



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore

## Industrial Organization – Strategic Decision Making

Prof. ELENA CASTELLARI

### COURSE AIMS

The goal of this course is to provide a systematic approach for identifying effective strategies and to predict the outcomes of strategic interactions. This course uses game theory to study incentives and strategic behavior in practical situations of decision making. The course will develop basic theoretical concepts along with applications from a variety of areas, prioritizing applications to business and economics. Prior courses in microeconomics and mathematics are helpful but not required.

### COURSE CONTENTS

TOPICS	CFU
Normal and extensive form games. Nash equilibrium. Pure and mixed strategies.	1
Simultaneous move games. Dominant and dominated strategies. Games of incomplete information- Bayesian Nash Equilibrium.	1
Sequential Games. Sub-game Perfect Nash Equilibria. Repeated Games.	1
Economic applications	1

### SCHEDULE

Fall semester

### TEACHING METHOD

The course consists of lectures, with use of computer presentations.



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## COURSE REQUIREMENTS

It is strongly recommended to attend classes.

## CREDITS

4 ECTS

## ASSESSMENT METHOD

Two assignments worth 20% each, and a final examination, worth 60%, all written. The written exam includes exercises covering the material of the program. The grade of each problem will depend on the specific exam. The grade will reflect student's knowledge of the program as well as the ability of using game theory on framing practical applications.

## COURSE READINGS AND MATERIALS

Selected readings from the following textbook:

WATSON, J., *Strategy: An Introduction to Game Theory*, (3rd Edition) W.W. Norton, 2013.

GIBBONS, R., *Game Theory for Applied Economists*, Princeton University Press, 1992.

DIXIT, A., S. SKEATH AND D.H. RILEY, *Games of Strategy* (4th Edition), W.W. Norton, 2015

Slides and classnotes..

## NOTES

Elena Castellari will receive students after classes or by appointment.

## INSTRUCTOR BIO

Prof. Elena Castellari

[http://docenti.unicatt.it/ita/elena\\_castellari/](http://docenti.unicatt.it/ita/elena_castellari/)

## E-MAIL ADDRESS

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