



## Department of Economics Course Outline

<b>Course:</b>	Economics 373 [Game Theory and Strategic Thinking for Social Sciences]	<b>Term:</b>	Spring 2011
<b>Time:</b>	TR 18:00-20:50	<b>Section:</b>	20
<b>Instructor:</b>	Armando Zavaleta	<b>Place:</b>	SB 142
<b>Office:</b>	SS 441	<b>Telephone:</b>	220 4600
<b>Office Hours:</b>	R 15:45-17:45	<b>E-mail:</b>	<a href="mailto:azavalet@ucalgary.ca">azavalet@ucalgary.ca</a>

### **Main textbook:**

Dixit, Avinash, Skeath, Susan & Reiley, David. *Games of Strategy*. Norton, 3<sup>rd</sup> Edition, 2009.

### **Recommended textbooks:**

Osborne, Martin J. *An Introduction to Game Theory*. Oxford University Press. 1<sup>st</sup> edition, 2004.

### **Book(s) on Reserve:**

Dixit, Avinash, Skeath, Susan & Reiley, David. *Games of Strategy*. Norton, 3<sup>rd</sup> Edition, 2009.

Osborne, Martin J. *An Introduction to Game Theory*. Oxford University Press. 1<sup>st</sup> edition, 2004.

### **Course Outline:**

Game Theory is the analysis of situations in which payoffs to agents depend not only on their own behavior but also on the behavior of other agents. It involves the analysis of conflict, cooperation, and (tacit) communication. Game Theory has applications in several fields, such as economics, political science, psychology, sociology, law, biology and computer science. In this course, I will introduce the basic tools of game theoretic analysis and some of the many applications of Game Theory, primarily in economics and political science. While my emphasis will be on the conceptual analysis, the course will require you to think in logical and mathematical terms.

I will follow Dixit, Skeath & Reiley *Games of Strategy*. However, there will be some topics which I will cover more formally and will rely upon class notes in addition to the textbook. Students who seek a deeper analysis of the topics covered in the course can use Osborne's *An Introduction to Game Theory* instead.

**Topics:**

1. Introduction to Games and Strategic Thinking (Chapters 1 & 2)
2. Games with Sequential Moves (Chapter 3)
3. Simultaneous-Move Games with Pure Strategies: Discrete and Continuous Strategies (Chapter 4 & 5)
4. Combining Sequential and Simultaneous Moves (Chapter 6)
5. Simultaneous-Move Games with Mixed Strategies (Chapters 7 & 8)
6. Uncertainty and Asymmetric Information: Risk, Adverse Selection, Signaling and Screening (Chapter 9)
7. Strategic Moves (Chapter 10)
8. Repeated Games: The Prisoners' Dilemma (Chapter 11)
9. Collective-Action Games: Public Goods and Externalities (Chapter 12)
10. Mechanism Design (Chapter 14)
11. Bidding Strategy and Auction Design (Chapter 17)
12. Bargaining theory (Chapter 18)
13. Evolutionary Games (Chapter 13)
14. Markets and Competition (Chapter 19)

I will post all the slides corresponding to each lecture on Blackboard.

**Grade Determination and Final Examination Details:**

Student performance will be evaluated as follows:

Assignments	30%
Midterm Examination	30%
Final Examination	40%

There will be four assignments due at the beginning of the lecture. No late assignments will be accepted other than in cases of extreme personal emergency. Since Game Theory is a difficult subject, I encourage you to work on the assignments in groups.

The midterm and final exams will be *open book* and programmable-calculators are allowed. Exams will not involve multiple choice questions. The midterm exam is scheduled for the regular class session on Tuesday June 7, 2011. *Deferred midterm exams will not be given.* Students who are unable to write the midterm because of illness or personal emergency will have the midterm weight shifted to the final. Appropriate documentation is required in all such cases.

The final examination will be scheduled by the Registrar, lasting 2 hours. A make-up or deferred final exam will not be given except in cases of illness or personal emergency. Appropriate documentation is required in all such cases. If for such a reason, a deferred final exam is allowed, it will not be given before the scheduled exam date.

Assignments and exams are marked on a numerical (percentage) basis and then converted to letter grades. The course grade is then calculated using the weights indicated below. As a guide to determining standing, these letter grade equivalences will generally apply:

A+	95.6 – 100	B	75.6 – 80.5	C-	55.6 – 60.5
A	90.6 – 95.5	B-	70.6 – 75.5	D+	50.6 – 55.5
A-	85.6 – 90.5	C+	65.6 – 70.5	D	45.6 – 50.5
B+	80.6 – 85.5	C	60.6 – 65.5	F	<45.6

A passing grade on any particular component of the course is not required for a student to pass the course as a whole.

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

Students' Union Vice-President, Academic

Ola Mohajer

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Society of Undergraduates in Economics (S.U.E.)

[www.ucalgary.ca/sue](http://www.ucalgary.ca/sue)

Safewalk / Campus Security: 220-5333

Emergency Assembly Location – ICT Food Court

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