Rational Choice

Carnegie Mellon University
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Instructor:	Dr. Gregory Wheeler
E-Mail:	wheeler@cmu.edu
Website:	http://gregorywheeler.org
Office:	Baker Hall 155C
Office Hours:	Wednesday 11:00 - 12:00 & by appointment
Classroom:	Hamburg Hall, 1002
Meeting Times:	Tuesday & Thursday, 12:00 - 1:20

Course Description

This course will cover selected topics in rational choice theory, which informally is the analysis of how to make a correct decision in a given context. The course offers an introduction to the main normative theories of rational choice: von Neumann-Morgenstern theory of expected utility, Anscombe-Aumann's account and Savage's theory of choice under uncertainty. The course also includes an introduction to the main descriptive accounts of decision making used in psychology and economics, and an introduction to group decision making. Time permitting, we shall also cover an extension to the classical theory which abandons the Bayesian assumption that the decision maker's beliefs can always be represented by a unique probability distribution.

Requirements

Required Texts:	David M. Kreps (1988) *Notes on the Theory of Choice*, Westview Press.
Problem Sets:	7 Exercise sets; Graduate students will be given extra homework problems. Undergraduate students may do the graduate student problems for extra-credit.
Attendance:	Attendance and participation in class can positively influence your grade up to a full letter grade.

Course Schedule

Week	date	Topic	Readings	Assignments
1	8/28	Introduction: Getting What You Want	Kreps, ch 1	
	8/30	Preliminaries: Set Theory & Preferences	(online)	Set 1
2	9/4	Preferences & Some Objections	Kreps, ch 2	
	9/6	Ordinal Utility, Normal Form, & Dominance	Kreps, ch 3	Set 1 due
3	9/10	Decision Under Ignorance: Maximin, Maximax, etc.	(online)	
	9/12	Introduction to Probability	(online)	Set 2
4	9/18	Bayes Theorem and Belief Change	(online)	
	9/20	Interpretations of Probability	(online)	Set 2 due
5	9/25	Soliciting Probabilities with Bets	(online)	
	9/27	Dutch Books	(online)	Set 3
6	10/2	Von Neumann & Morgenstern I	Kreps, ch 5	
	10/4	Von Neumann & Morgenstern II	Kreps, ch 5	Set 3 due
7	10/9	St. Petersburg & Utility for Money	Kreps, ch 6	
	10/11	Allais' & Zeckhauser's Paradox	(online) & Kreps, ch 14	Set 4
8	10/16	GUEST LECTURE	(online)	
	10/18	GUEST LECTURE	(online)	
9	10/23	Anscombe/Aumann I	Kreps, ch 7	Set 4 due
	10/25	Anscombe/Aumann II	Kreps, ch 7	
10	10/30	Soliciting Probabilities with Utilities		
	11/1	Savage's Axioms	Kreps, ch 9	Set 5
11	11/6	Savage's Theory	Kreps, ch 9	
	11/8	Conditional Choice	Kreps, ch 10	Set 5 due
12	11/13	Newcomb's Problem and Act-state Dependence	(online)	
	11/15	Ellsberg Paradox & Alternatives	(online)	
13	11/20	Prospect Theory	(online)	
	11/22	*Thanksgiving Holiday*		
14	11/27	Set-based Probabilities	(online)	Set 6
	11/29	Bounded Rationality	(online)	
15	12/4	Social Choice / Spillover	(online)	Set 6 due
	12/6	Social Choice / Spillover	(online)	Set 7
16	12/13			Set 7 due

Grading

You are allowed to discuss the problem sets with your classmates in attempting to solve the exercises, but each student must write up independent answers. If you collaborate with another student in solving a particular exercise, you must identify who that student is and note which problems you collaborated on. Failure to note collaboration or copying answers verbatim constitutes academic dishonesty.