Syllabus

Advanced Micro: Information Economics

- **Instructor**: Marc Kaufmann; Email: KaufmannM@ceu.edu
- **Credits**: 4 ECTS
- **Term**: Winter 2019-2020
- **Course level**: PhD
- **Prerequisites**: Micro I and Micro II

Course description

To familiarize students with the basic concepts, models, and methods in information economics, the study of the effects of information asymmetries on economic outcomes. The topics covered are:

- Adverse Selection in Markets
  - Akerlof's lemons model
- Nonlinear Pricing
  - The basic two-type model of hidden information
  - Competitive screening
- Moral Hazard
  - The basic two-effort model of hidden action
  - Career concerns
- Mechanism Design (probably only some)
  - Pivotal mechanisms
  - The revelation principle
  - Auction theory

Learning outcomes

Understanding of the basic models used to capture the various effects of asymmetric information: adverse selection, nonlinear pricing, moral hazard, mechanism design. Learning techniques to solve

these models. Ability to spot when asymmetric information is an important aspect of an economic situation, and to identify the type of asymmetry at play and the modeling tools to use.

Reading list

The standard textbook on information economics and contract theory is "Contract Theory" by Patrick Bolton and Mathias Dewatripont, MIT Press, 2005. Although the book covers much more material than this course, it may be useful for understanding some of the topics in the class, for finding applications, and as a reference. But the required readings are the lecture notes on the Moodle website which are from Botond Kőszegi's. These notes draw on a variety of sources, including the "Contract Theory" book, Mas-Colell/Whinston/Green, some other published work, and others' (mostly unpublished) lecture notes. Since these are not my notes and since they have not been edited to the standard of publishable texts, please ask for permission before circulating.

Learning Activities and Teaching Methods

- 60% of the course consist in lectures given by the instructor
- 40% of lectures/presentations given by students

The above numbers are indicative and not exact.

Assessment

In-class Final Exam (50%)

Please let me know asap if this date does not work for an already known reason.

In-class presentation of part of a paper related to the topics in class (30%)

You will have to:

- Find a relatively current paper, part of which is related to this class. The main part of the paper doesn't have to be about information economics, but it should be central to the paper.
- Present this paper in class in a 10- to 15-minute presentation with 5 minutes discussion.

You will **not** present the whole paper. First, modern papers are too complex so that you (and I) are unlikely to be able to absorb most of it in time. Second, you only have a short amount of time to present the paper. Third, most papers are about much more than the basic information economics we cover.

Instead, the goal of the presentation is to figure out how to work your way through an application of information economics in current papers – and to focus only on that part that is relevant to this course. There are many papers that you cannot understand without a good grasp on information economics – but most papers do more than that.

Moreover you should not try to understand the most general version of the model used in a paper. Rather, you should be able to come up with the simplest model that helps you to understand the logic of the paper. Thus you are free to make simplifying assumptions, including using specific functional forms for utilities, replacing oligopolies with monopolies, etc etc – as long as the point you want to illustrate still remains true.

The Timeline is as follows:

Week 1: Search for papers

Week 2: Submit 3 candidate papers, and the part of the paper that you want to highlight. I will quickly provide feedback, and you decide which paper you will present. (5% of total grade)

Week 3: Submit a 1-page draft and a draft of 3 slides (each with some content) of what you'll want to cover. (5% of total grade)

Weeks 4, 5 (and maybe 6): Present it (10% of total grade) and submit a 2-page write up along with the slides (10% of total grade).

Important note: You will be partnered with one other person and present to each other before presenting to class. You **have** to stay within the given time limits (which I'll determine in week 2, based on class size).

Some of the details depend on the number of people in the class – e.g. if there are lots of people, I will ask you to do presentations in pairs. Thus this will be finalized in the second week.

If you either cannot find a paper that you want to present, or would rather prefer to present something more theoretical, you can choose to present one of the following topics from the note on Moral Hazard or Mechanism Design part, since time usually does not permit to cover them:

- Generalized Revenue Equivalence Theorem

- Myerson-Satterthwaite Theorem

- Relational Contracts

If you do, on top of covering (part of) the notes on this topic, your report should include a useful and clarifying example that is not in the notes.

Problem Sets (20%)

10% of the grade is for doing the problem sets. 10% is for providing feedback to others on their problem sets and grading them. There will be two problem sets (as well as potentially some questions from a third problem set that might appear on the exam).