

Course Syllabus

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Judgment and Decision making

Summer 2022

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Time: Tu and Th, 5:15-9:15 pm Eastern Time

Instructor Office Hours: by appointment (via zoom or bluejeans)

*This is an online course that will largely consist of synchronous lectures/presentations/discussions, so it is important that you block off the time indicated above on a weekly basis. The synchronous meeting link for a given class will be sent at least one day in advance.

Overview

This course will address the *standards* of good or optimal thinking, and ways in which we fall short or

err in light of these standards. We will discuss heuristics and other intuitive strategies that people tend to rely on, the errors that may ensue, and what we can do to avoid them.

Objectives and Exercises

The key goal of this course is to help you discover (for some, re-discover) key concepts and facts that comprise JDM well enough that you can **(a)** explain them to others and **(b)** put them to use in a range of domains.

We will achieve these objectives in a number of ways---individual projects (please see below), lectures, in-class exercises, and a group project delineated below.

Utility boost exercise

You and your trusted teammates will develop a plan based on some JDM concept(s) (either those we learned or those you gleaned from your other endeavors) that stand to improve the lives of some/all members of the Penn community in a significant way.

The final result will be a class presentation. Time limits and format(s) will be discussed in advance.

It is somewhat expected that your presentation will consist of the following (roughly, in that order):

- A. “Defining the issue” (and the population that will be affected)
- B. “JDM insight”
- C. “Application” (of B to A).

This assignment will be worth 20 points.

There are also two smaller exercises or projects you will do on your own (the essay-style [counter-reasoning exercise](#) and the hands-on [influence strategy exercise](#)). Each exercise will be worth 10 points.

Readings

The primary assigned reading for this class is [Thinking and Deciding, 4th Ed](#) (http://www.amazon.com/Thinking-Deciding-Jonathan-Baron/dp/0521680433#reader_0521680433) (henceforth, T&D4) by Jonathan Baron. You will also need to get a hold of [Yes! 50 scientifically proven ways to be persuasive](#) (http://www.amazon.com/Yes-Scientifically-Proven-Ways-Persuasive/dp/1416576142#reader_1416576142) by Noah Goldstein et al. Finally, there is a reading that is not

required but that I recommend---Michael Lewis' [The Undoing Project](https://www.amazon.com/Undoing-Project-Friendship-Changed-Minds/dp/0393254593) [\(https://www.amazon.com/Undoing-Project-Friendship-Changed-Minds/dp/0393254593\)](https://www.amazon.com/Undoing-Project-Friendship-Changed-Minds/dp/0393254593). It is, among other things, a stirring biography of JDM's two founders---Dan Kahneman and Amos Tversky. All other readings/materials will be made available via this canvas site (please below).

Exams

There will be two take-home problem sets worth 25 points each. The focus will be on the lectures, which cover the book(s) selectively, but reading the book(s) consistently will strengthen your understanding of all the relevant content and will improve your performance on either problem set.

Class participation

I hope that you will come to class prepared to learn but also to engage with me and your fellow students. Participation is how well you know the material when called upon and how much effort you put into making the class work by volunteering questions & observations. Participation is an important component of this class, which will be more interactive, exercise-oriented, and discussion-based than a regular course of this type may be. Because the material we will discuss deals with the substance of everyday life, a test of its usefulness and of your understanding is to make contact between the course topics and your own experiences. So I expect that everyone will have something to contribute and I highly encourage you all to participate in class discussions as much as you can. In case of a missed class, it is a student's responsibility to recover the missed content by obtaining notes from his/her classmates, coordinate these notes with pertinent lecture slides, then reach out to us with any questions. If you missed a class as a result of an illness, please make sure to obtain a note from your health provider so we may consider restoring your attendance credit at the end of the course. In-class participation will be worth 10 points.

Extra-credit

You can earn extra points (up to 2 per semester at the rate of 1 point per hour of participation) by becoming a participant in the Department of Psychology [SONA](https://upenn.sona-systems.com/default.aspx) [\(https://upenn.sona-systems.com/default.aspx\)](https://upenn.sona-systems.com/default.aspx) subject pool. Please note that participation in the subject pool is entirely voluntary and is in no way required for the successful completion of this course. (If you have any further questions about the allocation of points, please speak to us; if you have any questions about the research participation system itself, please read [this](https://canvas.upenn.edu/files/107666576/download?download_frd=1)  (https://canvas.upenn.edu/files/107666576/download?download_frd=1); Dr. Coren Apicella and/or Ms. Claire Ingulli, may be reached at sona-admin@psych.upenn.edu (<mailto:sona-admin@psych.upenn.edu>)). (The final day a student may participate in a SONA study is May 1, 2022). Alternatively, you may earn up to 2 points of course

extra-credit by trying out one or more of the strategies aptly described in "Yes!" in your personal life, then submitting (you may e-mail a copy to either TA) a very brief report (2-3 pages max) that describes what you did and what ensued please see [this ↓ \(\[https://canvas.upenn.edu/courses/1642729/files/107666579/download?download_frd=1\]\(https://canvas.upenn.edu/courses/1642729/files/107666579/download?download_frd=1\)\)](https://canvas.upenn.edu/courses/1642729/files/107666579/download?download_frd=1) for a sample report and speak to us if you have any additional questions). Please note that you may gain extra points either through becoming a research participant or through submitting a "Yes!" report but not through both.

A note on disabilities

In compliance with Penn policy and equal access laws, we are available to discuss appropriate academic accommodations that you may require as a student with a disability. Requests for academic accommodations need to be made during the first two weeks of the semester, except under unusual circumstances, to arrange reasonable accommodations. Students must register with Student Disabilities Services (SDS) for disability verification and for determination of reasonable academic accommodations.

Please see [this \(<https://wlrc.vpul.upenn.edu/sds/>\)](https://wlrc.vpul.upenn.edu/sds/) for more information.

Points-to-grades cutoffs:

> 94 A
90-93 A-
87-89 B+
84-86 B
80-83 B-
76-79 C+
72-75 C
68-71 C-
56-67 D
< 55 F

COURSE TIMETABLE (subject to change)

1. June 30 (Th) Intros. The tale of two systems.

Read [How to read a research article](#)  (https://canvas.upenn.edu/courses/1642729/files/107666598/download?download_frd=1) . Yes!, Intro, Chs. 1-4, 35.

[Supplementary 1a](#) (https://www.researchgate.net/profile/David-Melnikoff-2/publication/323998611_The_Mythical_Number_Two/links/5abfc3700f7e9bfc045beb90/The-Mythical-Number-Two.pdf).
[Supplementary1b](#) (https://www.researchgate.net/profile/Gordon-Pennycook/publication/325910739_The_Mythical_Dual-Process_Typology/links/5c06a40092851c6ca1fd5c8f/The-Mythical-Dual-Process-Typology.pdf). [Supplementary1c](#) (https://www.researchgate.net/profile/David-Melnikoff-2/publication/325917199_The_Insidious_Number_Two/links/5bf25d4e92851c6b27c9766e/The-Insidious-Number-Two.pdf).

Meet your system 1: Heuristics we live by. Slides

Read T&D4, Chs.1, 2. Yes!, Chs. 5-7, 33.

[Supplementary 2a](#) (<http://www.columbia.edu/itc/hs/medinfo/g6080/misc/articles/TverksyKahneman1974.pdf>).
[Supplementary 2b](#) (<https://www.annualreviews.org/doi/pdf/10.1146/annurev-psych-010419-050747>).
[Supplementary 2c](#). (<http://journal.sjdm.org/jdm06020.pdf>) [Supplementary 2d](#) (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=900152).

2. July 5 (Tue) Meet your system 1 contd. The manifold root of behavioral errors. Slides

Listen to/view after the class: Paul Rozin's guest lecture, pt.1 ((see Class Recordings/Guest lectures folder).

[Supplementary 3a](#) (<https://www.cs.ubc.ca/~rensink/publications/download/S&R-TICS-05a.pdf>).
[Supplementary 3b](#) (https://personality-project.org/revelle/syllabi/classreadings/rm95/1995_Roediger.pdf).
[Supplementary 3c](#) (<https://journals.sagepub.com/doi/10.1177/147470491401200510>). [Supplementary 3d](#) (<https://www.theatlantic.com/family/archive/2018/06/marshmallow-test/561779/>)

3. July 7 (Th) Meet your system 2: Logic & Logical Fallacies. Slides

Read T&D4, Ch.3 (optional), Ch. 4. Yes! Chs. 16, 19, 20.

[Supplementary 4a](#) (<https://www.psychologytoday.com/us/blog/ulterior-motives/201807/intelligence-makes-your-intuitions-more-logical>). [Supplementary 4b](#) (<https://www.psicologia.ulisboa.pt/wp-content/uploads/2020/03/Thompson-et-al-2018.pdf>). [Supplementary 4c](#) (<https://www.txstate.edu/philosophy/resources/fallacy-definitions.html>).

Supplementary 4d (<https://www.youtube.com/watch?v=xPqbrV02cZ8>) . Supplementary 4e (<https://www.theatlantic.com/politics/archive/2017/06/the-highest-form-of-disagreement/531597>)

Review Answer to the logic exercises on p.93  (https://canvas.upenn.edu/courses/1642729/files/107666553/download?download_frd=1) and

Euler circle representations  of common categorical syllogism premises.  (https://canvas.upenn.edu/courses/1642729/files/107666513/download?download_frd=1)

(<https://www.theatlantic.com/family/archive/2018/06/marshmallow-test/561779>)

Counter-reasoning exercise due on July 11.

4. July 12 (Tu) Probability. Overview. Slides

Read T&D4, Chs. 5, 6. **Listen to/view before the class:** Probability mini-lectures (see Class recordings/Intro lectures folder).

Listen to/view after the class: Barb Mellers' guest lecture (see Class recordings/Guest lectures folder).

(<https://reserves.library.upenn.edu/nonshib//ares.dll?SessionID=M013550727H&Action=10&Value=109740>) Supplementary 5a (to be updated). Supplementary 5b. (<http://www.scientificamerican.com/article/how-randomness-rules-our-world/>) Supplementary 5c.  (https://canvas.upenn.edu/courses/1642729/files/107666833/download?download_frd=1)

For a detailed statement of the Monty Hall problem (profiled in Supplementary reading 2), [click here](#).

And, if you feel like playing a few rounds yourself (guided by the above), [click here](#).

On-line Bayes calculator (<http://psych.fullerton.edu/mbirnbaum/bayes/BayesCalc.htm#top>)

5. July 14 (Th) Take-home exam 1

sample questions (with  (<https://canvas.upenn.edu/courses/1642729/files/107666554>) and without  (<https://canvas.upenn.edu/courses/1642729/files/107666600>) answers).

6. July 19 (Tu) Utility. Slides

Read T&D4, Chs. 10,11. Yes!, Chs. 11 (on expected gifts), 34, 44, Appendix, pp.230-231.

Listen to/view after the class: Paul Rozin's guest lecture, pt.2.

Supplementary 6a (<http://www.wisebrain.org/media/Papers/NegativityBias.pdf>) . Supplementary 6b (<https://statmodeling.stat.columbia.edu/wp-content/uploads/2018/06/Loss-of-Loss-Aversion.pdf>) . Supplementary 6c (<https://onlinelibrary.wiley.com/doi/full/10.1111/jpr.12385>) . Supplementary 6d (<https://www-proquest-com.proxy.library.upenn.edu/docview/213244974/fulltext/460CC86DE66E4DA9PQ/1?accountid=14707>) Supplementary 6e (https://www.ted.com/talks/charlotte_blank_lead_like_a_scientist_experiments_are_key_to_unleashing_potential)

7. July 21 (Th) Utility continued. Begin Morality/Ulititarianism.

8. July 26 (Tu) Morality/Utilitarianism. Slides.

Read T&D4, Ch.16. Yes!, Epilogue

Listen to/view before the class: Utilitarianism intro (see Class recordings/Intro lectures folder).

Supplementary 7a (<http://home.uchicago.edu/bartels/papers/Bartels-Pizarro-2011-Cognition.pdf>) . Supplementary 7b  (https://canvas.upenn.edu/courses/1642729/files/107666837/download?download_frd=1) . Supplementary 7c (<https://www.diva-portal.org/smash/get/diva2:818504/FULLTEXT01.pdf>) . Supplementary 7d (https://www.researchgate.net/profile/Andreas-Olsson-4/publication/319636847_The_Role_of_a_Common_Is_Moral_Heuristic_in_the_Stability_and_Change_of_Moral_Norms/links/59b7816fa6fdcc7415bef96b/The-Role-of-a-Common-Is-Moral-Heuristic-in-the-Stability-and-Change-of-Moral-Norms.pdf) . Supplementary 7e  (https://canvas.upenn.edu/courses/1642729/files/107666523/download?download_frd=1) .

9. July 28 (Th) De-biasing overview. Utility boost reports.

Supplementary 8a (<https://faculty.fuqua.duke.edu/~jpayne/bio/Debiasing%20SollMilkmanPayne%20R2%20FINAL.pdf>) . Supplementary 8b (<http://careymorewedge.com/papers/DebiasingviaObservationalLearning.pdf>) . Supplementary 8c (<https://thedecisionlab.com/insights/health/nudge->

[theory-public-health/](#) . [Supplementary_8d](#) [\(<https://cpb-us-w2.wpmucdn.com/web.sas.upenn.edu/dist/7/206/files/2016/09/NudgeNobesityJDM2011-21puz28.pdf>\)](https://cpb-us-w2.wpmucdn.com/web.sas.upenn.edu/dist/7/206/files/2016/09/NudgeNobesityJDM2011-21puz28.pdf) . [Supplementary_8e](#) [\(<https://www.sas.upenn.edu/~baron/journal/11/11407/jdm11407.pdf>\)](https://www.sas.upenn.edu/~baron/journal/11/11407/jdm11407.pdf).

10. August 2 (Tu) Overview. Influence Strategy reports due.

11. August 4 (Th) Take-home exam 2

[sample questions](#) [\(with](#) [↓](#) [\(\[https://canvas.upenn.edu/courses/1642729/files/107666558/download?download_frd=1\]\(https://canvas.upenn.edu/courses/1642729/files/107666558/download?download_frd=1\)\)](https://canvas.upenn.edu/courses/1642729/files/107666558/download?download_frd=1) [and](#) [without](#) [↓](#) [\(\[https://canvas.upenn.edu/courses/1642729/files/107666560/download?download_frd=1\]\(https://canvas.upenn.edu/courses/1642729/files/107666560/download?download_frd=1\)\)](https://canvas.upenn.edu/courses/1642729/files/107666560/download?download_frd=1) [answers](#)[\).](#)

Course Summary:

Date	Details	Due
Mon Jul 11, 2022	 <u>The counter-reasoning exercise</u> (https://canvas.upenn.edu/courses/1642729/assignments/9983366)	due by 11:59pm
Thu Jul 14, 2022	 <u>Take-home exam 1</u> (https://canvas.upenn.edu/courses/1642729/assignments/9983363)	due by 9:15pm
Thu Jul 28, 2022	 <u>Utility boost</u> (https://canvas.upenn.edu/courses/1642729/assignments/9983368)	due by 5:15pm
Tue Aug 2, 2022	 <u>Influence strategy exercise</u> (https://canvas.upenn.edu/courses)	due by 5:15pm

Date	Details	Due
	<u>/1642729/assignments/10004707)</u>	
Thu Aug 4, 2022	 <u>Take-home exam 2</u> <u>(https://canvas.upenn.edu/courses/1642729/assignments/9983362)</u>	due by 9:15pm
	 <u>Midterm - Instructions and Policies</u> <u>(https://canvas.upenn.edu/courses/1642729/assignments/9983364)</u>	
	 <u>Participation</u> <u>(https://canvas.upenn.edu/courses/1642729/assignments/9983365)</u>	