

PSYC 420
Adv. Topics in Cognitive Psychology -Principles of (Ir)rational Decision-Making
Fall 2025

Course Information

Office Hours: I will host a virtual office hour each week on Monday 5:00-6:00 pm (ET) via Zoom. The link and passcode can be found on OnQ. Email me when you enter the “Waiting Room” so I know you are waiting, and give me a chance to verify that you are a student in the course. I will speak with one student at a time while other students remain in the “Waiting Room.”

Modality: **In-person**

Email address to be used for Academic Consideration: Tara Karasewich (psyc.ac-com@queensu.ca). Please cc me in all the emails to Tara (anita.tusche@queensu.ca).

Online Materials and Course Notes: Students are advised to consult onQ regularly for supplemental materials, updates, and announcements. All questions about course-related content should be addressed using the discussion board on onQ. Email me if you have any unsuitable questions for the discussion board (e.g., personal information or accommodations).

Course Description

This course examines fundamental theories and research on rational decision-making, drawing on perspectives from psychology, economics, and biology. We will compare normative principles of rationality with actual choice behavior and explore how people systematically deviate from rational models. Topics include the cognitive, emotional, and social factors underlying biases in decision-making; “nudges” that leverage human choice architecture; and the neurobiological determinants of choice. We will also critically evaluate recent applications of decision-making research in real-world domains such as healthcare, education, marketing, and consumer behavior. Beyond understanding these principles, the course emphasizes primary empirical research and critical engagement with the literature. *Studying rationality and its systematic departures is not only theoretically engaging but also practically valuable, offering tools to improve the quality of our decisions in everyday life.*

Intended Student Learning Outcomes and Methods of Assessment

By the end of the course, students will be able to:

- 1. Describe applications of JDM theories from a cross-disciplinary perspective.** Students will demonstrate an understanding of similarities and differences in theoretical concepts and empirical approaches across disciplines (e.g., psychology, economics) in the study of rational decision-making. They will also be able to identify and articulate at least three valuable contributions from other fields that expanded their personal perspective on judgment and decision-making. (*assessed through reaction papers, group discussions, and the final exam*).
- 2. Critically evaluate empirical research in decision theory and its applications.** Students will be able to assess the quality, strengths, and limitations of empirical studies in JDM, as well as their applications in real-world domains (e.g., healthcare, marketing, education, consumer behavior). (*assessed through the oral presentation, group discussions, and the final exam*).

3. **Develop and demonstrate professional communication skills.** Students will refine their presentation skills, practice giving and receiving constructive peer feedback, and learn to effectively moderate group discussions. (*assessed through the oral presentation and participation in discussions*)

Textbooks/Readings

Required readings for this course focus primarily on recent empirical research papers that apply judgment and decision-making (JDM) theories and cognitive biases to real-world domains (e.g., healthcare, marketing, education, consumer behavior). These articles are available on onQ.

As background, we will also use selected chapters from two core textbooks, chosen for their accessibility and emphasis on applying decision-making concepts to practical issues. While the main focus of the course is on primary research articles, these textbook chapters provide essential foundational knowledge. Additional empirical and review articles will also be made available on onQ

1. **Thaler, R. H., & Sunstein, C. R. (2021).** *Nudge: The Final Edition*. Penguin Books. *Referred to as TS*. This is the updated edition of *Nudge: Improving Decisions About Health, Wealth, and Happiness*.

* All reading assignments will be based on this latest edition. Available on Amazon: <https://www.amazon.ca/Nudge-Final-Richard-H-Thaler/dp/014313700X>

2. **Hastie, R., & Dawes, R. M. (2009).** *Rational Choice in an Uncertain World* (2nd ed.). Thousand Oaks, CA: Sage Publications. *Referred to as HD*.

* Please use the second edition (not the first), which forms the basis for all reading assignments. Available on Amazon: <https://www.amazon.ca/Rational-Choice-Uncertain-World-Psychology/dp/1412959039>

Contacting the Course Instructor

Students requiring assistance are encouraged to speak with me after class. I will leave the course approximately 10-15 minutes after the class ends and I will be more than happy to answer any questions during this time. This will happen outside of the seminar room to allow the following class to enter smoothly. Should you wish to meet with me outside of this time and the official office hours, please email me to make an appointment.

Email, while commonly used, does limit the effectiveness of communications and may not be the best way for me to answer your question(s). In such instances, I may suggest a personal meeting during office hours or at a mutually agreed upon time. I will do my very best to answer emails as soon as possible; however, emails can be expected to be replied to within ***two working days*** (i.e., a reply to a 11 pm Saturday night email may not arrive before Tuesday evening). To facilitate my responses, please include the course ID "PSYC 420" in the subject line of the email.

Course Format

The format of this course will be largely focused on discussions and small group activities, with brief didactic lectures from your fellow students (presentations, see course outline below).

Grading Scheme

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|---|-----|-------------------------|
| 1. Reaction papers (<i>best 10 out of 11</i>) | 10% | due: each Friday @ 6 pm |
| 2. Class participation and attendance | 25% | due: weekly |

September 17	Key question(s)	Why do people ignore relevant information? What are common biases in the selection and weighting of these cues and probability judgments of specific outcomes?
	Student Presentation 3	Anchoring and adjustment
	Student Presentation 4	Availability
	Assignment	Reaction paper #3 due on September 19, @6 pm
Week 4	Real-world examples of reasoning based on similarities & causation	
September 24	Key question(s)	Continued (see week 3)
	Student Presentation 5	Similarity and representative thinking * should pertain to a topic covered in HD 5 or 6
	Student Presentation 6	Cause and causation OR Conjunction Fallacy * should pertain to a topic covered in HD 7
	Assignment	Reaction paper #4 due on September 26, @6 pm
Week 5	When probabilities and uncertainty become problematic	
October 01	Key question(s)	Continued (see week 3)
	Student Presentation 7	Overconfidence: thinking rationally about uncertainty
	Student Presentation 8	Base rate neglect OR ambiguity aversion
	Assignment	Reaction paper #5 due on October 03, @6 pm
Week 6	Bounded rationality and the critique of the heuristics & biases program	
October 08	Key question(s)	Are heuristics irrational? Or are these “fast-and-frugal” algorithms more robust, sturdier and have “better survival value” than optimal calculations (which are superior only when lots of information, computational capacity, and time are available)?
	Student Presentation 9	Applications of bounded and ecological rationality
	Student Presentation 10	Applications of bounded and ecological rationality
	Assignment	Reaction paper #6 due on October 10, @6 pm
Reading week		
October 15	No classes	
Week 7	Theory of preference	
October 22	Key question(s)	- How badly do we want things (or want to avoid negative consequences)? - What are the psychological processes and pitfalls when we try to evaluate our preferences? - What are ways that decisions by humans are likely to deviate from Expected Utility (EU) theory?
	Student Presentation 11	Endowment effect OR sunk costs
	Student Presentation 12	Loss aversion (“losses loom larger”) OR status quo bias
	Assignment	Reaction paper #7 due on October 24, @6 pm
Week 8	Cognitive biases in social media and spread of misinformation online	

October 29	Key question(s)	Can you identify which biases are at play in social media—and how, why, and with what consequence they shape opinions and the spread misinformation?
	Student Presentation 13	Spread of misinformation online
	Student Presentation 14	Cognitive biases in online platforms
	Assignment	Reaction paper #8 due on October 31, @6 pm
Week 9	Emotions and decision making I	
November 05	Key question(s)	Do emotions have the power to shape decisions, with potentially detrimental or beneficial effects, or are they epiphenomenal by-standers of the true forces behind decisions?
	Student Presentation 15	Anticipated emotions
	Student Presentation 16	Incidental (background) emotions
	Assignment	Reaction paper #9 due on November 07, @6 pm
Week 10	Emotions and decision making II	
November 12	Key question(s)	See week 9 (continued)
	Student Presentation 17	Regret
	Student Presentation 18	Emotion regulation and cognitive reappraisal
	Assignment	Reaction paper #10 due on November 14, @6 pm
	Homework	Suggest a nudge!
Week 11	Nudges and society	
November 19	Key question(s)	We will now turn to Thaler’s proposed “nudges” and discuss how they relate to systematic choice biases, heuristics and descriptive theories of decision making.
	Student Presentation 19	Nudges: financial well-being
	Student Presentation 20	Nudges: social well-being OR health
	Assignment	Reaction paper #11 due on November 21, @6 pm
	Homework	Name one take away from the course
Week 12	Nudges II and course wrap up	
November 26		Final exam prep
	Student Presentation 21	Nudge Wildcard #1 *
	Student Presentation 22	Nudge Wildcard #2 *
		* Choose an article related to any type of nudge and domain mentioned in this week’s readings (or in <i>TS, Ch 9 or 12</i>); please coordinate with the other student presenting this week

Late policy

Late assignments will receive a penalty of a drop of 10% (for that particular assignment) for each 24-hour period it is late. Assignments will not be accepted more than one week after the due date. Exemptions to the late penalty may be made for documented extenuating circumstances. Please email me as soon as you know you will be needing an extension.

Acknowledgement of Territory

Queen’s is situated on traditional Anishinaabe and Haudenosaunee territory. We are grateful to be able to be live, learn and play on these lands. To acknowledge this traditional territory is to recognize its longer history, one predating the establishment of the earliest European colonies. It is also to acknowledge this

territory's significance for the Indigenous peoples who lived, and continue to live, upon it and whose practices and spiritualities were tied to the land and continue to develop in relationship to the territory and its other inhabitants today. The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community and there are First people from other Nations across Turtle Island present here today. To read more about the history of the land, see the Queen's Encyclopedia at <http://www.queensu.ca/encyclopedia/t/traditional-territories>.

Equity, Diversity and Inclusivity Statement

Queen's University recognizes that the values of equity and diversity are vital to and in harmony with its educational mission and standards of excellence. It acknowledges that direct, indirect and systemic discrimination exists within our institutional structures, policies and practices and in our community. These take many forms and work to differentially advantage and disadvantage persons across social identities such as race, ethnicity, disability, gender identity, sexual orientation, faith and socioeconomic status, among other examples.

Course Announcements

Throughout the course, I will routinely post course news in the Announcements section of the course homepage. I encourage you to actively check the course onQ main page for course announcements throughout the semester for reminders and additional course information or learning opportunities.

Copyright of Course Materials

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's expressed consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Discussion Guidelines

University is a place to share, question, and challenge ideas. Each student brings a different set of lived experiences. You can help to create a safe, respectful place for learners by promoting the following guidelines:

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on other people's lives and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers write before you respond. Think through and re-read your writings before you post or send them to others.
6. It's alright to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and challenge others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.

Turnitin Statement

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments to through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content, and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

Please read Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service, which governs users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes. For further information about how you can exercise control over cookies, see Turnitin's Privacy Policy.

Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin

Statement on Academic Integrity

Academic Integrity is constituted by the six core fundamental values of honesty, trust, fairness, respect, responsibility and courage (see www.academicintegrity.org). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities <http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1>), on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodations for Disabilities

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see <https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslwww/files/files/policies/senateandtrustees/ACADACCOMMPOLICY2016.pdf>). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the QSAS website at: <http://www.queensu.ca/studentwellness/accessibility-services/>

Academic Consideration for Students with Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time, not to exceed three Friths. Students receiving

academic consideration must meet all essential requirements of a course. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances was approved at Senate in April, 2017 (see <http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senate-andtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf>) Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the portal where a request can be submitted at: <http://www.queensu.ca/artsci/accommodations>. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.