Topics in Advanced Microeconomics

Semester 1 Magistère 1, Autumn 2022

Course information

- Class dates: week of September 5, 2022 to week of November 21, 2022
- Lecture location: Ferry S218 (Aix); Ilot Bernard Dubois S21 (Marseille)
- Lecture hours: Thursdays, 1:30p-3:30p (Aix); Thursdays, 10:15-12:15, with exceptions (Marseille)
- Office hours: Wednesdays, 11:15a-12:15p (online, Ferrali);

Instructor information:

- Romain Ferrali [romain.ferrali@univ-amu.fr, Aix]
- Gaëtan Fournier [gaetan.fournier@univ-amu.fr, Marseille]

This syllabus is subject to change at the discretion of the professors

1. Course description

This course provides an in-depth coverage of selected topics in microeconomics. An emphasis will be given to rigorous mathematical treatment of these issues. The necessary mathematical tools will be reviewed accordingly. The following topics will be covered:

- Review: mathematical tools for constrained optimization
- Advanced demand theory
- Information economics: moral hazard and adverse selection

2. Course material

- Mas-Collel, Andreu, Whinston, Michael D., Green, Jerry R. 1995. *Microeconomic theory*. Oxford University Press
- Simon, Carl P, Blume, Lawrence. 1994. *Mathematics for Economists*. Norton

Copies of those textbooks are available in the library. The texts will not be followed rigorously.

3. Tentative schedule

Week	Theme	Content	References
1	Optimization theory	Multivariate optimization with equality constraints	SB 17-19
2		Multivariate optimization with inequality constraints	SB 17-19
3	Demand theory	The primal and dual problems	MC 3.D-3.E
4		In-class exercises	
5		Roy's and Slutsky's equations	MC 3.G
6		In-class exercises	
7	Information economics	Information economics	MC 13, 14

8	Adverse selection 1: the market for lemons	MC 13
9	Adverse selection 2: price discrimination	MC 13
	Fall break	
10	Moral hazard 1: insurance markets	MC 14
11	Moral hazard 2: the principal agent problem	MC 14
12	In-class exercises	
	Final exam	

4. Learning outcomes

Upon completion of the course, students should be able to perform the following tasks:

- Solve constrained optimization problems.
- Use mathematical tools to solve selected problems in consumer theory and information economics.
- Recognize whether a problem features incomplete information and classify it within a typology of information economics problems.

5. Assignments and grades

This course is evaluated through a final exam that will be held during the final exam session. The exact date will be communicated later.

6. Academic integrity

It is expected that students be aware of and respect the academic integrity norms as defined by Aix-Marseille Université. The « Charte relative à la lutte contre le plagiat de l'Université d'Aix-Marseille » (TX-DFD-40, https://procedures.univ-amu.fr/dfd/tx-dfd-40-charte-relative-a-lutte-contre-plagiat) reminds the University's commitment to the principles of academic integrity.

Alleged cases of fraud or plagiarism will be handled as per the PR-DAJI-101 procedure; « Section disciplinaire usagers », https://procedures.univ-amu.fr/daji/pr-daji-101-section-disciplinaire-usagers.

7. Student accessibility

The University is an open, universal environment that celebrates equality in rights and opportunities. As a public institution, its mission is to encourage everyone's insertion and success. The question of accessibility is integral to those values. Aix-Marseille Université is deeply committed to the question of accessibility.

In order to benefit from accommodations for your studies and/or exams, please contact your campus's disability office as soon as possible.

For further information, please refer to https://www.univ-amu.fr/fr/public/mission-handicap-amu