

Faculty of Health  
Department of Psychology  
PSYC 3255 3.0 Section: M  
**THE PSYCHOLOGY OF REASONING, JUDGMENT AND DECISION-MAKING**  
Wednesday 2:30-5:30  
ACE 004  
Winter 2019

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**Instructor and T.A. Information**

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**Course Prerequisite(s): Course prerequisites are strictly enforced**

- HH/PSYC 1010 6.00 (Introduction to Psychology), with a minimum grade of C.
- HH/PSYC 2110 3.00 3.00 (Developmental Psychology) or HH/PSYC 2120 3.00 (Social Psychology) or HH/PSYC 2260 3.00 (Cognition)
- Completed at least 54 earned credits

**Course Credit Exclusions**

Please refer to [York Courses Website](#) for a listing of any course credit exclusions.

**Course website:** [Moodle](#)

**Course Description**

The study of human reasoning and judgment offers us tools to enhance our every day decision making. Over the last 30 years, we have seen immense progress in our understanding of human reasoning and judgment. Current models and theories that have shaped the field will be discussed, including dual process models and individual difference perspectives. Performance on several paradigms will be examined from the perspective of the Great Rationality Debate. Topics and paradigms will include: framing effects, overconfidence paradigms, probabilistic and statistical thinking, scientific reasoning and myside thinking. In addition, we will discuss the development of reasoning, judgment in special populations, clinical decision making, and training effects.

**Program Learning Outcomes**

Upon completion of this course, students should be able to identify, use and apply concepts and paradigms that have been studied in the fields of reasoning, judgment and decision making.

Throughout the course, students will be asked to self-reflect and to try to recognize cognitive failures in reasoning and judgment in every day situations.

### **Program Learning Outcomes**

Upon completion of this course, students should be able to:

1. Demonstrate in-depth knowledge in several paradigms that have been studied in the reasoning, judgment and decision making research fields.
2. Articulate current trends and models that are dominating thinking in the fields of reasoning, judgment and decision making.
3. Express knowledge and understanding of how to design a research study related to improving human judgments and choices in every day activities.
4. Describe and explain limits to generalizability of research findings.
5. Demonstrate ability to relate information in psychology to own and others' life experiences through self-reflections.

### **Specific Learning Objectives**

The Learning Objectives of the course are to:

1. Discuss theoretical models and perspectives that have been used to frame the current study of human reasoning, judgment and decision-making, including dual process models and The Great Rationality Debate. This will include some of the classic theories and studies that have importantly framed the current literature include: the roots of thinking in the classic reasoning literature, the heuristics and biases tradition and prospect theory.
2. Key experimental paradigms will be examined, including: the Wason card selection task and falsification strategies, scientific thinking, probabilistic reasoning, cognitive reflection, belief bias syllogisms, myside bias, overconfidence paradigms and framing effects. There will be a focus on the methodological issues in studying reasoning, judgment and decision-making as part of the course content but also to build skills for the research proposal that is developed in this course.
3. The purpose of the selected topics is to provide some breadth on this topic that will appeal to a broad range of students. The following topics will be included: developmental studies, individual differences in performance, clinical applications and real-world outcomes. The diversity in these topics is also intended for students to think about the broad range of applications of reasoning theories, and to stimulate their thinking about the research proposal that they will develop in this course.
4. This course will devote considerable attention and time to the topic of remediation of reasoning, judgment and decision-making. Some instruction will occur on training studies and on the concept of "environmental interventions". Specifically, students will be encouraged to think about simple non-invasive changes in the environment to prompt better judgment and decision-making based on this work.
5. Students will have a writing component in this course to develop a testable research proposal based on the concept of environmental interventions applied to an important real-world problem. Students will write up their proposal study in the form of a research proposal articulating the testable hypotheses. Students will be encouraged to take into account methodological controls in their design to enhance their methods and to take into account factors that may alter the interpretation of their findings.

- Critical thinking skills will be included in each class, engaging students in discussion and analysis of methodologies and interpretations of paradigms used to assess reasoning, judgment and decision-making.

**Required Text (available in the bookstore)**

Stanovich, K. E. (2010). *Decision making and rationality in the modern world*. Oxford University Press: New York.

In addition, see readings below.

**Course Requirements and Assessment:**

Assessment	Date of Evaluation (if known)	Weighting
Midterm	February 13, 2019	30%
Self-Reflection Exercises	Five classes, to be announced	10%
Environment Intervention Group Presentation	Classes #7, 8, 9, 10 and 11	5%
Environmental Intervention Research Paper	April 3, 2019	20%
Final Exam	Exam Period TBD	35%
Total		100%

**Description of Assignments**

1. Examinations

Midterm 30%  
Final Exam 35%

2. Self-Reflection Exercises

Students will be asked to provide a self-reflection based on the content of five lecture topics. Each self-reflection exercise will be worth 2% and will be subject to grading. Self-reflections will be graded and returned within one week.

3. Environmental Intervention Project

Group Presentation: 5%  
Research Proposal 20%

Students will be asked to develop an idea for an “Environmental Intervention” in small groups. Each group will present their proposed intervention to the entire class in the form of a Pecha Kucha presentation. A Pecha Kucha presentation is a particular presentation style that includes 20 slides for 20 seconds each (6 minutes 40 seconds; <https://blog.indezine.com/2012/05/10-tips-to-create-and-present-pecha.html>).

Each student will then individually write a research proposal for their Environmental Intervention Project. Each student will elaborate research methods to test the environmental intervention idea generated by their group. This is intended to provide training in applying the

concepts taught in this course to real-world problems, practice thinking about research methodologies to develop testable hypotheses and to develop scientific writing skills. Students will be asked to take into account methodological considerations in their design. Students will be asked to follow APA format in their research proposal.

### **Grading as per Senate Policy**

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests\* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 89, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - [Grading Scheme for 2018-19](#))

### **Late Work/Missed Tests or Exams**

Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (Attending Physician Statement which can be found at: <http://myacademicrecord.students.yorku.ca/pdf/attending-physicians-statement.pdf>) may request accommodation from the Course Instructor. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

### **Important New Information Regarding Missed Tests**

For any missed tests or late assignments, students MUST complete the following online form which will be received and reviewed in the Psychology undergraduate office.

[HH PSYC: Missed Tests/Exams Form](#). Failure to complete the form within 48 hours of the original deadline will result in a grade of zero for the test/assignment.

### **Add/Drop Deadlines**

For a list of all important dates please refer to: [Fall/Winter 2018-19 - Important Dates](#)

	<b>FALL (F)</b>	<b>YEAR (Y)</b>	<b>WINTER (W)</b>
Last date to add a course <b>without permission</b> of instructor (also see Financial Deadlines)	Sept. 18	Sept. 18	Jan. 16
Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)	Oct. 2	Oct. 23	Jan. 30
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 9	Feb. 8	March 8
Course Withdrawal Period (withdraw from a course and receive a grade of “W” on transcript – see note below)	Nov. 10 - Dec. 4	Feb. 9 - Apr. 3	March 9 - Apr. 3

**\*Note:** *You may withdraw from a course using the registration and enrolment system after the drop deadline until the last day of class for the term associated with the course. When you withdraw from a course, the course remains on your transcript without a grade and is notated as "W". The withdrawal will not affect your grade point average or count towards the credits required for your degree.*

## **Electronic Device Policy**

In order to ensure a non-distracted learning environment for all members in the class, electronic devices must be set to silent during class time and examinations.

## **Attendance Policy**

Students are expected to attend all classes. It is the students responsibility to catch up on any missed content by asking a classmate in the event that a class is missed.

## **Academic Integrity for Students**

York University takes academic integrity very seriously; please familiarize yourself with [Information about the Senate Policy on Academic Honesty](#).

It is recommended that you review Academic Integrity information [SPARK Academic Integrity modules](#). These modules explain principles of academic honesty.

## **Test Banks**

The offering for sale of, buying of, and attempting to sell or buy test banks (banks of test questions and/or answers), or any course specific test questions/answers is not permitted in the Faculty of Health. Any student found to be doing this may be considered to have breached the Senate Policy on Academic Honesty. In particular, buying and attempting to sell banks of test questions and/or answers may be considered as “Cheating in an attempt to gain an improper advantage in an academic evaluation” (article 2.1.1 from the Senate Policy) and/or “encouraging, enabling or causing others” (article 2.1.10 from the Senate Policy) to cheat.

## **Electronic Devices During a Test/Examination**

Electronic mobile devices of any kind are not allowed during a test or examination. Students are required to turn off and secure any electronic mobile device in their bag which is to be placed under the chair while a test/exam is in progress. Any student observed with an electronic device during a test/exam may be reported to the Undergraduate Office for a potential breach of Academic Honesty.

## **Academic Accommodation for Students with Disabilities**

While all individuals are expected to satisfy the requirements of their program of study and to aspire to do so at a level of excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to do so. The [York University Accessibility Hub](#) is your online stop for accessibility on campus. The [Accessibility Hub](#) provides tools, assistance and resources. Policy Statement.

**Policy:** York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable

steps to accommodate these needs in a manner consistent with the guidelines established hereunder.

For Further Information please refer to: [York university academic accommodation for students with disabilities policy](#).

### Course Materials Copyright Information

These course materials are designed for use as part of the PSYC 3255 course at York University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law.

Copying this material for distribution (e.g. uploading material to a commercial third-party website) may lead to a violation of Copyright law. [Intellectual Property Rights Statement](#).

### Course Schedule

Class/Date	Topic	Assignments
Class #1 January 9, 2019	<ul style="list-style-type: none"> <li>● Course Overview and Review Syllabus</li> <li>● Why should we care about reasoning, judgment and decision-making? Defining <i>Rationality</i>.</li> <li>● “Nudging”: Environmental Intervention Class Assignment</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Chapter 1</li> <li>● Rozin, Scott, Dingley, Urbanek, Jiang, &amp; Kaltenbach (2011). Nudge to nobesity I: Minor changes in accessibility decrease food intake. <i>Judgment and Decision Making</i>, 6 (4), 323-332.</li> <li>● Dayan, E. &amp; Bar-Hillel, M. (2011). Nudge to nobesity II: Menu positions influence food orders. <i>Judgment and Decision Making</i>, 6(4), 333-342.</li> </ul> <p><b><u>Administrative:</u></b></p> <ul style="list-style-type: none"> <li>● Course Syllabus</li> <li>● Ensure Access to Moodle</li> </ul>
Class #2 January 16, 2019	<ul style="list-style-type: none"> <li>● Tripartite Structure of the Mind and Individual Differences</li> <li>● Instrumental Rationality: “<i>What to do</i>”</li> <li>● Framing Effects</li> <li>● Temporal Discounting</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Chapter 2</li> <li>● Tversky, A., &amp; Kahneman, D. (1981). The framing of decisions and the psychology of choice. <i>Science</i>, 211, 453-458.</li> </ul>
Class #3 January 23, 2019	<ul style="list-style-type: none"> <li>● Epistemic Rationality: “<i>What is true</i>”</li> <li>● Overconfidence</li> <li>● The Role of Knowledge: Knowledge can be helpful and <i>unhelpful</i></li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Chapter 3</li> <li>● Bruine de Bruin, W., Parker, A. M., &amp; Fischhoff, B. (2007). Individual differences in adult decision-making competence. <i>Journal of Personality and Social Psychology</i>, 92, 938-956.</li> <li>● Stanovich, K. E. (2011). Contaminated</li> </ul>

		mindware Chapter 11. <i>What intelligence tests miss: The psychology of rational thought</i> . Yale University Press: New Haven.
Class #4 January 30, 2019	<ul style="list-style-type: none"> <li>● Probabilistic and Statistical Thinking</li> <li>● Miserly Information Processing</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Koehler, D. J., &amp; James, G. (2010). Probability matching and strategy availability. <i>Memory &amp; Cognition</i>, 38, 667-676.</li> <li>● Stanovich, K. E. (2018). Miserliness in human cognition: The interaction of detection, override and mindware. <i>Thinking and Reasoning</i>, 24(4), 423-444.</li> </ul>
Class #5 February 6, 2019	<ul style="list-style-type: none"> <li>● Scientific Reasoning and Falsification Strategies</li> <li>● Myside Bias</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Evans, J. St. B. T. (1996). Deciding before you think: Relevance and reasoning in the selection task. <i>British Journal of Psychology</i>, 87, 223-240.</li> <li>● Baron, J. (1995). Myside bias in thinking about abortion. <i>Thinking and Reasoning</i>, 1, 221-235.</li> </ul>
Class #6 February 13, 2019	<ul style="list-style-type: none"> <li>● <b>MIDTERM</b></li> <li>● Environmental Interventions</li> </ul>	
<b>READING WEEK</b>		
Class #7 February 27, 2019	<ul style="list-style-type: none"> <li>● The Great Rationality Debate and Dual Process Models</li> <li>● ENVIRONMENTAL INTERVENTIONS PRESENTATIONS</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Chapters 4 and 5</li> </ul>
Class #8 March 6, 2019	<ul style="list-style-type: none"> <li>● The Development of Reasoning, Judgment and Decision-Making</li> <li>● ENVIRONMENTAL INTERVENTIONS PRESENTATIONS</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Albert, D., &amp; Steinberg, L. (2011). Judgment and decision making in adolescence. <i>Journal of Research on Adolescence</i>, 21(1), 211-224.</li> <li>● Toplak, M.E., West, R.F., &amp; Stanovich, K.E. (2014). Rational thinking and cognitive sophistication: Development, cognitive abilities, and thinking dispositions. <i>Developmental Psychology</i>, 50(4), 1037-1048.</li> </ul>
Class #9 March 13, 2019	<ul style="list-style-type: none"> <li>● Special Populations: The Iowa Gambling Task AND Maltreatment Populations</li> <li>● ENVIRONMENTAL INTERVENTIONS</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Bechara, A., Damasio, A. R., Damasio, H., &amp; Anderson, S. (1994). Insensitivity to future consequences following damage to human prefrontal cortex. <i>Cognition</i>, 50, 7-15.</li> <li>● Weller, J. A., &amp; Fisher, P. A. (2013). Decision-</li> </ul>

	PRESENTATIONS	making deficits among maltreated children. <i>Child Maltreatment</i> , 18(3), 184-194.
Class #10 March 20, 2019	<ul style="list-style-type: none"> <li>● Clinical and Medical Decision-Making</li> <li>● ENVIRONMENTAL INTERVENTIONS PRESENTATIONS</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Dawes, R. M., Faust, D., &amp; Meehl, P. E. (1989). Clinical versus actuarial judgment. <i>Science</i>, 243, 1668-1673.</li> <li>● Marsh, J. K. &amp; De Los Reyes, A. (2018). Explaining away disorder: The influence of context on impressions of mental health symptoms. <i>Clinical Psychological Science</i>, 6(2), 189-202.</li> <li>● Kahneman, D., &amp; Klein, G. (2009). Conditions for Intuitive Expertise: A Failure to Disagree. <i>American Psychologist</i>, 64(6), 515–526.</li> </ul>
Class #11 March 27, 2019	<ul style="list-style-type: none"> <li>● Training Effects</li> <li>● ENVIRONMENTAL INTERVENTIONS PRESENTATIONS</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Lehman, D. R., &amp; Nisbett, R. E. (1990). A longitudinal study of the effects of undergraduate training on reasoning. <i>Developmental Psychology</i>, 26, 952-960.</li> </ul>
Class #12 April 3, 2019	<ul style="list-style-type: none"> <li>● Metareasoning and Metarationality</li> <li>● Review and Final Exam Preparation</li> </ul>	<p><b><u>Readings:</u></b></p> <ul style="list-style-type: none"> <li>● Ackerman, R., &amp; Thompson, V. (2017). Meta-reasoning: Monitoring and control of thinking and reasoning. <i>Trends in Cognitive Sciences</i>, 21(8), 607-617.</li> <li>● Chapter 6</li> </ul>