Information, Markets and Organizations

(2013-500-EBC2108)

Course Manual

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Information, Markets and Organizations 2013-500-EBC2108
School of Business and Economics
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Introduction

This course consists of two main parts: 1) information models, uncertainty and decision making under symmetric information; 2) decision making under asymmetric information. The first part aims at rigorously defining *information* in economics context and providing a theoretical model of individual choice under uncertainty, as well as some game theoretic examples. Second part generalizes the first part to take asymmetric information into account. In addition, an extensive introduction to the preferences and expected utility theory will be given in the beginning of the course. Applications include the valuation of an asset with noisy signal; the choice of an optimal portfolio of assets with risky payoffs; problems with valuation under the threat of a bank run; herding behavior resulting in financial bubbles etc.

The second part of the course analyzes strategic interaction between two players one of whom has more information than the other. Such situations came to be known as involving *asymmetric information*. Examples include the market for second-hand cars (where sellers have more information about the car's quality than the buyers); the labor market (the workers know how good they are but the employers don't); and the insurance market (where the buyer of a policy knows a lot more about his/her risk profile than the seller). We will study game-theoretic models of asymmetric information developed by George Akerlof, Michael Spence, and Joseph Stiglitz. Their contributions are the backbone of Information Economics. Akerlof, Spence, and Stiglitz were awarded Nobel prize in Economics in 2001 for their contribution to the field.

Position in the Curriculum

This course builds on the basic microeconomics and game theory that you have already learned in your previous studies and provides extensive coverage of the microeconomic models that involve uncertainty.

Literature

The main textbook for this course is Bichler and Bütler (2007). It should be available at the student book store. This book provides good foundation and intuition for the material in this course. Additional mathematical models, problems and notes will be provided on top of the textbook. Some additional, but not compulsory, references include Perea (2012), Gibbons (1992), Salanié (2005) and Fudenberg and Tirole (1991).

Course Structure

Week	Day	Date	Meeting	Subject, Literature, Tasks
16	Tue	Apr 15	L-01	*Preference Relations, Expected Utility Theory and Related Topics, Attitudes Towards Risk*
	Thu	Apr 17	T-01	*Preferences, Utility, Risk Preferences* Lit.: Lecture slides, Notes 1 HW.: Exercises1 are distributed
17	Tue	Apr 22	T-02	*Information Partitions, Value of Noisy Signals* Lit.: 3, 4(–DE)
	Thu	Apr 24	T-03	*Interactive Knowledge and Beliefs* Lit.: 8(–CeCfEF), Notes 2
18	Thu	Apr 29	T-04	*Coordination Problems, Strong Belief in Rationality* Lit.: 9(–D), Notes 0, 2, 3
19	Tue	May 1	L-02	*Maximization Techniques*
20	Tue	May 6	T-05	*Solutions to Exercises1* HW.: Exercises1 are due May 5 HW.: Exercises2 are distributed
	Thu	May 8	T-06	*Adverse Selection* Lit.: 13(–E)
21	Tue	May 13	T-07	*Optimal Contracts* Lit.: 14(–CeE)
	Thu	May 15	T-08	*Auctions and the Revelation Principle* Lit.: 15(–DF)
22	Tue	May 20	T-09	*Moral Hazard* Lit.: 16(–DE)
	Thu	May 22	T-10	*Review and Solutions to Exercises2* HW.: Exercises2 are due May 21

The horizontal lines separate the meetings by weeks. There are two lectures denoted L-01 and L-02. The rest of the meetings are regular tutorials numbered by T-xx. For each tutorial the chapters from the textbook are given in the last column. The subsections that *should not be read* are marked in parentheses after the chapter number. More information on the preparation for the tutorials, as well as the list of questions and tasks, will be given before each tutorial in the Course Material section on the ELEUM.

Grading Policy

The final grade is a convex combination of two grades for the assigned homework and the grade for the final exam. The final exam will be closed-book type and will consist of several problems closely resembling the exercises you've been assigned throughout the class. Your grade will be computed as follows:

$$0.25 \cdot \text{Exercises1} + 0.25 \cdot \text{Exercises2} + 0.5 \cdot \text{Final Exam}$$

Your results for the exam will be graded on the scale from 1 to 10, and rounded to the nearest half point. To pass the exam you need to get an *unrounded* grade of at least 5.5 *for the exam*. If your exam grade is less than 5.5, then your course grade will be equal to your exam grade. Else, your final grade will be calculated with the formula above. Students who fail the exam will be offered a re-examination during the following exam period.

Important: participation in the tutorials *will be checked*. No participation grade will be given, however failure to attend more than 7 tutorials out of 10 will result in a block assignment. In other words, you can miss up to 2 tutorials (inclusive) without consequences. For the block assignment you will need to write 3000 words on the topics of the missed tutorials (e.g., deeper examination of the topic-related literature).

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References

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Fudenberg, D., and J. Tirole (1991): *Game theory*. Cambridge, Mass.: MIT Press.

Gibbons, R. (1992): *Game theory for applied economists*. Princeton University Press.

Perea, A. (2012): *Epistemic Game Theory: Reasoning and Choice*. Cambridge University Press, http://www.personeel.unimaas.nl/a.perea/Book.htm.

Salanié, B. (2005): *The Economics of Contracts: A Primer*. The MIT Press.