Professor Anna Bassi  
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Office hours: Tuesday/Thursday 9 am-10.30am.

SYLLABUS

MEETING TIMES AND VENUE  
Class meets on Thursdays for 2 hours and 30 minutes in Gardner Hall, room 104. Each class starts at 1 pm.

OVERVIEW  
This course is designed for students who have already Game Theory I, but who desire greater proficiency in the more advanced topics. The course focuses on canonical games of incomplete information that are used widely in all fields of political science and political economy, e.g. signaling games, cheap-talk games, and wars of attrition. It will also introduce students to theoretical topics that are beginning to play a prominent role in recent contributions to the political science literature, e.g. principal agents models and Quantal Response equilibrium. The course is suitable for students who, in the course of their own research, wish to evaluate, critique, or otherwise engage formal-theoretic work, as well as those who anticipate using
game theoretic techniques themselves. Questions concerning the interpretation of models and the evaluation of models will discussed extensively.

**PREREQUISITES**  Game Theory I (Poli 789) or equivalent.

**TEXTBOOKS**  
**Required:** There is one required textbook (Gibbons) for the course, which will be supplemented by several readings which will be posted on blackboard as the course progresses:

**Game Theory Texts:**

**Other required readings:**
- McKelvey, Richard; Palfrey, Thomas (1998), "Quantal
Response Equilibria for Extensive Form Games", Experimental Economics, vol.1, pp. 9–41

  http://home.uchicago.edu/~rmyerson/research/hurwicz.pdf

**COURSE REQUIREMENTS**

You will be graded in this course on the basis of several factors.

- First, there will be one midterm exam and one final exam which will constitute 70% of your grade (30% and 40% respectively). These are cumulative and will test concepts you should have learned from the assigned readings and the lectures.
- In addition, homework assignments will typically be handed out approximately every two weeks and will account for 20% of your final grade.

Summing up, grades will be computed on the following basis:

- Homework assignments 20%
- Midterm exam 30%
- Final exam 40%
- Attendance and participation 10%

**CLASSROOM ATTENDANCE**

Class attendance is mandatory and part of a student’s grade. Absences may be excused only in the case of documented serious illness, family emergency, religious observance, or civic obligation. If you will miss class for religious observance or civic obligation, you must inform your instructor no later than the first week of class.

**MAKEUPS**

Make-up exams will not be available for students who fail to notify your instructor in advance of missing an examination, nor for students without an acceptable explanation. If you have a valid reason for a makeup exam, inform your instructor a.s.a.p. A valid reason is a medical emergency, a death or serious illness in the family, and, quite frankly, very little else. In all cases, you will be expected to bring in proof.
A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgment of the work and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned.

Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved.

A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in The Student Code. Sanctions shall include, but are not limited to, a letter sent to the Dean of Students of the University; a grade of 0 on the assignment or exam; a grade of F for the course.
COURSE OUTLINE

WEEK 1 (8/25)

Review of Static Games of Incomplete Information
- Formal definition of game structure
- Bayesian Nash equilibrium concept
- Monotonicity and symmetry
- Applications: public goods provision, swing voter’s curse, and battle of-the-sexes with incomplete information

Reading Assignments:
- Gibbons, ch. 3

WEEK 2 (9/1) NO CLASS APSA MEETINGS

WEEK 3 (9/8)

Sequential Games of Incomplete Information
- Formal definition of game structure
- Weak Perfect Bayesian equilibrium concept
- Application: deterrence games

Reading Assignments:
- Gibbons, pp173-183

WEEK 4 (9/15)

Costly Signaling Games
Formal definition of game structure
- Perfect Bayesian equilibrium
- Types of equilibrium: separating, pooling, and hybrid equilibria
- Application: political expenditures
- The Intuitive Criterion

Reading Assignments:
- Gibbons, pp183-210, 233-244
**WEEK 5 (9/22)**

*Signaling Games and Cheap Talks*

- Formal definition of game structure
- Solution techniques
- Application: communication in legislatures
- Informative, partially informative and non-informative cheap talk games

*Reading Assignments:*

- Gibbons, pp.183-210, 233-244

**WEEK 6 (9/29)**

*Sequential Equilibrium and further Refinements to Perfect Bayesian equilibrium*

*Reading Assignments:*


**WEEK 7 (10/6):**

*Midterm exam*

**WEEK 8 (10/13)**

*Mechanism Design*

- Relationship to social choice theory
- Definitions of mechanisms
- Revelation Principle

*Reading Assignments:*

- Gibbons, pp.164-168
- McCarty and Meirowitz, chapter 11.1, 11.2, and 11.6, pages 320-326 and 339-342

WEEK 9 (10/20) FALL BREAK

WEEK 10 (10/27)
Mechanism Design
➢ Incentive Compatibility and Mechanism Design
➢ Auctions
➢ Application: mediation and crisis bargaining

Reading Assignments:
• Myerson, ch. 6 (pp.)

WEEK 11 (11/3)
Principal Agent: adverse selection
➢ Formal definition of game structure
➢ Solution techniques

Reading Assignments:
• Laffont and Martimort. “The Theory of Incentives”

WEEK 12 (11/10)
Principal Agent: moral hazard
➢ Formal definition of game structure
➢ Solution techniques

Reading Assignments:
• Laffont and Martimort. “The Theory of Incentives”
• Gailmard, Sean and John W. Patty. 2007. “Slackers and Zealots: Civil Service, Policy Discretion and Bureaucratic expertise”, AJPS 51(4) 873-889

WEEK 13 (11/17)
Quantal Response Equilibrium
➢ Formal definition and relationship with Nash Equilibrium concept.
➢ Solution techniques
➢ Application:

Reading Assignments:

**WEEK 14 (11/24) THANKSGIVING**

**WEEK 15 (12/1)
Voting**

*Reading Assignments:*
- Timothy Feddersen and Wolfgang Pesendorfer. 1996. The Swing Voter's Curse. AER 86(3).

**DECEMBER, 8TH: TAKEHOME FINAL EXAM**