# Economics of the Firm

## Professor Luca Colombo

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course aims to provide students with a solid background on some fundamental topics of modern microeconomics, which are the conceptual starting point for the microeconomic analysis of strategic decision making by agents. Emphasis is placed on the nature of the contractual relationships relevant to firms, in the presence of asymmetric or incomplete information and of different market structures.

At the end of the course, students will be able to:

1. identify the objectives and decision-making processes of firms operating in different market structures, in the presence of both symmetric and asymmetric (or incomplete) information;

2. understand the characteristics of the contractual design problem in the presence of symmetric information, in terms of the distribution of risk and the definition of compensation mechanisms;

3. assess the consequences of the presence of asymmetric information, both pre- and post-contractual, for the design of incentivising contracts when the parties with private information relevant to the contractual relationship have no interest in disclosing such information;

4. understand the value of signalling in the presence of asymmetric information;

5. understand the impact of asymmetric information on firms’ decision-making processes, as well as on relations between stakeholders.

6. understand the main determinants and implications of a firm’s organisational structure.

***COURSE CONTENT***

The course focuses on the impact of -asymmetric or incomplete- information on firms’ objectives and organisation, as well as on the incentives of the different categories of stakeholders operating in them Furthermore, it investigates the relationships between organisation, incentives, and efficiency.

The core components of the course are devoted to the investigation of the fundamental issues in contract theory, as summarized below.

1. *Contract design under symmetric information*

– the basics of the principal-agent model;

– risk distribution and the role of risk aversion;

– compensation mechanisms and optimal effort levels.

2. *Contract design under asymmetric information*

– moral hazard;

– the design of the optimal contract in the presence of moral hazard;

– adverse selection;

– the design of the optimal contract in the presence of adverse selection;

– adverse selection and competition among principals.

*3. The role of signalling in contract design*

– the value of private information and that of signalling;

– contract design in the presence of agents that report their own characteristics;

– separating and pooling equilibria*;*

– the information power of contracts;

– the intuitive criterion*.*

The economic applications of contract theory will be as relevant as the theoretical and modelling aspects of the course to both facilitate the understanding of the building process of formal models, and to illustrate the variety of fields of application of the topics investigated in the course.

Contract design problems will be investigated for those sectors in which the impact of information asymmetries is particularly significant (e.g., insurance, credit). Moreover, the course will focus on the role of contract theory in the definition of employee and managerial compensation, as well as in the analysis of the financial structure and of the allocation of control in corporations.

***READING LIST***

*For the part of the course focusing on contract theory:*

I. Macho-Stadler-J.D. Pérez-Castrillo, *An Introduction to the Economics of Information: Incentives and Contracts*, Oxford University Press, latest edition.

*For the part of the course focusing on the economics of the firm*:

P. Milgrom-J. Roberts. *Economia. Organizzazione e management*, Il Mulino, latest edition.

Lecture notes, supplemental materials, and more detailed reading references will be made available in the course webpage on Blackboard.

***TEACHING METHOD***

The course will be taught by means of a combination of theoretical lectures and applications.

Students who wish to do so, will be able to deepen their knowledge of specific topics such as the definition of incentive mechanisms for managers; the financial structure of firms; the impact of information asymmetries on insurance and banks; the decision-making processes in non-profit organisations; and the role of information asymmetries in financial and debt crises.

***ASSESSMENT METHOD AND CRITERIA***

A written exam based on problems and theoretical questions.

Questions on theoretical fundamentals will assess a student’s knowledge, critical thinking, and discussion skills. Application questions will assess a student’s logic, analytic and problem-solving skills.

All questions will be graded out of thirty points. The final grade will be an average of the grade in each question.

Interested students may take the written exam in two parts, a midterm exam and a completion exam, which contribute equally to the determination of the final mark. The midterm exam focuses on the part of the programme effectively covered in lectures up to the taking of the test itself, and it takes place during the week specifically provided for by the academic calendar. The completion test takes place in official exam dates once lectures have ended, and it must be taken during the first exam session at the end of the course.

Any further information will be provided during lectures and posted on the *Blackboard* page of the course.

***NOTES AND PREREQUISITES***

Students are expected to be familiar with the material of the first-year courses in Mathematics and Microeconomics. Regular attendance and active participation in lessons contribute significantly to an effective learning of the topics covered during the course.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG, or on the Faculty notice board.

*Office hours*

Office hours are usually held on Monday at 11:00 and they will take place at the Department of Economics and Finance, via Necchi 5 (office 211). If needed, students can require an appointment at a different time, also online, by sending an e-mail to the instructor. Any changes in the timing and location of office hours will be will be provided on the course blackboard page.