Syllabus Econ 5330/6330

Game Theory
3 Credits

General Information[1]

Prerequisites: Prerequisites: ECON 3620 or Calculus I or Equivalent.
Time: MW 1.25PM-2.45PM.
Location: BLDG 73 111

Instructor: Eric Sjöberg
E-mail: eric.sjoberg@economics.utah.edu
Office Hours: Wednesdays 9.30AM-10.30AM or by appointment.
Location: Bldg 73, Rm 238

Course Overview

In this course, we will learn how to use game theory as a tool to study interactions among strategic decision makers. We will start with the foundations of game theory and then study a variety of different topics such as sequential and repeated games, games of incomplete information (Bayesian games), contest modeling, mechanism design, the history of game theory, and evolutionary game theory. We will throughout the course try to highlight how game theory can (and has) influence(d) public policy.

Course Objectives

After the completing this course you will

- Be able to take conflicts or problems from your everyday life, history, nature or society and interpret them in game theory terms.
- Solve games beyond the most basic models involving, for example incomplete and asymmetric information, sequential games and repeated games.
- Have a thorough knowledge of the equilibrium concept in game theory and how the simple Nash Equilibrium can be amended to apply to more complex games.
- Know the modern history of game theory and how it has evolved.
- Give an account of how game theory influences policy and decision making.

Required Texts

Harrington JE - "Games, Strategies, and Decision Making" (most recent edition).

Teaching and Learning Methods

The course will be based on in-class lectures. We will go through theory and I will demonstrate how to apply the techniques that we learn in practice. We will also have discussions, where active participation is encouraged, of how game theory can be applied and how the solutions to different problems are affected by the assumptions we make. Advance reading is encouraged and there will be a system for students to get credit (10% of the final grade) for doing this. There will be roughly six to seven assignments, one midterm, and one final exam.

[1] This syllabus is meant to serve as an outline and guide for the course. Please note that it may be modified at any time with reasonable notice to students. The schedule might also be modified at any time to accommodate the needs of the class. Should you have any questions or concerns about the syllabus, please contact me for clarifications.

Computers and Software

You need to access Canvas for assignments, lecture notes and notifications.

Policies

You should speak with me in advance to request special consideration in the case of some extenuating circumstance that prevents you from taking an exam or submitting an assignment at the scheduled time. The final exam will not be given at multiple dates in order to accomodate travel plans. Attendance is mandatory for the final exam and midterm. Otherwise, consistent attendance is strongly recommended but attendance is not taken.

Grading Policies

Late assignments will be marked down by degree of lateness. Assignments submitted on or after the first lecture after the due date will have a max score of 50 % of total points. on that assignment. The midterm and the final exam are traditional exams. The final exam will take place as specified by the final exam schedule (link). Evaluation will be based on the following.

Evaluation

Activity	Grade Weighting
Active reading	10%
Assignments	35%
Midterm Exam	25%
Final Exam	30%

Grading Scale

Grade	Score (s)				
A			s	$\geq$	0.92
A$^-$	0.92	$>$	s	$\geq$	0.9
B$^+$	0.9	$>$	s	$\geq$	0.88
B	0.88	$>$	s	$\geq$	0.82
B$^-$	0.82	$>$	s	$\geq$	0.80
C$^+$	0.80	$>$	s	$\geq$	0.75
C	0.75	$>$	s	$\geq$	0.70
C$^-$	0.70	$>$	s	$\geq$	0.65
D$^+$	0.65	$>$	s	$\geq$	0.63
D	0.63	$>$	s	$\geq$	0.57
D$^-$	0.57	$>$	s	$\geq$	0.55
E	0.55	$>$	s		

Students with disabilities

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

Wellness Statement

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness; www.wellness.utah.edu; 801-581-7776.

About the University of Utah

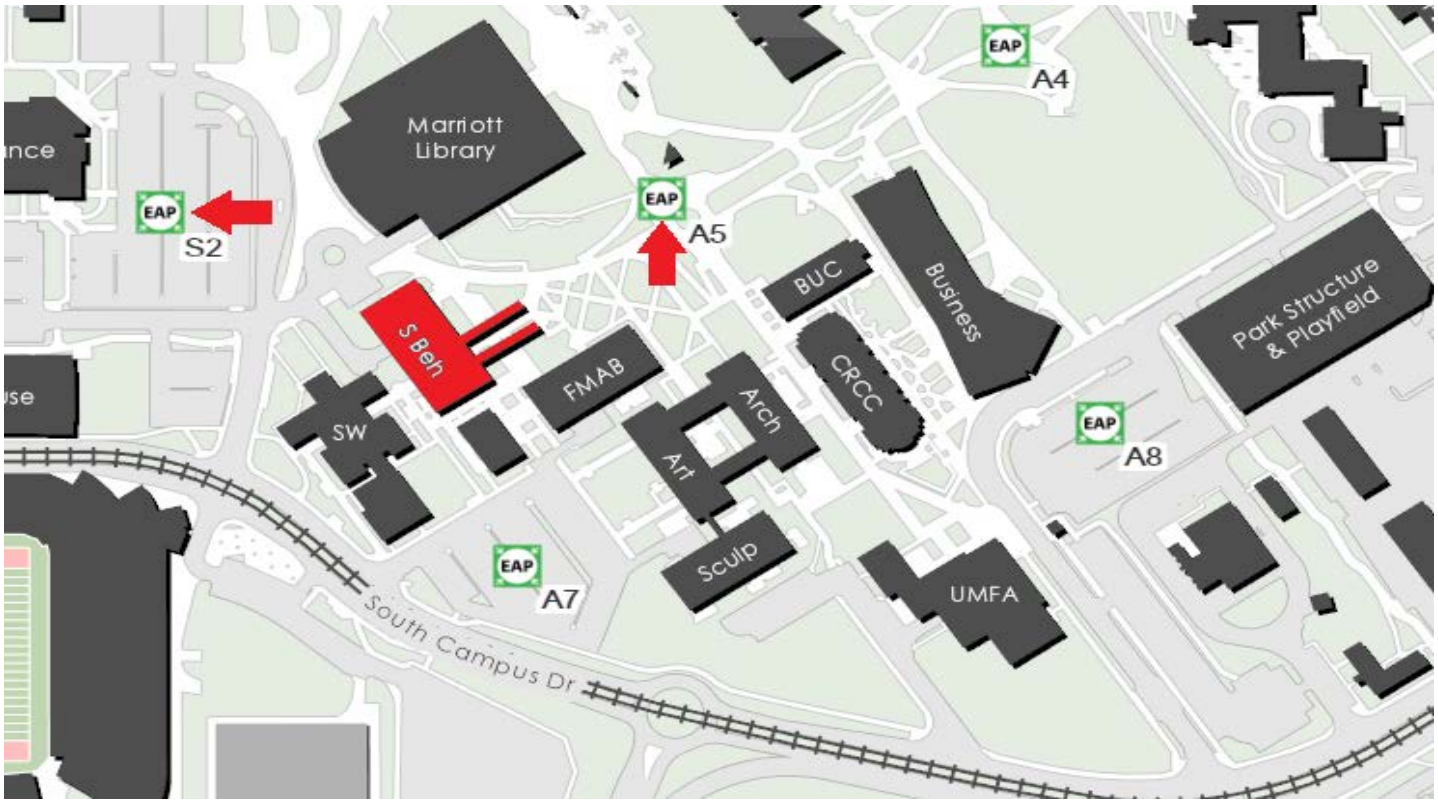
As the only institution in the state classified in the highest research category (R1), at the University of Utah you will have access to state-of-the-art research facilities and be able to be part of the knowledge creation process. You will have the opportunity to do research of your own with faculty who are leading experts in their field, engaging in programs that match your research interests. Further, you will interact with and often take classes with graduate students that provide an advanced understanding of the knowledge in your field.

Tentative Schedule

The due dates for the assignments (A1, A2,...) are usually Fridays for the specified week but the dates are only tentative. I will give more detailed readings as we take on each new topic.

Week	Mon	Wed	Chapter(s), topic	Note
1	8/21	8/23	Ch. 1, Notes, Introduction to Game theory	
2	8/28	8/30	Ch. 2, 3, Strategic Form Games and Simple Solutions	A1
3		9/6	Ch. 2, 3, Strategic Form Games and Simple Solutions	Labor Day 9/4
4	9/11	9/13	Ch. 4, 6 Nash Equilibrium	A2
5	9/18	9/20	Ch. 4, 6 Nash Equilibrium	A
6	9/25	9/27	Ch. 7, Mixed Strategies	A3
7	10/2	10/4	Ch. 7, Mixed Strategies, Review	Midterm
8				Fall Break
9	10/16	10/18	Ch. 2, 8, Extensive Form Games	
10	10/23	10/25	Ch. 2, 8, Extensive Form Games	A4
11	10/30	11/1	Ch. 2, 13, 14, Repeated Games	
12	11/6	11/8	Ch. 2, 13, 14, Repeated Games	A5
13	11/13	11/15	Ch. 2, 9, 10, 11, Games With Imperfect Information	
14	11/20	11/22	Ch. 2, 9, 10, 11, Games With Imperfect Information	A6
15	11/27	11/29	Ch. 12, Signaling Games	
16	12/4	12/6	Evolutionary Game Theory (If time permist), Review	
17				Final Exam 12/12 1 pm.

CSBS EMERGENCY ACTION PLAN



BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate the building either by campus text alert system or by building fire alarm, please follow your instructor in an orderly fashion to the EAP marked on the map below. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can also look up the EAP for any building you may be in on campus at http://emergencymanagement.utah.edu/eap.

CAMPUS RESOURCES

U Heads Up App: There's an app for that. Download the app on your smartphone at alert.utah.edu/headsup to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.
- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

Safety Escorts: For students who are on campus at night or past business hours and would like an escort to your car, please call 801-585-2677. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.

College of Social and Behavioral Science
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