

**Microeconomic Theory IV**  
ECO 6122 (Summer 2019)  
University of Ottawa  
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### **General Description:**

This is a compulsory course for the MA programme in Economics at the University of Ottawa. It introduces students to some of the main tools used by economists to analyze problems of resource allocation and decision making. Concurrently, some of the most fundamental results in economics are presented. This will enable students to read scientific articles in all fields of economics as well as use the tools for their own research. Finally, the course also intends to help the student develop a rigorous method to apprehend problems in the social sciences.

Most of the material covered is drawn from selected chapters of the textbook *Advanced Microeconomic Theory*, 3rd Ed., by Jehle and Reny, 2011. Copies are available at the university bookstore. It constitutes mandatory reading. Additional useful references include:

- *Microeconomic Analysis*, 3rd Ed., by Hal Varian, 1992;
- *Microeconomic Theory*, by Mas-Colell, Whinston and Green, 1995;
- *Microeconomic Theory: Basic Principles and Extensions*, 7-8-9th Ed., by Nicholson, 2006.

## Evaluation:

A set of problems will be assigned weekly and posted on the course's website. Each must be clearly individually hand-written on properly attached clean blue lined loose leaf paper 8.5"×11" (e.g., not ripped out of a spiral book) and submitted in person on the following week, that is, Monday at 10am when the class begins. Those assignments will count for 10% of the final mark. The purpose of weekly assignments is only to encourage students to work regularly and be up to date with the material. For this reason, they will not be corrected in detail; rather, detailed solutions will be provided on the course's website. The corrector will only look for assiduity in answering the questions, not for right and wrong answers.

Students are strongly encouraged to work in teams of two or three for the assignments. However, the amount learned from an assignment is proportional to the effort put into attempting to solve the problems. One should try to solve as many end-of-chapter problems as possible.

There will be two mid-term (1.5 hour) and one final (3 hours) examinations, with weights of 20% and 50% respectively. Unless otherwise noted, mid-term examinations will take place on Wednesday **July 3rd** and Monday **July 15th**. The final exam will take place on Tuesday **July 30th**. The final exam is cumulative.

## Themes:

The plan is to cover the following sections of Jehle and Reny (2011):<sup>1</sup>

- **Game Theory** (Chapter 7) ◦ Strategic Form Games ◦ Dominant Strategies ◦ Nash Equilibrium ◦ Static Bayesian Games ◦ Extensive Form Games ◦ Backward Induction Strategies ◦ Imperfect Information and Subgame Perfect Equilibrium ◦ Repeated Games
- **Information Economics** (Chapter 8) ◦ Adverse Selection ◦ Signalling ◦ Screening ◦ Moral Hazard ◦ The Principal Agent Problem
- **Consumer Theory** (Chapters 1 and 2) ◦ Representing Preferences ◦ The Consumer's Problem ◦ Indirect Utility ◦ Properties of Consumer Demand ◦ Duality in Consumption ◦ Integrability ◦ Uncertainty ◦ Von Neumann-Morgenstern Utility ◦ Risk Aversion
- **Producer Theory** (Chapter 3) ◦ Returns to Scale ◦ Short-Run and Long Run Input Use ◦ The Cost Function ◦ Duality in Production ◦ The Profit Function
- **Markets and Welfare in General Equilibrium** (Chapter 5) ◦ Equilibrium in Exchange ◦ The Core ◦ The Walrasian Equilibrium ◦ First and Second Welfare Theorems

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<sup>1</sup>Themes and their sequence are subject to change.