



# Doctoral School in Economics, Finance and Management

## Advanced Microeconomics: Long-Run Relationships

### 1. Course details

Semester:	1
Credit rating:	1 ECTS
Teaching units	15
Pre-requisite(s):	None
Lecturers:	Vincent Anesi, University of Luxembourg, FDEF
Administrator:	Roswitha GLORIEUX
Tutors:	None
Seminar times and rooms:	please see Point 3
Tutorial times and rooms:	None
Communications	It is important that students should regularly read their University e-mails, as important information will normally be communicated this way.
Mode of assessment:	Attendance/coursework
Examination Periods:	TBA
Course WebPage:	Moodle.uni.lu

## 2. Aims and objectives

Long-run relationships are pervasive in economics, finance, and management. To cite a few examples, relationships between firms and their employees, member states of international organisations, firms' shareholders and managers, voters and elected representatives, tax authorities and taxpayers, or foreign-aid donor countries and recipient countries typically involve repeated interactions. Unfortunately for PhD students interested in such interactions, the material taught in most first-year graduate programs is insufficient for them to understand the relevant literature and use the appropriate theoretical "tools" to carry out their research work. The aim of this course is to introduce students to the basic game-theoretical methods use to analyze repeated, strategic interactions between economic agents. Students who will pass the course will be able to: (i) read and understand the theoretical and applied literatures that use these methods; (ii) apply them to their own research topics. Particular attention will be given to providing an intuitive understanding of the logic behind the methods and results presented, and to how they can be used in economic applications of interest.

## 3. Plan of semester

Dates (2023)	Room	Time	Lectures	Topic
Tue 31 <sup>st</sup> January	TBA	14:00-15:30 16:15-17:45	1-4	Please see point 4
Wed 1 <sup>st</sup> February	TBA	14:00-15:30 16:15-17:45	5-8	
Thu 2 <sup>nd</sup> February	TBA	14:00-15:30 16:15-17:45	9-12	
Fri 3 <sup>rd</sup> February	TBA	14:00-15:30 15:45-16:30	13-15	

## 4. Course details (by topics)

### PART I. BASIC CONCEPTS OF GAME THEORY (A REFRESHER):

- Strategic-form games
- Nash equilibrium
- Incomplete information
- Sequential rationality
- Beliefs

Main reference: Mas-Colell, A., M.D. Whinston, and J.R. Green (1995) *Microeconomic Theory*. Oxford University Press.

### PART II. REPEATED GAMES WITH PERFECT INFORMATION:

- Basic elements (stage game, subgame perfect equilibrium)
- One-Shot Deviation Principle
- Constructing equilibria
- Folk Theorem
- Extension: Dynamic games
- Economic applications:
  - Price wars
  - Time consistency

- Risk sharing

Main reference: Mailath, G.J., and L. Samuelson (2006). *Repeated Games and Reputations: Long-Run Relationships*. Oxford University Press.

### **PART III. REPEATED GAMES WITH IMPERFECT INFORMATION:**

- Basic elements (stage game, strategies, solution concepts)
- Constructing equilibria
- Coordination games
- Public vs. private strategies
- Economic applications:
  - Oligopoly with moral hazard
  - Oligopoly with adverse selection
  - Risk sharing
  - Principal-agent problems

Main reference: Mailath, G.J., and L. Samuelson (2006). *Repeated Games and Reputations: Long-Run Relationships*. Oxford University Press.

## **5. Further information about assessment**

Examination(s)

Weighting: 100%

Date: TBA

Length: TBA

Structure: Coursework at the end of the semester. Grading will be Pass or Fail.