



## Department of Economics Course Outline

<b>Course:</b>	Economics 373 [Theory and Strategic Thinking for Social Sciences]	<b>Term:</b>	Summer 2009
<b>Time:</b>	TR 18:00-20:50	<b>Section:</b>	60
<b>Instructor:</b>	Armando Zavaleta	<b>Place:</b>	SS 109 (subject to change)
<b>Office:</b>	SS 443	<b>Telephone:</b>	220 4602
<b>Office Hours:</b>	Tuesdays 15:30-17:30	<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:**

Carmichael, Fiona. *A Guide to Game Theory*. Prentice Hall. 1<sup>st</sup> edition, 2005.

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

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

Carmichael, Fiona. *A Guide to Game Theory*. Prentice Hall, 1<sup>st</sup> edition, 2005.

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. Although Game Theory has emerged as a branch of mathematics, my emphasis will be on the conceptual analysis, keeping the level of mathematical technicalities to a minimal level<sup>1</sup>. Game Theory is a difficult subject that requires thinking in logical and mathematical terms.

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<sup>1</sup> Nonetheless, this does not mean that there will be no math. In fact, we will be using mathematic tools throughout the course. .../2

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 prefer a more mathematical approach and 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 weekly 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 July 28, 2009. *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.

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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	<45.5

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

Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the instructor *within seven days* of the work being returned to the class.

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

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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

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2009-04-03