Econ 6101: Advanced Microeconomic Analysis

Course Outline

Purpose: This course is an advanced course in microeconomic theory with an emphasis on game theory. The course has several purposes:

- to develop understanding of the major ideas of modern microeconomics;
- to develop students' facility with analytic economic models; and
- to develop students' ability to study economic problems using the techniques and models available to professional economists.

We study the modern developments in game theory including dynamic games with imperfect and incomplete information with applications to bargaining, incentives, risk-sharing, contracts, imperfect competition, executive compensation ...

Possible Instructors: Gautam Bose, Arghya Ghosh, Kieron Meagher, Hodaka Morita, Bill Schworm.

Background: You will be expected to have a good working knowledge of the models taught in a one-semester postgraduate microeconomics course using a text such as Microeconomic Theory by Mas-Colell, Winston and Green.

Workload Expectations: It is expected that you will spend at least ten hours per week studying this course. This time should be made up of reading, research, working on exercises and problems and attending classes. In periods where you need to complete assignments or prepare for examinations the workload may be greater.

Lectures and Tutorials: There will be a three-hour class once each week with a two-hour lecture followed by a two-hour tutorial.

Reading: There will be weekly reading assignments in the textbook. You will be expected to understand and be able to apply all material covered in the reading assignments whether or not it is covered in the lectures or tutorials. We will use the lectures and tutorials to help you with the material you may find more difficult to learn on your own.

Problems: You will be given weekly assignments which are an essential part of the course.

Exams: There will be one midterm and one final exam in the course.

Assessment: In determining your mark for the semester, the midterm will have a weight of 40% and the final exam will have a weight of 60%.

Texts: The following texts are referenced in the assignments:

Kreps, D. M., A Course in Microeconomic Theory.


**Background Texts:** You should expect to find the reading assignments difficult. However, if you feel you simply cannot understand the primary text without some background reading, then I recommend you try the following:


Then, give the assigned readings another try.
Reading Assignments

I. Decisions with Uncertainty


II. Strategic Games

(1) Mas-Colell, Whinston and Green: 7A, 7B, 7D, 7E, 8A – 8D.
(2) Osborne and Rubinstein: chs. 2 – 4.

III. Extensive Games

(2) Osborne and Rubinstein: ch. 6.

IV. Bargaining

(1) Kreps, ch. 15.
(2) Osborne and Rubinstein: ch. 7.

V. Repeated Games

(1) Osborne and Rubinstein: ch. 8.

VI. Games with Uncertainty

(1) Mas-Colell, Whinston and Green: 8E.
(2) Osborne and Rubinstein: chs. 2.1 – 2.5, 3.1 – 3.2, 4.
VII. Auctions  
(1) Jehle and Reny: ch. 9.  

VIII. Extensive Games with Imperfect Information  
(2) Osborne and Rubinstein: ch. 11, 12.  

IX. Contracts, Incentives and Risk Sharing  
(1) Mas-Colell, Whinston and Green: 14.  
(2) Kreps: 16.  

X. Screening and Signaling  
(2) Kreps: ch. 17.  

XI. Implementation  
(1) Mas-Colell, Whinston and Green: 23.  
(2) Osborne and Rubinstein: ch. 10.  
(3) Kreps: ch. 18.