

## INDUSTRIAL ORGANIZATION

- **Strategic Decision Making**

[Professor 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 CONTENT**

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

### **READING LIST**

Reference books

WATSON, J., *Strategy: An Introduction to Game Theory*, (3<sup>rd</sup> 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* (4<sup>th</sup> Edition), W.W. Norton, 2015.

### **TEACHING METHOD**

The course consists of lectures and material handouts.

### **ASSESSMENT METHOD**

Assignments worth overall 20%, and a final examination, worth 80%, 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.

Professor Elena Castellari will receive students after classes or by appointment ([elena.castellari@unicatt.it](mailto:elena.castellari@unicatt.it)).

- **Industrial Organization of the food system**

[Prof. Stefano BOCCALETTI](#)

### **COURSE AIMS**

The course covers the firm's strategic behaviour in imperfectly competitive markets. The attention is mainly devoted to the theoretical underpinnings of the models. The course begins with the study of the behaviour of firms under specific market structures and gives way to the analysis of advanced topics in industrial organization. The students are presumed to be familiar with the standard content of an undergraduate microeconomics course.



## **COURSE CONTENT**

<b>Topics</b>	<b>CFU</b>
Introduction to IO. Monopoly and monopsony power	<b>0.5</b>
Price discrimination: linear pricing; non-linear pricing.	0.5
Product variety and quality: spatial approach to horizontal product differentiation; vertical product differentiation; reputation and information; asymmetric information; advertising.	0.5
Collusion: the cartel's dilemma; repeated games.	0.5
Strategic behaviour and exclusionary strategies: entry deterrence; limit pricing; predatory pricing.	1
Vertical integration and vertical restraints: double marginalization; vertical integration with perfect competition downstream; restraints on intra-brand competition; mergers.	1
Market structure: determinants; strategic analysis of industries; food industry.	0.5
Innovation: research, development, invention and innovation; patents; innovation in the food industry.	0.5
Antitrust policy: remedies and penalties, competition policies in the agro-food industry.	0.5

## **READING LIST**

L. PEPALL-D. RICHARDS-G. NORMAN, *Industrial Organization*, 5<sup>th</sup> ed., Blackwell Publishing, 2014.

Other reference books

D.W. CARLTON-J.F. PERLOFF, *Modern Industrial Organization*, 4th ed. (alternatively consult the second Italian edition).

For each topic, further papers and other materials will be indicated.

## **TEACHING METHOD**

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

## **ASSESSMENT METHOD**

Two assignments worth 15% each, a preliminary test, worth 20% and a final examination, worth 50%, all written.

The assignments and the preliminary test scores last one academic year.

The questions include exercises, simple graphical and mathematical proofs. The score attached to each question may change depending on the test. The assessment is intended to provide a sufficiently precise measure of the student's learning and to offer to the instructor a grasp of the student's skills and abilities to apply methodological instruments to explain the functioning of imperfectly competitive markets.

Professor Stefano Boccaletti will receive students after classes or by appointment (0523/599228).