University of Michigan  
Department of Economics  
Econ 409: Game Theory  
Fall 2013

Lectures  
Monday & Wednesday 11:30-1:00 (260 DENN)  
Sections  
Friday 12:00-1:00 (1084 EH) & Friday 1:00-2:00 (1518 CCL)

Instructor  
Deniz Selman (selmand@umich.edu). Office Hours: Monday 5:00-6:30 and by appointment (Lorch 335B).

GSI  
Fudong Zhang (fudongzh@umich.edu). Office Hours: Tuesday 6:00-7:30 & Friday 2:00-3:00 (Lorch 114).

Textbook  

Other Texts  
The course will roughly follow the sequence in Watson, though portions of the material will be treated differently in lectures. Dixit and Skeath provides a more user-friendly, conversational explanation of most concepts. For a slightly more advanced treatment and economic applications, you can consult Gibbons. There may also be additional suggested readings on some lecture topics throughout the semester.

Lectures  
I will primarily teach by writing on the blackboard, though a few lectures will be supplemented by slides. Please make arrangements to borrow a friend’s notes if you miss a lecture. The course is quite self-contained and we will cover some topics in class that are not covered in Watson. Also, regardless of whether it appears in Watson, you are responsible for all material covered in lectures and problem sets. Laptop use is not permitted during class.

Sections  
Fudong will lead the Friday sections and will primarily review past problem sets and old exam questions. Basic mathematical and logical tools will also be covered in section as needed.

Problem Sets  
There will be approximately 10 problem sets assigned and collected for grading during the semester. Problem sets will be posted on ctools and due at the beginning of lecture (11:40am) on the day they are due (almost always on Wednesdays). No late problem sets will be accepted. Your lowest problem set grade will be dropped and the average of the others will constitute the problem set portion of your grade.  
NOTE: Working on problem sets diligently is the most effective way to prepare you for both exams and quizzes. I recommend you first work on your own and then meet to discuss the problems in groups. However, each student must turn in his or her own answers. Please write legibly and state which classmates you worked with on your submitted copy.

Quizzes  
There will be four announced quizzes during the semester. Quizzes will be announced at least one week prior to the quiz date. There will be no quizzes on dates included in the university’s list of religious holidays.  
NO MAKE-UP QUIZZES: You will receive a zero for any quiz that you miss for any reason. To accommodate students who must miss a quiz, your lowest quiz grade will be dropped and the average of the other three quizzes will constitute the quiz portion of your grade.

Exams  
Midterm Exam: Wednesday 23 October (in class, beginning at 11:35am sharp).  
Final Exam: Wednesday 18 December (4:00-6:00).  
MAKE-UP POLICY FOR EXAMS: Only students who contact me before an exam and provide a written excuse will be eligible to take a make-up exam. Students who miss an exam and are not eligible to take a make-up exam will receive a grade of zero on that exam.  
OTHER POLICIES & PROCEDURES: Apart from these stated specifics regarding quizzes and the make-up policy for exams, this course complies with the departmental policy on all Policies and Procedures (i.e. Academic Integrity, Graded Assignments, Grade Grievances and Religious Holidays) as posted on the departmental website at http://www.lsa.umich.edu/econ/undergraduatetest/policiesandprocedures.

Grading  
Problem Sets (15%), Quizzes (21%), Midterm Exam (25%), Final Exam (39%)  
If things go as expected, the median grade will likely be a B+.

Course Outline  
(Subject to change)  
Static Games with Complete Information  
Normal Form Representation of a Game  
Dominant and Dominated Strategies, Rationalizability  
Nash Equilibrium  
Nash Equilibrium in Mixed Strategies  
Dynamic Games with Complete Information  
Extensive Form Representation of a Game  
Backward Induction  
Subgame Perfect Equilibrium  
Repeated Games  
Static Games with Incomplete Information  
Bayesian Nash Equilibrium  
Application: Auctions  
Dynamic Games with Incomplete Information  
Perfect Bayesian Equilibrium  
Application: Job Market Signaling  
Social Choice and Welfare  
Arrow’s Impossibility Theorem  
Gibbard-Satterthwaite Impossibility Theorem