INTRODUCTORY GAME THEORY
ECONOMICS 354K, SPRING 2009

MAXWELL B. STINCHCOMBE

ORGANIZATION

Basics: We meet Tuesdays and Thursdays, from 3:30pm to 5:00pm, in UTC 3.102. The unique number is 33190.

Reaching me: My office is BRB 2.118, phone 475-8515, office hours are Tu, W, Th, 2-3:30, e-mail `max.stinchcombe@gmail.com`. Also by drop-in or by appointment. We are very luck to have as the T.A. for this course Urmee Khan. Her office is 2.116, office hours are M 1-2 pm, F 11-12, and drop in.

Texts: The required textbook for this class is Joel Watson's *Strategy: An Introduction to Game Theory*, 2'nd edition.[1] I also strongly recommend *Strategies and Games* by Prajit Dutta (MIT Press, 1999), and *Games, Strategies, and Managers* by John McMillan (Oxford University Press, 1992). Assignments and selected exposition of material to be covered in class will be handed out as the class progresses.

Evaluation: There are 7 homework assignments (35%), 10 quizzes (10%), one in-class mid-term, Tuesday March 3, 2009 (15%), and a final exam, Friday May 15, 2009, 2-5 p.m. (40%).

In more detail:

(1) There are assignments due every other week on Tuesdays beginnning February 3, unless this falls during spring break, in which case the assignment is due the following Tuesday. These count for 5 points apiece. Solutions will be available when the assignments are due, and late assignments will not be accepted.

I encourage you to work together on assignments. However, I strongly discourage you from merely copying someone else's work. If you "free ride" on others' efforts, you will not understand what is being taught sufficiently well to pass the class.

(2) Starting in the 2'nd or 3'rd week, I will, at the very beginning of randomly chosen classes, give 10, five minute, closed book quizzes. These will be "give-away" points if you have done the readings, and much more difficult if you have not. These will count for 1 point apiece.

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[1] If you use the 1'st edition, the material in the chapters is substantially the same, but the problems, which will be regularly assigned as homeworks, are quite different. So, if you go with the first edition, you will need some source for the problems.

(3) The in-class mid-term will count for 15% of your grade. It will be given on Tuesday March 3, 2009. I do not give make-up exams. If you must miss the mid-term on University business, make arrangements with me in advance.

(4) The final, cumulative exam will be given on Friday May 15, 2009, from 2-5 p.m. It will count for the remaining 40% of your grade.

Background: I will assume that you have had a good introduction to microeconomics, especially the utility maximization foundation of the theory of consumer choice and the theory of the firm. I will also assume a good working knowledge of differential and integral calculus as well as familiarity with basic probability and statistics (cumulative distribution functions (cdf's), probability density functions (pdf's), and the relations between them; conditional expectations and probabilities, especially use of Bayes' Law.

Topics: The course is in introduction to the basics of game theory as it applies to economics. We will analyze both static and dynamic situations, and pay special attention to the role of uncertainty. Examples will cover topics in insurance markets, marketing, entry deterrence, personnel economics, political science, location economics, cartels, and others.

Schedule: Roughly speaking, we will cover one textbook Chapter per class meeting. The midterm will cover material in Parts I and II of the textbook, that is, Chapters 1 through 13. The final will be cumulative, but will place more emphasis or the material in Parts III and IV of the textbook. The following is a rough schedule:

Weeks	Dates	Chapters
1 & 2	Tu Jan 20 - Th Jan 29	Ch. 1 - 5
3 & 4	Tu Feb 3 - Th Feb 12	Ch. 6 - 9
5 & 6	Tu Feb 17 - Th Feb 26	Ch. 10 - 13
7	Tu Mar 3 & Th Mar 5	Review & Midterm
8 & 9	Th Mar 10 - Th Mar 26	Ch. 14 - 16
—	Spring break	—
10 & 11	Tu Mar 31 - Thu Apr 9	Ch. 18 - 23
12 & 13	Tu Apr 14 - Thu Apr 23	Ch. 23 - 26
14 & 15	Tu Apr 28 - Thu May 7	Ch. 27 - 29
16	Fri May 15, 2-5 p.m.	Final exam

Assignment for Weeks 1 and 2

Due date: Tue. Feb. 3.

From Chapter 2: 1, 4
From Chapter 3: 3, 5, 6
From Chapter 4: 1, 3, 5

Assignment for Weeks 3 and 4

Due date: Tue. Feb. 17.

From Chapter 6: 4, 6, 7
From Chapter 7: 2, 4
From Chapter 8: 2, 4, 5, 7
From Chapter 9: 3, 7, 9, 10

Assignment for Weeks 4 and 5

Due date: Tue. March 3.

From Chapter 10: 1, 3, 8
From Chapter 11: 7, 8
From Chapter 12: 1
From Chapter 13: 1, 3

Assignments Based on Class Meetings March 10 Through March 26

Due date: Tue. March 31.
From Chapter 14: 1, 5
From Chapter 15: 1, 2, 3, 5, 6, 7
From Chapter 16: 1, 4, 6, 7

Assignments Based on Class Meetings March 31 Through April 9

Due date: Tue. April 14.

From Chapter 18: 1, 5
From Chapter 19: 2, 3, 4
From Chapter 20: 5, 6
From Chapter 22: 1, 2, 4, 9
From Chapter 23: 1, 2, 7

Assignments Based on Class Meetings April 21 through May 5

Due date: Thursday May 7.

From Chapter 24: 2, 3
From Chapter 25: 2, 4
From Chapter 26: 1, 2, 5, 6
From Chapter 27: 1, 3