

## ECON 212: Game Theory (Fall Term, 2017)

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INSTRUCTOR	Annie Liang Office: 462 McNeil Building Email: liang.annie.h@gmail.com Office Hours: Wednesdays 4-5PM
TEACHING ASSISTANT	Hanna Wang Office: 328 McNeil Building Email: hannaw@sas.upenn.edu Office Hours: Tuesdays 1:30-2:30PM
CLASS	MW 10:30-12PM
TEXTS	<i>Strategy: An Introduction to Game Theory</i> , Watson, J. (3rd Edition)
PREREQUISITES	Econ 101 and Math 114/115 in a previous semester.
LECTURE NOTES	Slides will be posted the day before lecture.
PROBLEM SETS	There will be six problem sets. No late submissions are allowed, but your lowest problem set score will be dropped when computing your course grade.
GRADING	There will be <b>two midterms</b> and one <b>final exam</b> . The final exam is worth 35% of the total grade, each midterm is worth 20%, and each problem set is worth 5%.
EXAM DATES	<b>Midterms:</b> Oct. 2 and Nov. 1 (in class). The lectures before the midterms (Sept. 27 and Oct. 30) will be reviews. <b>Final Exam (Tentative):</b> Dec. 19, 9-11AM (Tuesday)
OTHER	There will be <b>no class</b> on Nov. 20 (Monday) so that students who leave early for Thanksgiving Break do not need to make up any material. Also, notice that Nov. 22 (Wednesday) has a Friday schedule.  Students have two weeks from the day in which examinations are returned to report errors in grading and/or to request that problems be re-graded. If a student submits his/her exam for re-grading, then the student's entire exam will be re-graded (with no guarantee of a higher total score).
TOPICS	<b>Foundations</b> Preference, Expected Utility  <b>Representation of a Game</b> Extensive form, strategies. <ul style="list-style-type: none"><li>• Required reading: Watson, Chapters 1-3</li></ul> Normal form, beliefs. <ul style="list-style-type: none"><li>• Required reading: Watson, Chapters 3-4</li></ul> <b>Normal-Form Games</b> Best Response, Rationalizability <ul style="list-style-type: none"><li>• Required reading: Watson, Chapters 6-8</li></ul>

Nash Equilibrium

- Required reading: Watson, Chapters 9-10

Mixed Strategies, Minimax

- Required reading: Watson, Chapters 11-12

### **Extensive-Form Games**

Extensive-Form, Backwards Induction, Subgame-Perfection

- Required reading: Watson, Chapters 14-15

IO Applications

- Required reading: Watson, Chapters 16-17

Bargaining

- Required reading: Watson, Chapters 18-19

Repeated Games, Applications

- Required reading: Watson, Chapters 22-23

### **Other Topics**

Random Events, Incomplete Information

- Required reading: Watson, Chapter 24

Risk and Contracting

- Required reading: Watson, Chapter 25

Bayesian Equilibrium, Applications

- Required reading: Watson, Chapters 26-27

PBE, Applications

- Required reading: Watson, Chapters 28-29

Common Knowledge, Email Game