Some advice if you are thinking about enrolling in *Uncertainty and Contracts*

1. This subject is an *Advanced Microeconomics* course. It belongs to a sequence of 5 courses in microeconomics in the Degree in Economics and in the Double Bachelor's Degree in Business and Economics of the Faculty of Economics and Business. Students of the Degree in Economics and of the Double Bachelor's Degree in Business and Economics have studied, previously:

- 1st course, 1st term: Introduction to Economics: Principles of Microeconomics. Mainly, the running of perfectly competitive markets is introduced.

- 2nd course, 1st term: Microeconomics. It is focused on the Theory of Consumer and pure exchange economies. We use in *Uncertainty and Contracts* some issues of the theory of choice under certainty, like axioms of choice, the notions of cardinal utility and ordinal utility etc. We also use in this course the notion of Pareto efficiency.

- 2nd course, 2nd term: Intermediate Microeconomics. This course is dedicated to the Theory of Producer, competitive markets and general equilibrium. The First Theorem of Welfare Economics, which says that "the competitive equilibrium is efficient", is enunciated. It is also illustrated that in presence of externalities or public goods a market failure is produced and that, in general, competitive markets are not efficient. In the subject *Uncertainty and Contracts*, we show how the existence of asymmetric information generates a market failure: when one part of the market, say sellers, has more information than other part, say buyers, competitive equilibrium may not be efficient.

- 3rd course, 1st term: Market Power and Strategy (MP&S). This subject is dedicated to the analysis of market structures characterized by the existence of *market power*. We introduce Game Theory as an instrument to understand economic problems characterized by strategic interaction. This theory is of great utility to understand competition among firms in oligopolies and to study collusion in real markets. In the course, monopoly is also studied, paying special attention to the different types of price discrimination. For the subject *Uncertainty and Contracts*, it is crucial that the student has well assimilated the main concepts of Game Theory introduced in MP&S, such as dominated strategy and weakly dominated strategy, best response, Nash equilibrium and

so on. In particular, we consider three chapters of game theory dedicated to Bayesian games in normal form, mixed strategies and Bayesian games in extensive form. We also extend some oligopoly problems studied in MP&S to new contexts with incomplete information: for instance, we will consider a Cournot duopoly in which one firm does not know the rival's marginal cost. We also reinterpret the second-degree price discrimination problem as a (Bayesian game) game where the monopolist has no complete information concerning consumers' preferences.

2. The final exam is face-to-face and will take place on **May 29**. Make sure this date is good for you.

3. In this course, we do not use very advanced mathematical methods, but the student should be familiar with basic arithmetic, optimization problems, derivatives etcetera. Students in the Degree in Economics and in the Double Bachelor's Degree in Business and Economics of the Faculty of Economics and Business have studied previously two subjects (one term each) in Mathematics and two subjects in Statistics.

I will be glad with you in the subject *Uncertainty and Contracts*. But, before enrolling in this subject, please, ensure that you have enough background in Microeconomics and in Mathematics (and/or in Statistics) to get the most out of the course.