



Course Syllabus

Decision-Making for Information Science

INST354
Fall 2021

Learning Outcomes

A critical determinant of success for information professionals is being a good decision maker. But why is it that we don't always make rational and logical choices? How can we improve the quality of our judgments and choices? This course examines the use of information in individual and organizational decision making, including the role of quantitative data analysis in making informed choices. The course has two main goals. The first is to introduce you to a variety of quantitative techniques to help you make informed decisions based on analysis of data. The second is to introduce you to a variety of psychological perspectives on decision making, with an emphasis on errors of judgment and choice.

After successfully completing this course students will be able to:

- Describe the roles of quantitative data analysis and of psychology of judgment in decision making
- Apply different decision analysis and data analysis techniques that can support decision making
- Explain how psychological perspectives can modify or restrain rational decision making
- Demonstrate hands-on experience with analytical techniques and software tools that are widely used in practice

Dr. Petra Galuscakova
petra@umd.edu

Online

Office Hours

Tuesdays

9:00-11:00am

Thursdays

3:00-4:00pm

only by appointment

<https://calendly.com/galuscakova>

Prerequisites

The pre-requisites for this course are: MATH 115 Precalculus, AND STAT 100 Elementary Statistics and Probability, AND PSYC 100 Introduction to Psychology, AND INST 314 Statistics for Information Science.

Course Communication

The course material will be available will be available in ELMS. ELMS will be also used for submitting homework assignments. All assessment scores will be posted on the course ELMS page.



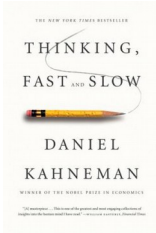
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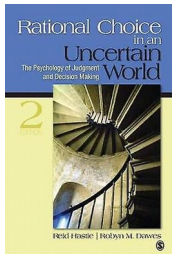
Resources

Course website: inst354.umiacs.io



Daniel Kahneman, D: **Thinking, fast and slow**, 2013. Farrar, Straus, and Giroux, ISBN 978-0374533557 (2011 edition is ok).

Recommended Resources



Reid Hastie and Robyn Dawes: **Rational Choice in an Uncertain World**, 2010. SAGE Publications Inc., ISBN 9781412959032.

Required Software

The following software is necessary for you to successfully complete the course.

- Microsoft Excel. For Macintosh users it is available through the university's [TERPware website](#).
- Weka software. It is free and available [online](#).

Approach

The course is organized as a set of 15 modules. For each module, the syllabus shows the start date on which all the materials needed to be able to finish the module will be available. All modules will contain reading assignments and a reading quiz which need to be finished before the beginning of the following module on Sunday 11:59 pm EDT/EST. Active participation also requires submitting a reflection of the module and participating in the open discussion. They both need to be submitted before starting the following module.



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Preliminary Outline

	Week	Module	Quiz / Assignment / Project
1	08/30	Course Overview, Making Decision	
2	09/05	Intuition, Creativity and Improvisation	
3	09/13	Automatic vs. Controlled Thinking	
4	09/20	Prospect Theory vs. Utility Theory	Writing 1 (due 9/26)
5	09/27	Selected Behavioral Theory Concepts	
6	10/04	Mental Models	
7	10/11	Critical Thinking	Quiz 1 (due 10/17)
8	10/18	Decisions under Uncertainty	Project Plan Deadline (due 10/24)
9	10/25	Low vs. High Uncertainty	
10	11/01	Low vs. High Uncertainty cont.	Writing 2 (due 11/7)
11	11/08	Data-Driven Decisions	
12	11/15	Linear Model Predictions	
13	11/22	Linear Model Predictions cont.	
14	11/29	Telling a Compelling Story	Quiz 2 (due 12/05) Project Video Deadline (12/05)
15	12/06	Project Presentations	Project Deadline (due 12/12)

Grading

Participation (30%): Students are expected to participate by posting to discussion forums on Canvas/ELMS every week and finish the reading quiz.

Participation will consist of three main components:

- 1) Writing a reflection of the previous module and answering following four questions **(10%)**
 - What was the most interesting part of the module?
 - Was there something particularly muddy in the module?
 - How can you use the concepts which you have learned in present or future -- i.e. in your other classes, projects, jobs, hobbies, ...?
 - A specific module-related question
- 2) Participating in the open discussion **(10%)**



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- 3) Completing a reading quiz (10%)

All assignments need to be submitted on Sunday 11:59pm EDT/EST before the following module, no credit is given after to the late assignments. Participation (the posts and quiz) will be graded and 10 best rankings will be taken into account for the final grade.

Writing (20%): There will be two writing assignments during the course. The expected length of each of them is 2-3 pages. Students are supposed to submit the paper into ELMS in a pdf format. Writing assignments need to be submitted on Sunday 11:59pm EDT/EST. Assignments submitted up to 24 hours after the deadline, will receive 50% of the grade. No credit is given after 24 hours.

Quizzes (20%): There will be two multiple response question quizzes during the course. First quiz will cover modules 1-7, second will cover modules 8-14. Quizzes need to be finished on Sunday 11:59pm EDT/EST and will take about an hour to complete. Quizzes finished up to 24 hours after the deadline, will receive 50% of the grade. No credit is given after 24 hours. Quizzes are open book and students are allowed to use their own notes and course materials, but are not allowed to use any online search or receive any other help.

Group Project (30%): Students will be assigned to groups of 3-4 students in which they will then work on the project. Each group will submit the initial project plan (1-2 pages in pdf), which will include the milestones timeline, by Sunday 10/24 11:59pm EDT/EST, 15-minutes project video presentation by Sunday 12/05 11:59pm EDT/EST, and the final project (7-8 pages in pdf) by Sunday 12/12 11:59pm EDT/EST. Each project member must clearly indicate the role and contributions to the project. Projects will be evaluated according to the rubric which will be available in advance. Project will solve a real world decision problem and the team will need to describe the the end-to-end solution, full decision making process applied and all the aspects needed to take into account to do the final decision.

Any formal grade disputes must be submitted in writing and within one week of receiving the grade. Final letter grades are assigned based on the percentage of total assessment points earned. To be fair to everyone I have to establish clear standards and apply them consistently, so please understand that being close to a cutoff is not the same as making the cut (89.99 ≠ 90.00).

Final Grade Cutoffs									
+	97.00%	+	87.00%	+	77.00%	+	67.00%		
A	93.00%	B	83.00%	C	73.00%	D	63.00%	F	<60.0%
-	90.00%	-	80.00%	-	70.00%	-	60.00%		



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Syllabus Change Policy






This syllabus is a guide for the course and is subject to change with advance notice. Notice will be posted via ELMS announcements.

Academic Integrity

Students are encouraged to work together to learn the materials and to learn the how to do the assignments. However, all of the material that is turned in for grading must be produced by the individual or team that is submitting the material. Cheating in any form (copying, falsifying signatures, plagiarism, etc.) will not be tolerated. It will result in a referral to the Office of Student Conduct irrespective of scope and circumstances, as required by university rules and regulations.

The University of Maryland, College Park has a nationally recognized *Code of Academic Integrity*. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. Please visit the [Office of Undergraduate Studies' full list of campus-wide policies](#) and follow up with me if you have questions.

The following table lists levels of collaboration that are acceptable for each type of graded exercise.

	 OPEN NOTES	 USE BOOK	 SEARCH ONLINE	 ASK FRIENDS	 WORK IN GROUPS
Participation Assignments	✓	✓	✓	X	X
Writing	✓	✓	✓	X	X
Team Project	✓	✓	✓	✓	✓
Quiz	✓	✓	X	X	X