SI 617: Choice Architecture
University of Michigan
Winter 2021

This version: 1/25/2021

The syllabus will be updated regularly. Please make sure to check for the latest version.

Time and Location:
Monday 10:00am – 11:30am
Wednesday 10:00am – 11:30am
Remote (Zoom link, ID: 940 2402 4197, password: 617)
*all times listed in this syllabus are EST

Email Note: First, always title your emails with [617] Subject line

Instructor:
Erin Krupka
Associate Professor, School of Information
Office: 4336 North Quad (remote for W21)
Email: ekrupka@umich.edu
Office hours: Google hangout (email me before so I know to hang out there and wait for you)
https://meet.google.com/fop-oexs-bga

IA:
Dan Jaklic
M.S. student, College of Engineering

Required Textbooks:
- All other readings will be available on Canvas under “Files/Readings”

Note: We will provide PDFs of the required book chapters on Canvas for the first three lectures. After that, you will need to get these books. You can find them on MBS Direct.
**Course Description**

Designing a system or organization for humans requires understanding not just choice and behavior motivations (good in most cases, we hope), but also learning about the reasons we blunder and make mistakes. Thus, even when incentives are “aligned” with overall system goals, there are many instances where we make poor choices because as human beings, we are all susceptible to a wide array of routine biases that can lead to an equally wide array of unwanted and unintended outcomes and decisions. Our errors are what make us human, but until now, they have been largely ignored by systems designers, whether these designers make complex public policy, manage a team or design an information system. But knowing how people think, we can become choice architects who design environments that both yield better decision making on the part of users, and achieve behavior that is consistent with overall system goals while gaining a competitive design edge.

The first goal of this course is to inform future information system professionals, designers, and managers about human decision rules and their associated biases so that these insights can be incorporated into their design, business, or management strategies. Knowledge of these issues can be a significant source of competitive advantage because they are unknown to most information systems professionals and they are not taught in most I-schools. The second goal of this course is to clarify how these results can be leveraged to create original and more effective systems and institutions that meet the designer’s goals.

**Learning Objectives**

After completing this course, you will be able to:

1. Master the key findings from various behavioral sciences that describe and model how people actually make choices. You will also gain comfort with basic probability theory.
2. Apply these insights about our irrational, emotional and human nature to design problems, and diagnose a system’s sensitivity to these choice biases.
3. Make recommendations to make designs more robust to human choice biases.

**Expectations**

It is recommended that students have completed SI 563 (Game Theory) or equivalent. Students are expected to come to class punctually (class will begin at 10:00am sharp), having read the assignment readings beforehand. THIS IS IMPORTANT. On several days there will be graded assignments handed out and completed in class as well as pop quizzes. Missing these can add up. We will also discuss practice questions for the exam. I expect you to work between 6 and 9 hours a week outside of class. Many classes do not articulate this upfront, but I think it helps you gauge your workweek and your load if you know this in advance. This class is not particularly heavy in reading quantity, but the reading can be dense.
Class Format

Class will consist of synchronous, online lectures (recorded and uploaded at the end of the week) with a high degree of class discussion and participation. There will also be a few in-class activities including a case study in negotiation. During discussions and exercises, your active participation is important both for your own learning and for creating a stimulating class environment. IMPORTANT: I expect 100% attendance. Please have the relevant readings (hard copy or PDF) for the week at hand. I expect you to have the textbooks and papers at hand so that we can refer to them during class. You are also expected to print out the lecture slides for you to take notes before each class.

Laptop Policy

N/A for the remote term. Please direct your whole attention to the lecture during class periods. People tend to overestimate their ability to process in parallel and they have limited self-control, both of which may undermine their learning. In a semester where becoming distracted is easier than ever, take the necessary steps to be present in class discussion.

Assignments, Exams and Grading

Assignments:

- **Short writing assignments (6 assignments, 5 points each):** Over the course of the term, there will be six short writing assignments. Some of them are individual assignments, and others are team efforts. Assignments are generally due before the first lecture of the week (Mondays at 10:00 am). I do not accept late writing assignments for any reason. You will receive additional instructions for each assignment (including grading rules) in due time. Here is an overview:

  - Sh_writing_#1: Expected utility theory
  - Sh_writing_#2: Anchoring
  - Sh_writing_#3: Self-control
  - Sh_writing_#4: Negotiation preparation
  - Sh_writing_#5: Negotiation debriefing
  - Sh_writing_#6: Exam questions

- **Quizzes (5 in-class quizzes, 5 points each):** there will be five multiple-choice quizzes (open book) before the beginning of certain lectures. Each quiz covers basic comprehension of the previous 2 units and/or readings before that week (for example, the first announced quiz, which is scheduled to be at the beginning of unit 4, will cover units 2 and 3). The quiz will be open for 24 hours before the designated lecture period. You will receive one attempt and the time limit is 15 minutes. Although each quiz will be graded, only your four best quizzes (in terms
of points) will count toward your final grade. You can earn up to 5 points for each quiz. Note that there will be no make-up quizzes. If you do not complete the quiz in the designated time, you will receive a zero for that quiz. Modification for remote: In addition to open book and notes, there is no penalty for communicating problem-solving strategy with classmates. However, direct copying of answers is NOT permitted and any violation will be handled with loss of letter grade, etc. Format/timing/etc. is subject to change.

- Exam practice questions (in-class, 0 points): you will receive practice questions for the exam at the end of certain lectures. They are meant to help you process the material and familiarize yourself with the question style of the exams. You will answer these questions individually or in groups, whatever you prefer. Your answers will not be graded. We will discuss the practice questions together in class.

**Final Exam:**

- (60 points): There will be an exam at the end of the course, which all students are required to take. It will be administered online via Canvas. You will have 24 hours to complete the exam. You will receive additional exam details throughout the semester.

**Grading:**

I use a point-based grading system with no curving. This means that every student in the class can earn an A if he or she accumulates 103 points or more during the semester. Note this also means that failure is possible. Close calls: if at the end of the semester you are within 0.5 points of a higher letter grade, I will bump you up to the higher grade. Please note that I don’t discuss grades, but I can explain them.

**Overview of Point Structure:**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
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<tbody>
<tr>
<td>Short writings (6/6), 5 points each</td>
<td>30</td>
</tr>
<tr>
<td>Quizzes (4/5), 5 points each</td>
<td>20</td>
</tr>
<tr>
<td>Final exam</td>
<td>60</td>
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<tr>
<td><strong>Total points</strong></td>
<td><strong>110</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale</th>
<th>Grade</th>
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<tbody>
<tr>
<td>103-110</td>
<td>A</td>
</tr>
<tr>
<td>100-102</td>
<td>A-</td>
</tr>
<tr>
<td>97-99</td>
<td>B+</td>
</tr>
<tr>
<td>93-96</td>
<td>B</td>
</tr>
<tr>
<td>90-92</td>
<td>B-</td>
</tr>
</tbody>
</table>
Submitting Assignments etc.

- All HW assignments to be submitted via Canvas.
- Labeling: each assignment sheet should have your first and last name on it.
- Labeling if you worked together: each of you should submit a separate assignment. The assignment should have your name first and list all the people with whom you worked.
- Font: for written documents please use Times New Roman (or similar), 12pt., 1.5 spaced.
- I am committed to return graded questions to you no later than two weeks after the original due date.

How to Communicate with Us

Office Hours:

I am here to help if you need any assistance during the course. Note that for graded HW assignments, I will typically not provide feedback about the content before you hand it in. But don’t worry, I will spend some time in class on the HW assignments (detailing what is expected, talking about the format etc.) and you can always ask clarification questions.

Also, one of the benefits of open office hours is to accommodate many students at once; if fellow students are in the instructor’s office (or Zoom room), please join in and feel free to show up in groups. As a general rule, do not use individual meetings outside of office hours for course-related help. If my scheduled office hours are always infeasible for you, let me know and we will find a solution.

Some gentle requests regarding office hours and communications: First, always title your emails with [617] Subject line. Otherwise I may not see it. I get 100s of emails a day, but make my course emails a priority.

Office hours end sharp. Please arrive early if you have lengthy questions, or if you don’t want to risk a time crunch. You are free to ask some stuff by email, especially to schedule things. But please be aware that email is terrible for answering many types of questions. For example, questions like “What is rationality?” are short questions with long answers. Please do come to office hours. If you have questions about assignments, please ask them as early as possible.
Note that the IA’s role is to grade your assignments, not to provide instruction or to defend grade decisions. You may contact the IA to get clarification regarding his/her rationale for a grade, but it is inappropriate to ask the IA to change your grade. If you really want the grade changed, or if you have substantive conceptual questions or problems with your grade, contact the instructor. Unfortunately, the University policy is that you may not meet out of class with the IA—but that’s what office hours are for.

**Email Format:**
When you write an email to the instructor, please make sure that you write “[SI 617]” in your subject line, so that SI 617 related emails can easily be found.

**Academic Integrity and Misconduct**

**Academic Integrity:** All students in this course will be held to high standards of scholarship and integrity. Personal responsibility and integrity are assumed, and all forms of academic dishonesty and misconduct are prohibited. Academic dishonesty may be understood as any action or attempted action that may result in creating an unfair academic advantage for you or an unfair academic advantage or disadvantage for any other member or members of the class. The instructor will not tolerate any conduct, without regard to motive, that violates the academic integrity and ethical standards of the University community. Issues of academic integrity will be handled according to the policies established by Rackham.

**Collaboration:** strongly encourages collaboration while working on some assignments, such as homework problems and interpreting reading assignments as a general practice. Active learning is effective. Collaboration with other students in the course will be especially valuable in summarizing the reading materials and picking out the key concepts. You must, however, write your homework submission on your own, in your own words, before turning it in. If you worked with someone on the homework before writing it, you must list any and all collaborators on your written submission. Each course and each instructor may place restrictions on collaboration for any or all assignments. Read the instructions careful and request clarification about collaboration when in doubt. Collaboration is almost always forbidden for take-home and in class exams.

**Plagiarism:** All written submissions must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else’s completed answer: you must not share written answers with each other at all. At most, you should be working from notes you took while participating in a study session. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work. You may incorporate selected excerpts, statements or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy-editing assistance, and you may discuss your ideas with others, but all
substantive writing and ideas must be your own, or be explicitly attributed to another. See the (Doctoral, MSI, MHI, or BSI) student handbooks available on the UMSI intranet for the definition of plagiarism, resources to help you avoid it, and the consequences for intentional or unintentional plagiarism.

Accommodations for Students with Disabilities

The University of Michigan is committed to providing equal opportunity for participation in all programs, services and activities. Request for accommodations by persons with disabilities may be made by contacting the Services for Students with Disabilities (SSD) Office (http://ssd.umich.edu) located at G664 Haven Hall. The SSD phone number is 734-763-3000. Once your eligibility for an accommodation has been determined you will be issued a verified individual services accommodation (VISA) form. Please present this form to me at the beginning of the term, or at least two weeks prior to the need for the accommodation (test, project, etc…).

Student Mental Health and Wellbeing

The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and https://caps.umich.edu/ during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources. For a listing of other mental health resources available on and off campus, visit: http://umich.edu/~mhealth/.

Absences

It’s your responsibility to notify the instructor when you will be absent. I assume that if you are not in class, you will email me. I don’t need to know why you are not attending, but it is easier to plan in class activities if I know how many people will be in class that day.

Some Resources for Academic Writing

1. Sweetland Writing Center: https://lsa.umich.edu/sweetland
2. For non-native speakers: English Language Institute (ELI): https://lsa.umich.edu/eli
   • Check out Graduate Writing Clinic: https://lsa.umich.edu/eli/language-clinics/graduate-writing-clinic-for-international-students.html
Schedule

Abbreviations:

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Book Title</th>
<th>Chapter/Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kahneman, D.</td>
<td>Thinking, Fast and Slow.</td>
<td>TFS Chapter #</td>
</tr>
<tr>
<td>Frank, R. H.</td>
<td>Microeconomics and Behavior</td>
<td>MB Chapter #</td>
</tr>
</tbody>
</table>

[Jan. 20] Unit 1: Introduction & Modelling Choice

NO CLASS MONDAY, JAN. 18

Readings: 59 pages

 ✓ RC: Chapt. 1 and 2, 11 (to p.244)
 ✓ TFS: Chapt. 2

Optional Readings:

 ✓ Thaler et al. 2014. “Choice Architecture”

[Jan. 25, Jan. 27] Unit 2: Benchmark Models of Choice

Readings: 65 pages

 ✓ MB: Chapt. 3, 6 (p.178-187)
 ✓ RC: Chapt. 11 (from p.244 to end of chapter)

[Feb. 1, Feb. 3] Unit 3: Probability Theory & Representativeness

Readings: 82 pages

 ✓ TFS: Chapt. 10, 14 and 15
 ✓ RC: Chapt. 5
 ✓ RC: Appendix “Basic Principles of Probability Theory”

Optional Readings:


HW Reminder:

 ✓ Sh_writing #1: Personal Decision Analysis (due: 10:00am, Feb. 1)

[Feb. 8, Feb. 10] Unit 4: Availability & Anchoring

Readings: 77 pages

 ✓ RC: Chapt. 4.
 ✓ TFS: Chapt. 11, 12, 13

Optional Readings:

In class: Announced Quiz #1 (due: 10:00am, Feb. 8)

[Feb. 15, Feb. 17] Unit 5: Narratives, Confirmation Bias and Hindsight Bias
Readings: 98 pages
✓ RC: Chapt. 6-8
✓ TFS: Chapt. 7, 19

Optional Readings:

HW Reminder:
✓ Sh_writing_#2: Anchoring in the Housing Market (due: 10:00am, Feb. 15)

[Feb. 22] Unit 6: Overconfidence
NO CLASS WEDNESDAY, FEB. 24
Readings: 87 pages
✓ TFS: Chapt. 20-24

In class: Announced Quiz #2 (due: 10:00am, Feb. 22)

[Mar. 1, Mar. 3] Unit 7: Intertemporal Choice
Readings: 17 pages
✓ Chabris et al. 2008. “Intertemporal choice.” (Canvas)

Optional Readings:

In class: Announced Quiz #3 (due: 10:00am, Mar. 1)
[Mar. 8, Mar. 10] Unit 8: Prospect Theory and Framing

Readings: 87 pages

✓ TFS: Chapt. 26-31, 34

Optional Readings:

✓ JMDM: Chapt. 4 (Canvas)

HW Reminder:

✓ Sh_writing_#3: Credit Cards and Self-control (due: 10:00am, Mar. 8)

[Mar. 15, Mar. 17] Unit 9: Limited Attention

Readings: 33 pages


Optional Readings:


In class: Announced Quiz #4 (due: 10:00am, Mar. 15)


Readings: 21 pages


Optional Readings:


In class: Announced Quiz #5 (due: 10:00am, Mar. 22)
[Mar. 29, Mar. 31] Unit 11: Negotiation I—Reading
Readings: 97 pages
✓ Malhorta and Bazerman “Negotiation Genius”: Chapt. 1-5

[Apr. 5, Apr. 7] Unit 12: Negotiation II—Reading & In class negotiation prep.
Readings: 55 pages
✓ Malhorta and Bazerman “Negotiation Genius”: Chapt. 6-8, 13
Optional Readings:

[Apr. 12, Apr. 14] Unit 13: Negotiation III—Negotiation
HW Reminder:
✓ Sh_writing_#4 – Negotiation Preparation (due: 10:00am, Apr. 12)
✓ Submit negotiation response form, see instructions (deadline: 12:00pm, Apr. 16)

[Apr. 19, Apr. 21] Unit 14: Negotiation IV: Debriefing / Practice for exam
HW Reminder:
✓ Sh_writing_#5 – Negotiation Postmortem (deadline: 10:00am, Apr. 19)
✓ Sh_writing_#6 – Exam questions (deadline: 10:00am, Apr. 19) – IMPORTANT: Bring 3 copies of your 3 exam questions to class.

[Apr. 28] Final Exam
Where: Remote (on Canvas)
When: TBD