these patterns and implications on predicting real-world strategic choice with biases in games and interactions.

Behavioral Game Theory with Pure Strategy. Complicacy in inferring others' behaviors. Keynesian Beauty Contests and Level-k thinking.

Long Presentation 4: More on social preferences

Short Presentation 7: Public good game and applications in environmental and resource economics

Week 8: The Economics of Feelings. (2025/11/03)

The necessity of studying feelings in economics.

Individual feelings. Subjective well-being and happiness. Negative emotions and stress. How emotions and economic behaviors impact each other. Values and morality.

Social Preference/Other-regarding preferences. Fairness and reciprocity. Social identity and economic decisions.

Long Presentation 5: Impact of monetary stress and scarcity

Short Presentation 8: Happiness changes economic preferences

Section III: Methods for Behavioral Research

Part V: Experimental Methods

Week 9: Randomized Controlled Trials and Economic Experiments (2025/11/10)

Guest lecture (1.5h): Econometrics with Randomized Controlled Trials. Potential outcomes framework. Statistical inference with experimental results.

Problems with experimental data and common ways to deal with them – noncompliance, missing data, spillover effects, etc.

A brief introduction to important software and online platforms that a behavioral economist may rely on, and how an undergraduate student can start behavioral economic research.

Survey Software: Qualtrics, WJX

Game Programming Software: ZTree, OTree, LIONESS

Online Survey Platforms: Amazon Mechanical Turk, Prolific, CloudResearch, Credamo

Modern methods: belief elicitation, information provision experiments, eye-tracking, AI assistance

Supplementary Reading: Modern Experimental Methods (50 minutes)

Paper Pool:

Wang, J. T. Y., Spezio, M., & Camerer, C. F. (2010). Pinocchio's pupil: using eyetracking and pupil dilation to understand truth telling and deception in sender-receiver games. *American economic review*, 100(3), 984-1007.

Haaland, I., Roth, C., & Wohlfart, J. (2023). Designing information provision experiments. *Journal of economic literature*, 61(1), 3-40.

Charness, G., Jabarian, B., & List, J. A. (2023). *Generation next: Experimentation with ai* (No. w31679). National Bureau of Economic Research.

Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. *Nature*, 435(7042), 673-676.

Part VI: Applied Behavioral and Experimental Economics

Week 10: Behavioral Economics in Applied Micro Settings (I) (2025/11/17)

Theory of Planned Behavior. Nudging theory and practice. Attitude change and behavioral change. Some sketchy views and contrast from economics and social psychology.

A sketch for behavioral developmental/labor/health/political economy and the application of field experiments in these fields.

Related topics include (but not limit to):

Developmental: field interventions; network interventions

Labor: incentivization; job market field experiments

Health: health nudges; information provision nudges

Environmental: green nudges, public goods, contingent valuation

Public: taxation nudges, welfare economics with non-standard agents

Political Econ: voting experiments, field interventions

Long Presentation 6-7: Selected Applied behavioral economics presentation in Development, Labor and Health Economics

Short Presentation 9: Nudging and boosting

Week 11: Behavioral Economics in Applied Micro Settings (II) (2025/11/24)

A very sketchy introduction to behavioral finance.

Long Presentation 8-9: Selected Applied behavioral economics presentation in Environmental, Public and Political Economics

Short Presentation 10: Contingent valuation and choice experiments

Week 12: Behavioral Economics in Managerial Settings (2025/12/1)

Behavioral economic research for marketing, organizational behavior, and human resource management

Long Presentation 10-11: Selected Applied behavioral economics presentation in Organizational Behavior, Marketing, and Human Resource Management

Short Presentation 11: A conflicting topic – rice theory of culture

Week 13: Artificial Intelligence (2025/12/8)

Economic and Psychological Topics of AI.

AI aversion and its mechanisms. AI as an agent, and AI-human interaction and judgments.

Applying AI for behavioral nudges.

Short Presentation 12: Further Topics on the Economic Rationality of AIs

Part VII: Final Project Presentations

Week 14-16: Final Presentations (2025/12/15; 2025/12/22; 2025/12/29)

One guest lecture (note: determined by the number of students)

40 minutes for a student (tentatively four per class), presenting a **Research Proposal or a Research Paper**

DDL for finalized written research proposal: 2025/01/05