Syllabus: Information Economics
Professor: Juan José Ganuza.

Timing

Course meets on Mondays and Tuesdays at 13:00 for lectures. You can contact the instructors at juanjo.ganuza@gmail.com

Course Aims and Content

The aim of this course is to introduce students to the role of information in economics. We start the course with a short introduction to decision making under uncertainty. After this we switch to the main topic of the course: how economic agents make contracts when faced with uncertainty and asymmetric information. Three main topics include Moral Hazard, Adverse Selection and Signaling. In all three settings a principal and an agent interact in a setting where the principle offers a contract of compensation for a task that the agent needs to perform. In Moral Hazard setting the principle does not observe agent’s effort, is interested in high effort and needs to motivate the agent by appropriately designing the contract. In adverse selection setting the principle does not observe the type of the agent, would like to hire high types, and again needs to design a contract that achieves this goal. Signaling setting is similar to adverse selection, but now the agent can take a costly action to signal his type. After we cover these three topics, we will look in-depth at auctions as an application.

Grading

Students will be assigned a number (around 5-6) problem sets. You can submit it groups of 2, but these groups have to be permanent throughout the trimester.

Course grade comes from
Final exam: 80%
Problem sets and class participation: 20%

You need to get 50% or more to pass the course.

List of topics

1) Introduction
a. Presentation and overview of the course  
b. The elements of the problem  
c. The types of asymmetric information

2) Review of the theory of choice under uncertainty

3) The basic principal agent model  
a. Description of the model  
b. Symmetric information contracts

4) The optimal payment mechanism

5) The moral hazard problem  
a. The case when the agent chooses between two effort levels  
b. Continuous effort  
c. Applications

6) The adverse selection problem  
a. A model for one principal and one agent  
b. When principals compete for agents  
c. Applications

7) An Introduction to Signaling. Education as a signal

8) Auctions  
a. Common auction types and their solutions  
b. Revenue equivalence theorem

Reading list

For topics 1 to 6, Macho-Stadler, and Pérez-Castrillo (2001) is the basic reading.  
For the 7th topic, the reading list is:  