

The University of Texas at Dallas  
SCHOOL OF MANAGEMENT

OPRE 6311  
Game Theory

Ram Rao  
Spring 2005

COURSE DESCRIPTION

This course will introduce the student to essential ideas in Game Theory as part of the broad knowledge that doctoral students in management must acquire. The required textbook for the course is:

Games + Information by Eric Rasmusen 3<sup>rd</sup> edition, Blackwell, New York

In addition, I will give you a list of readings and notes through the semester. You should come well prepared to class sessions as the pace of the course will be brisk.

Assignments and Grading

There are four required activities in the course. You will turn in 5 assignments. In addition you will write up a response to at least one discussion Assignment. You will also write two position papers, one from the first half and another from the second half based on papers to be discussed in class. These position papers must address questions raised by me, or questions that you think are appropriate. You should be prepared to present your ideas orally in class. Both position papers will involve team-work with other students. I have chosen these papers keeping in mind the areas of interest of students in class. There will be two examinations, a mid-term and a final. The weights for the activities are as follows:

**Assignments: 20%**

**Position Papers: 10 + 15%**

**Midterm: 25%**

**Final: 30%**

Office

INSTRUCTOR: Mr. Ram C. Rao  
SM3.701; Voice: (972) 883-2580; FAX: (972)883-6727  
E-mail [rao@utdallas.edu](mailto:rao@utdallas.edu) ; WebPages [www.utdallas.edu/~rrao](http://www.utdallas.edu/~rrao)  
Office Hours: W 1:00-3 pm or by appointment

SECRETARY: Ms. Bonnie Gordon  
SM 3.621; (972) 883-2051  
E-mail [bonnieg@utdallas.edu](mailto:bonnieg@utdallas.edu)

The University of Texas at Dallas  
SCHOOL OF MANAGEMENT

OPRE 6311  
Game Theory

Ram Rao  
Spring 2005

COURSE SCHEDULE

Session #	Date	Topic	Assignment
1	Jan 11	Basic concepts and Equilibrium Extensive Form	Chapters 1 and 2
2	Jan 18	Discuss Papers I	
3	Jan 25	Mixed strategies, Sub-game Perfection	Chapters 3 and 4 Assignment 1
4	Feb 1	Discuss Papers II	
5	Feb 8	Repeated Games, Folk Theorems, Markov Perfection	Chapter 5 Assignment 2
6	Feb 9	Discuss Papers III	
7	Feb 15	Incomplete Information, Moral hazard: Hidden Actions	Chapters 6 and 7 Assignment 3
8	Mar 1	Mid-term examination	
9	Mar 29	Adverse Selection and Mechanism Design	Chapters 9 and 10
10	Mar 30	Signaling and Screening	Chapter 11
11	Apr 5	Papers IV	
12	Apr 6	Papers V	Assignment 4
13	Apr 12	Auctions	Chapter 13
14	Apr 19	Papers VI	
15	Apr 26	Final Examination	Assignment 5

**The University of Texas at Dallas  
SCHOOL OF MANAGEMENT**

**OPRE 6311  
Game Theory**

**Ram Rao  
Spring 2005**

**FURTHER READINGS**

1. *Game Theory* by Fudenberg and Tirole, 1991, The MIT Press, Cambridge.
2. *An Introduction to Game Theory* by Martin J. Osborne, 2004, Oxford University Press, Oxford
3. *Essays on Foundations of Game Theory* by Ken Binmore, 1990, Basil Blackwell Ltd., Oxford
4. *Handbook of Game Theory with Economic Applications* by Aumann, Robert & Sergiu Hart, 1992, North Holland New York.
5. *The Theory of Learning in Games* by Fudenberg and Levine, 1998, The MIT Press, Cambridge.
6. *Auction Theory* by Vijay Krishna, 2002, Academic Press, San Diego.
7. *Games and Decisions: Introduction and Critical Survey*, by Luce and Raiffa, 1957, Wiley, New York