Ph.D. in ECONOMICS – Universities of Milan and Pavia

Microeconomics II – General Equilibrium Theory
Academic year 2016-2017 – Fall Term

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Office hours: After the lectures, or by appointment

Course description
The focus of the course is chiefly theoretical. After introducing the notions of competitive equilibrium and Pareto efficiency and illustrating them with reference to a few specific examples (the Edgeworth Box economy; the Robinson Crusoe economy), the course will examine the workings of a multi-market economy, thereby developing the foundations of Walrasian competitive general equilibrium theory and welfare economics. Then, with reference to a production economy with finitely many commodities, the issues of Pareto optimality, existence, and uniqueness of competitive equilibria will be examined. Finally, after introducing the conceptual apparatus of coalitional game theory, the theory of the core will be developed and the relationship between the core and the competitive equilibria of a pure-exchange economy will be discussed.

Course objectives
This course is the second one of the Microeconomic sequence. It is designed to provide a rigorous introduction to the conceptual apparatus of general competitive analysis. Its chief objective is to equip doctoral students with the analytical tools required to read and understand contemporary literature in general equilibrium theory and possibly to approach more advanced research topics in this area.

Course organization
There will be 10 lectures, two hours each, and 4 classes, two hours each. Lectures and classes will be held in Via Pace, Room B. Students are expected to fully master a few tools and concepts in the field of both mathematical analysis (linear algebra, multivariate calculus, static optimization) and microeconomic theory (consumer and producer choice theory, partial equilibrium analysis).

Course assessment
The assessment will be based on a written exam.

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Course outline

1. Competitive equilibrium and Pareto optimality: An introduction
2. The Edgeworth Box economy
3. The Robinson Crusoe economy
4. General equilibrium of a market economy with excess demand functions
5. The two Fundamental Theorems of Welfare Economics
6. Pareto optimality and social welfare optima
7. First-order conditions for Pareto optimality, competitive equilibrium, and social welfare optimum
8. Existence of an equilibrium for a competitive economy
9. Existence (continued). Uniqueness of competitive equilibria
10. The theory of the core. Core and competitive equilibria of an exchange economy.

Textbooks and References

Hildenbrand W. and A.P. Kirman, Equilibrium Analysis. Variations on Themes by Edgeworth and Walras, North-Holland, Amsterdam – New York – Oxford – Tokio, 1988. Chapters 2, 3 (Sections 1-4), 4, 5. Mathematical Appendices I, II, III, IV.

Mas-Colell A., M.D. Whinston and J.R. Green, Microeconomic Theory, Oxford University Press, Oxford, 1995. Chapters 10.A-B, 15, 16, 17.A-G, 18.B. Mathematical Appendix.

Starr Ross M., General Equilibrium Theory. An Introduction, Cambridge University Press, 1997. Part B, Chapters 6-7; Part C, Chapters 10-11; Part D, Chapter 12; Part E, Chapters 13-14.

Varian Hal R., Microeconomic Analysis, Third Edition, W. W. Norton & Company, New York – London, 1992. Chapters 17, 18, 21.1-3.