

## Strategy Behaviour IOM-ISS418

### *Course Description*

This course is designed as a brief introduction to individual decision making. Its main objective is to provide the students with decision theory and game theory techniques that can be useful to face and understand, using logical reasoning, strategic situations that appear not only in business environments, but also in everyday life.

### *Required Texts*

*Game Theory for Applied Economists* by Robert Gibbons

*Supplemental readings will be distributed through your student center.*

### *Prerequisite*

Intermediate Microeconomics, Business Statistics, and Calculus I

### *Course Assessment*

Details	Course Weight
Midterm Exam	25%
Final Exam	40%
Term Project	20%
Quizzes	15%

### *Learning Outcomes*

- ✓ Demonstrate key problem-solving skills for game theoretical models
- ✓ Interpret and present logical arguments for strategic problems

### *Evaluation and Grading*

A	93-100	B-	80-82	D+	67-69
A-	90-92	C+	77-79	D	63-66
B+	87-89	C	73-76	D-	60-62
B	83-86	C-	70-72	F	0-59

### *Course Hours*

The course has 20 class sessions in total. Each class session is 150 minutes in length, for a total of 3000 minutes of in-class time. Students are expected to spend 15-20 hours per week outside of class. The University awards **4** credits for this course. Different universities may count course credits differently. Consult officials at your own home institution.

### *Attendance*

Occasionally, due to illness or other unavoidable circumstance, a student may need to miss a class. The University's policy requires a medical certificate to be excused. Any absence may impact on the student's grade. Moreover, **the University's policy is that a student who has more than 3 absences will fail the course. Arriving late or leaving early will count as a partial absence.**

### *Academic Honesty*

The University expects all students to do their own work. Instructors will fail assignments that show evidence of plagiarism or other forms of cheating and will also report the student's name to the University administration. A student reported to the University for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled.

### *Disability Accommodation*

Any student who needs special accommodation due to the impact of disability should inform the University within 10 days before the program starts.

### *Course Topics*

Lecture	Topics
1	<ul style="list-style-type: none"> <li>• Course overview</li> </ul>
2	<ul style="list-style-type: none"> <li>• Introduction to Game Theory</li> </ul>
3	<ul style="list-style-type: none"> <li>• Normal-Form Games</li> </ul>
4	<ul style="list-style-type: none"> <li>• Iterated Elimination of Strictly Dominated Strategies</li> </ul>
5	<ul style="list-style-type: none"> <li>• Pure Strategy Nash Equilibrium</li> </ul>
6	<ul style="list-style-type: none"> <li>• Mixed Strategy Nash Equilibrium</li> </ul>
7	<ul style="list-style-type: none"> <li>• Applications (Cournot Model, Bertrand Model, Tragedy of the Commons)</li> </ul>
8	<ul style="list-style-type: none"> <li>• Applications (Cournot Model, Bertrand Model, Tragedy of the Commons)</li> </ul>
9	<ul style="list-style-type: none"> <li>• Review</li> </ul>
	<i>Midterm Exam</i>
10	<ul style="list-style-type: none"> <li>• Extensive-Form Games</li> </ul>
11	<ul style="list-style-type: none"> <li>• Backwards Induction</li> </ul>
12	<ul style="list-style-type: none"> <li>• Credibility and Subgame Perfect Nash Equilibrium</li> </ul>
13	<ul style="list-style-type: none"> <li>• Repeated Games</li> </ul>
14	<ul style="list-style-type: none"> <li>• Applications (Stackelberg Model, Sequential Bargaining, Bank Runs, Cartel and Collusion)</li> </ul>
15	<ul style="list-style-type: none"> <li>• Applications (Stackelberg Model, Sequential Bargaining, Bank Runs, Cartel and Collusion)</li> </ul>
16	<ul style="list-style-type: none"> <li>• Static Bayesian Games</li> </ul>
17	<ul style="list-style-type: none"> <li>• Bayesian Nash Equilibrium</li> </ul>
18	<ul style="list-style-type: none"> <li>• Applications (Auctions)</li> </ul>
19	<ul style="list-style-type: none"> <li>• Dynamic Games of Incomplete Information</li> </ul>
20	<ul style="list-style-type: none"> <li>• Dynamic Games of Incomplete Information</li> <li>• Review</li> </ul>
	<i>Final Exam</i>