Information, Markets and Organizations

(2011-500-EBC2108)

Course Manual

Course Coordinator:
Alexander Vostroknutov

April 2012

1 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 informtion 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.

2 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.

3 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 Gibbons (1992) and Salanié (2005).

4 Course Structure

Week	Day	Date	Meeting	Subject, Literature, Tasks
16	Mon	Apr 16	Lecture	*Preference Relations, Expected Utility Theory and Related Topics, Attitudes Towards Risk*
	Tue	Apr 17	T-01	*Preferences, Utility, Risk Preferences*
				Lit.: Lecture slides
17	Mon	Apr 23	T-02	*Information Models, Value of Noisy Signals*
				Lit.: 3, 4(–E)
				HW.: Exercises1 are distributed
	Tue	Apr 24	T-03	*Interactive Knowledge*
				Lit.: 8(–CfEF)
18	Tue	May 1	T-04	*Information Aggregation through Prices*
				Lit.: 7(–DE)
19	Mon	May 7	T-05	*Coordination Problems*
				Lit.: 9(–D)
	Tue	May 8	T-06	*Information Cascades*
				Lit.: 10(–D)
				HW.: Exercises2 are distributed
20	Mon	May 14	T-07	*Adverse Selection*
				Lit.: 13(–E)
				HW.: Exercises1 are due
	Tue	May 15	T-08	*Mechanism Design and Optimal Contracts*
				Lit.: 14(–CDE)
21	Mon	May 21	T-09	*Auctions and the Revelation Principle*
				Lit.: 15(–DF)
	Tue	May 22	T-10	*Moral Hazard*
				Lit.: 16(–DE)
22	Tue	May 29	T-11	*Review and Questions*
				HW.: Exercises2 are due

The horizontal lines separate the meetings by weeks. There is one Lecture on April 16. 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.

5   Grading Policy

Participation in tutorials is not required. However, **the testable material is the material covered in the tutorials**, not just the material in the assigned readings. At times, the discussions may deviate from the readings, in either the exposition of material or in the subjects covered. 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. Students who fail the exam will be offered a re-examination during the following exam period.

6   Contact Information

Alexander Vostroknutov (coordinator/tutor)
Office: TS53, A4.12
Phone: +31 (0)43 38-83891
E-mail: `a.vostroknutov@maastrichtuniversity.nl`

Christine Gutekunst (tutor)
Office: TS49, 1.020
Phone: +31 (0)43 38-83612
E-mail: `c.gutekunst@maastrichtuniversity.nl`

References

BICHLER, U., AND M. BÜTLER (2007): *Information Economics*. Routledge.

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

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