



DEPARTMENT OF ECONOMICS

ECON 109: GAME THEORY

LOCATION: CENTR 119

TIME: TUESDAYS & THURSDAYS, 3:30PM-4:50 PM

FALL 2017

SYLLABUS

Instructor: Steve Levkoff, PhD, CAP®

E-mail: slevkoff@ucsd.edu

Instructor Webpage: <http://stevelevkoff.com>

Course Webpage: <http://ted.ucsd.edu>

Office: Economics Building, Room 112

Office Hours: T/R 2:15-3:15pm, open door, and by appointment

Course Description: An introduction to game theory and strategy. Analysis of people's decisions when the consequences of the decisions depend on what other people do. This course features applications in economics, political science, and law.

Prerequisites: In order to be enrolled in this course, you should have satisfactorily completed Econ 100C or Math 31CH or Math 109 or [CSE 20 and Math 20 C]. You should also be familiar with optimization and the required mathematics from your successful completion of the 100 series.

Readings:

Required:

- [1] *Strategy: An Introduction to Game Theory*, Joel Watson, 2013, 3rd. edition, Norton Publishing.

Recommended:

- [2] *Game Theory for Applied Economists*, Robert Gibbons, 1992, Princeton University Press.

Discussion Sections:

Teaching Assistants: Naveen Basavanahally (nbasavan@ucsd.edu); Wenixin Xi (w6xie@ucsd.edu)

Section A01 / A02: MANDE B210, Mondays 6:00pm-6:50pm / 7:00-7:50pm

Homework: While not a formal part of the course grade, problem sets will play a crucial role in developing your problem solving skills and should be taken *very seriously*. In the past, it has often been the case (and is no secret if you look at my course evaluations online) that students putting the most effort into the problem sets tend to perform best on the exams because *the problem sets tend to be much more difficult than exams*. Problem sets will be assigned regularly via TED. You are encouraged to work together to solve problem sets and to email the TAs.

MobLab Games Exercises: An important part of understanding economic theory is seeing where it works in practice and where it doesn't. In the latter case, it is imperative to understand what assumptions may be driving the result from what is expected. Accordingly, throughout the course, you will have the opportunity to participate in several in and out-of-class activities that will allow us to put some of the theories discussed in class to the test, generating real data for analysis through the MobLab Games online infrastructure. You will be able to log in and participate using your computer or mobile device (Android and iOS friendly). The exercises will take place both in and out of class, with some activities being unannounced (so it is your responsibility to be there if you want extra credit!) While optional, participation in these exercises will be compensated with extra credit to contribute to your course grade. The access code for joining the course on MobLab is **wepfx8pu** (see the student guide posted to TED for more detailed instructions). There is a \$7 fee to access the online course (think of this as in place of the more expensive "clicker" that can also be used out of class – also, you won't need to purchase blue books or anything like that for the course, so this request shouldn't be an unreasonable one). *WHEN YOU REGISTER YOUR ACCOUNT AND JOIN THE COURSE, MAKE SURE YOU USE YOUR FULL NAME AS IT SHOWS ON YOUR TED COURSE ACCOUNT (OR AS CLOSELY AS POSSIBLE GIVEN THE CHARACTER RESTRICTIONS ON MOBLAB).*

TED Access (course webpage): It is your responsibility to make sure you are enrolled in the online course (TED) and to routinely check it and your email for announcements and to access newly distributed material. You can email ITS@ucsd.edu to get TED access for the course if you have added late. CC the instructor of the course (slevkoff@ucsd.edu) in the email to expedite approval.

Examinations: There will be two cumulative midterm exams – the first to be administered in the 4th week of class and the second in the 8th week of class. There is also a final examination scheduled by the registrar - you can view the official final exam schedule at the registrar's website: <https://act.ucsd.edu/scheduleOfClasses/scheduleOfClassesStudent.htm>. Please monitor

this routinely for any schedule changes. All exams are cumulative (but not necessarily uniformly so).

Grading:	Participation (ie: MobLabs)	BONUS
	Midterm Exam 1	25%
	Midterm Exam 2	35%
	<u>Final Exam</u>	<u>40%</u>
	Total	100%

The course is graded on a relative curve (as is any college course). In particular, students will all be ranked from highest to lowest course score according to your final course grade calculated from the raw exam score weighting above. Letter grade assignments will depend on your percentile ranking in the class and a subjective assessment by the instructor in borderline cases (say, if there was marked improvement).

In the past, a student could typically guarantee themselves an A by ranking in the top 25% of students in the course and a B by ranking in the top 60%.

Some students feel that the grading scheme is risky in the sense that you have only 3 opportunities to prove yourself, so I will add the following “buffer” because I understand that sometimes people may have a bad midterm exam sitting: Since the final exam is cumulative, if you score a solid A on the final exam, (and ONLY a solid A), I will give you an A in the course and disregard your midterm grades (provided you’ve taken ALL of the midterms). I reserve the right to revoke this policy at any time for any reason.

Midterm Exam Re-grade Policy: It should be known that there may be some questions on the exams that have no right or wrong answer, so how credit is awarded depends crucially on *how* you defended your answer. Accordingly, there is a *BIG* difference between an answer being a *technically correct answer* and an answer being *the best answer*. In these cases, credit is awarded (according to the grading rubric) for how close your answer comes to being the *best answer*. That is, an answer, while being technically correct, may not necessarily have been the best answer and hence, wouldn’t necessarily receive full credit despite technical correctness.

After your exams are graded, your TA’s will allow you *to see* your exam in either discussion or their office hours. If you find that there was a minor grading issue (ie: points were added up incorrectly), let us know and we will remunerate accordingly. If there is a major issue (ie: you don’t think points were awarded correctly according to the grading rubric), DO NOT remove the exam from the TA’s possession – leave it with your TA with a note on the front cover regarding the specifics of the re-grade request.

If your request for a re-grade is granted, the ENTIRE exam will be regarded (not just the part in question) and this could possibly result in higher OR lower scores. *Once you take the exam from the TA’s possession, it can no longer qualify for a re-grade.* You have one week from the announcement of the grade distribution to resolve grading issues. Otherwise, grades are NON-NEGOTIABLE and any requests that are determined to be *excessive* in scope may warrant further point deductions unless sound arguments

are used to justify the request. The instructor and TAs reserve the right to refuse any request believed to be *excessive*.

Absences & Attendance: Any exam or quiz missed for a *legitimate, university approved* reason may be made up at the discretion of the instructor (this may include an oral evaluation as an alternative to taking a written exam or a re-weighting of the exams in the grade calculation shown above). You will receive a zero on any exam or quiz missed without a legitimate reason.

Supplemental Material & Slides: Throughout the course, the instructor may post supplemental readings and slides via TED. These materials are meant to be used in addition to the lecture and are not to be used as a substitute for going to lecture or reading the textbook. The instructor reserves the right to remove access to this material if he feels that it has adversely affected attendance in the lecture.

Classroom Decorum & Email: To avoid distracting others in the classroom, please arrive on time and do not leave early unless given prior permission. When class is in session, please respect others in the room and refrain from sending or receiving phone calls, pages, or text messages. Please be sure audible signals are turned off before class begins. Please restrict the use of email to the minimally necessary volume and put your full name at the end of email messages and the course name and number in the subject heading. Email questions regarding *how to do a particular homework problem* should be first directed to your TAs. If you can't make it to office hours, you can also email specific homework questions to your TAs who will respond to your query. Questions regarding course policies will be directed to the syllabus (if applicable). All other general questions are welcome!

Statement of Academic Integrity: Integrity of scholarship is essential for an academic community. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind.

Examination Policies: Consistent with the University's mission to preserve academic integrity, there are several policies and procedures that must be adhered to by students during exams.

- 1) In order to be allowed into the exam, students must have:
 - A BLUE or BLACK PEN (NO PENCILS!!! If you use pencil, you forfeit your chance for a re-grade.)
 - A BASIC or SCIENTIFIC calculator (no graphing calculators, cell phones, or other mobile devices unless given prior approval by the instructor)
 - Your UCSD student ID
- 2) During the exam, the following policies will be enforced:

- Your seat will be randomized for each exam. When you enter the lecture on exam day, find your name and assigned seat number on the projector and quickly and quietly sit. Once everyone is seated, the exam will be handed out.
 - NO BATHROOM BREAKS (for exams <1.5 hours). Be sure to use the restrooms before the exam begins. Exams are less than an hour and a half long! You can make it!!! For longer exams, bathroom breaks will only be allowed (one at a time) during the first half of the exam duration.
 - No hats, hoodies, or sunglasses during the exam.
 - Turn cell phones off during the exam and leave them in your bag.
- 3) Violations of academic integrity will not be tolerated. For this course in particular, violations include, but are not limited to anything that may be perceived as the following actions:
- looking at or copying from other students' exams
 - writing after the exam end time has been called
 - talking during an exam while exams are still out
 - looking at notes during an exam
 - taking the wrong version of an exam
 - removing an exam from the examination room
 - removing pages from an exam
 - falsifying identification or an exam book during or after the exam
 - sitting in the wrong seat during an exam (if applicable)
 - using an unapproved device/item during an exam (ie: programmable calculator, cell phone, etc. - see above list)

Violation (or perceived violation) of any of the abovementioned policies will be enforced via zero tolerance and referred to the student conduct process, so don't do anything that would even come close to something that an observer would potentially interpret as academic dishonesty. NO EXCEPTIONS.

Tentative Schedule of Topics (Subject to Change):

Part I: Fundamentals of Games & Representations

Readings: [1] 1-3, 14

Part II: Static Games of Complete Information

Readings: [1] 3-10, 11; [2] 1

Part III: Dynamic Games of Complete (and Imperfect) Information

Readings: [1] 15, 22; [2] 2

Part IV: Static Games of Incomplete (Asymmetric) Information

Readings: [1] 24, 26-27; [2] 3

Part V: Dynamic Games of Incomplete (Asymmetric) Information

Readings: [1] 28-29; [2] 4