COURSE DESCRIPTION FOR: **7010: Micro 1**

Latest update 4 Febr. 2008/bb

COURSE CODE NO: 7010

COURSE NAME: Micro 1

COURSE LEVEL: Optional BSc and MSc course

NUMBER OF ECTS: 10

APPROVED: Approved by the Study Board on 23 Oct. 2007

SEMESTER FOR WHICH THE COURSE DESCRIPTION APPLIES: Spring 2008

REPLACES COURSE DESCRIPTION DATED: 22 January 2007

INTERVALS AT WHICH THE COURSE IS OFFERED: Every spring

FILLED IN BY: Bjarne Brendstrup/ Leonidas Enrique de la Rosa

LECTURER: Leonidas Enrique de la Rosa

NUMBER OF HOURS PER WEEK: 4 lectures and 1 tutorial per week for 12 weeks

COMPLEMENTARY COURSES:

RESTRICTIONS ON ADMISSION: None

COURSE DESCRIPTION:

The purpose of the course is to build upon and extend the introductory analyses considered in previous microeconomic courses. The course consists of two parts – an introduction to game theory and an introduction to the economics of asymmetric information.

The study of game theory will provide tools that can be used in a wide range of situations: firms competing for market share, bidders participating in auctions, the role of threats, rewards, and punishments in long-term relationship.

The second part of the course will introduce students to informational asymmetries and their effects in a contracting setting (i.e. the market imperfections that information asymmetries introduce, and how contracts can partially deal with those problems). Applications of information economics are widespread; e.g. industry regulation, employee remuneration schemes, insurance, pricing decisions, and voting schemes.

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LEARNING OBJECTIVES:

The students should be able to

Part I

- Formulate economic problems as proper formal game forms, solve and analyze them
- Reflect upon the information structure of a problem

Part II

- Reflect upon the equilibrium concepts and their relevance for a given economic problem
- Reflect upon the main problems caused by asymmetric information
- Formulate, solve and analyze economic models of contracts and reflect upon the underlying assumptions
- Generalize the models to real economic environments

TEACHING METHOD: Lectures and tutorials with active student participation. Problem sets following each topic (8 in total).

FORM OF ASSESSMENT: 4-hour written exam. At least 6 problem sets (including at least 2 out of three for the second part of the course) must be handed in and approved in order for the students to be admitted to the exam.

EXAMINATION AIDS ALLOWED: Danish-English, English-Danish dictionaries – no electronic dictionaries are allowed

TEACHING LANGUAGE: English

LITERATURE:

- Gibbons, R. (1992). *A Primer in Game Theory*, Harvester Wheatsheaf, Hemel Hempstead: UK. (circa 250 pages)
- Bolton, P., and Dewatripont, M. (2005). *Contract Theory*, The MIT Press. (Chapters 1 – 4) (circa 180 pages)
- Lecture notes (circa 150 pages)

A total of approx. 580 pages

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COURSE SUBJECT AREAS:

Topics in game theory:

- Static games under complete information and applications
- Dynamic games under complete information and applications
- Static games under incomplete information and applications
- Dynamic games under incomplete information and applications

Topics in contracts and asymmetric information

- The Principal-Agent problem
- Moral hazard and incentives and applications
- Adverse selection: Hidden information and screening and applications
- Adverse selection and signaling and applications

REQUIRED COURSES (progression):

The course assumes a solid foundation in microeconomic theory as well as the basic notions of non-cooperative game theory (acquired through the microeconomic courses during the first two years of the BA degree or comparable courses).