

INTRODUCTION TO FORMAL REASONING

Rutgers, the State University of New Jersey

Summer 2019

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This is a crash course on formal reasoning and decision making. We will approach our topic through the lens of *Behavioral Economics*. Behavioral economics combines the empirical methods of psychology with some of the formal tools and models of economics in order to better understand how individuals actually make decisions. Learning this will help us to understand how we actually should make decisions. The results of behavioral economics have been shocking; they purportedly reveal that most humans are irrational. Our main goal in this course will be to gain a sufficient understanding of probability theory, decision theory, and rational choice theory to understand the results of behavioral economics in detail. Along the way, we will also examine the philosophical foundations of the work in these areas.

Week-to-week, you will have assigned readings from the text book along with some exercises and a quiz. At the end of the course, there will be a two part final exam. **There is a schedule below.** I will also upload supplementary video lectures to help explain difficult material and highlight what I take to be the most important elements of what we will be working through.

1 COURSE MATERIALS

The textbook for this course is:

A Course in Behavioral Economics, 2 ed. by Erik Angner

Everyone should have a copy, but if you have trouble tracking one down, please let me know. Any additional materials will be uploaded to Sakai.

2 OFFICE HOURS AND LIVE Q AND A

I will hold a YouTube live Q and A once or twice a week so that anyone can ask me questions about the material. These sessions will not be mandatory. In our first week we will find times that work with everyone's schedules for these Q and A's. If you ever have any question about the course, please feel free to email me. I'm here to help! Office hours can be made by appointment (email me!) and they will be held via Skype.

3 EXERCISES

- (1) Each week you will need to do exercises from the text. *See the schedule below* for the exercise assignments for each week.
- (2) The answers to these exercises are in the back of the book. As such, the exercises will be *graded on a completion basis*. However, I reserve the right to count an exercise assignment as incomplete if I judge the work to be lazy.
- (3) Please do the homework and *do not just copy it* from the back of the book. You will not do well in the course if you don't practice.
- (4) Exercises are *due each week by Friday at Midnight*. Please upload to the designated tab on Sakai.

4 QUIZZES

- (1) Each week you will be quizzed on the material covered in that week. I will indicate in lectures which information you should pay special attention to.
- (2) Quiz questions will be closely modeled on the exercise questions.
- (3) Quizzes are *due each week by Sunday at Midnight*. Please upload to the designated tab on Sakai.

5 THE FINAL EXAM

- (1) The Final Exam has two parts: The Take-Home Exam and the Skype Exam.
- (2) The Take-Home Exam will contain short answer questions and questions which will require you to show your work. You must upload the Take-Home Exam to Sakai *by midnight on July 5th*.
- (3) The Skype Exam will involve me asking you to answer multiple choice questions about the central concepts of the course. We will arrange each person's Skype Exam for the last week of class.

6 YOUR GRADE

There are three kinds of assignments for which you can earn points:

Exercises = 4 Points Each

Quizzes = 9 Points Each

Take-Home Exam = 15 Points

Skype Exam = 20 Points

Your letter grade for the course is then determined according to the following rubric:

A = 100-90 Points

B+ = 89-85 Points

B = 84-80 Points

C+ = 79-75 Points

C = 74-70

D+ = 69-65

D = 64-60

F = 59-0

7 ACADEMIC INTEGRITY

Students are beholden to the standards of Academic Integrity set forth by Rutgers. This means that all cheating will be reported to Rutgers. For more information, visit here: <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/>

8 LATE WORK

Due to the short nature of this course, no late work will be accepted. You may email me to appeal this policy if you believe you have an extraordinarily good excuse. But, in general, I won't accept a late work.

9 QUESTIONS ABOUT THIS SYLLABUS?

You are beholden to the requirements of this syllabus no matter what. So if something is unclear to you or you have some questions. Please don't hesitate to ask!

10 SCHEDULE

Week 1 (5/28 to 6/1) - *Introduction to the Course*

Reading: Ch. 1 of Angner

Exercises: 1.1-1.3.

Quiz: See Sakai.

Week 2 (6/2 to 6/8) - *Choice Under Certainty*

Reading: Ch. 2-3 of Angner

Exercises: TBD

Quiz: See Sakai.

Week 3 (6/9 to 6/15) - *Judgment Under Risk and Uncertainty*

Reading: Ch. 4-5 of Angner

Exercises: TBD

Quiz: See Sakai.

Week 4 (6/16 to 6/22) - *Choice Under Risk and Uncertainty*

Reading Assignment: Ch. 6-7 of Angner

Exercises: TBD

Quiz: See Sakai.

Week 5 (6/23 to 6/29) - *Intertemporal Choice*

Reading Assignment: Ch. 8-9 of Angner

Exercises: TBD

Quiz: See Sakai.

Week 6 (6/30 to 7/5) - *Review and Final Exam*

STUDY!!!

Final Exam: See Sakai.