

ECON6810: SPECIAL TOPICS IN ECONOMICS: INFORMATION ECONOMICS AND MECHANISM DESIGN

Spring 2019

Department of Economics
The Chinese University of Hong Kong

- Instructor: HE Wei
- Office: 914 ELB
- E-mail: hewei@cuhk.edu.hk
- Lectures: Tue 8:30-11:15am, ELB 204
- Office Hour: TBA

Course Description: This module aims to provide students rigorous and accessible explanations on the theory of information economics and mechanism design. The objectives are to focus on classic results, and to take the students in selected areas to the frontiers of research. We plan to cover (1) standard models in information economics, including adverse selection, cheap talk, verifiable disclosure, moral hazard, and Bayesian persuasion; and (2) static mechanism design in terms of Bayesian mechanisms and dominant strategy mechanisms, and emphasize the applications in economics, such as single unit auction, public goods, and bilateral trade. If time permits, we will also discuss some recent developments.

Learning Outcomes: After completing this course, the students are expected to:

1. Acquire basic knowledge in the theory of information economics and mechanism design;
2. Obtain preparations for conducting independent research.

Textbook There is no required textbook for this course. The lecture is mainly based on the lecture notes.

Grading:

- 30% Two assignments
- 20% A referee report
- 20% A class presentation
- 30% Final Examination

Grade Descriptor:

A/A- Outstanding/Generally outstanding performance on all learning outcomes.

B+/B/B- Substantial performance on all learning outcomes, OR high performance on some learning outcomes which compensates for less satisfactory performance on others, resulting in overall substantial performance.

C+/C/C- Satisfactory performance on the majority of learning outcomes, possibly with a few weaknesses.

D+/D Barely satisfactory performance on a number of learning outcomes

F Unsatisfactory performance on a number of learning outcomes, OR failure to meet specified assessment requirements.

Course Outline:

1. Introduction

2. Information Economics

- Market for Lemons
- Job Market Signalling
- Communication
- Verifiable Disclosure
- Bayesian Persuasion
- Principal-Agent Problem

3. Bargaining

- Nash
- Rubinstein-Binmore
- Coase

4. Static Mechanism Design: simple environment

- Screening
- Single unit auction, public goods, bilateral trade

5. Static Mechanism Design: general environment

- Incentive Compatibility: weak monotonicity, cyclical monotonicity
- Bayesian Mechanism Design: independent types, correlated types (full surplus extraction)
- Dominant Strategy Mechanism: implementing efficient rules, individual rationality and budget balance

6. Robust Mechanism Design (Optional)

Academic Honesty and Related Procedures:

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/>.

With each assignment, students will be required to submit a signed declaration that they are aware of these policies, regulations, guidelines and procedures.

- In the case of group projects, all students of the same group should be asked to sign the declaration, each of whom is responsible and liable to disciplinary actions should there be any plagiarized contents in the group project, irrespective of whether he/she has signed the declaration and whether he/she has contributed directly or indirectly to the plagiarized contents.
- For assignments in the form of a computer-generated document that is principally text-based and submitted via VeriGuide, the statement, in the form of a receipt, will be issued by the system upon students' uploading of the soft copy of the assignment.

Assignments without the properly signed declaration will not be graded by teachers.

Only the final version of the assignment should be submitted via VeriGuide.

The submission of a piece of work, or a part of a piece of work, for more than one purpose (e.g. to satisfy the requirements in two different courses) without declaration to this effect, shall be regarded as having committed undeclared multiple submission. It is common and acceptable to reuse a turn of phrase or a sentence or two from one's own work; but wholesale reuse is problematic. In any case, agreement from the course teacher(s) concerned should be obtained prior to the submission of the piece of work.