

Syllabus for Advanced Microeconomics (W4211)

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Goal: The goal of the course is to introduce you to a more mathematically rigorous and general presentation of the basic material in intermediate micro. In addition there will be a brief discussion of social choice theory and the core of an economy.

Textbooks: The required textbook is *Advanced Microeconomic Theory* by Jehle and Reny which is abbreviated *JR* in the course outline below (note that all section numbers refer to the second edition). It is expected that you will also read the mathematical appendices in the Jehle and Reny textbook. On occasion additional material may be assigned from *Notes on the Theory of Choice* by Kreps and *Lecture Notes in Microeconomic Theory* by Rubinstein.

Prerequisites: Students must have completed Intermediate Micro, Intermediate Macro and Linear Algebra. Students must also have completed or be currently enrolled in either Analysis and Optimization or Introduction to Modern Analysis.

Homework: There are weekly homework assignments. Students may submit homework assignments in groups of 2. In addition there will be problems assigned in class that students will be expected to have completed by the next class. Students will be expected to present (at the blackboard) these problems in the class. Homework assignments and class participation will comprise 30% of your final grade.

Recitations: There will be one recitation per week. The recitation will focus primarily on the mathematics associated with the class material that is found in the appendices of the book.

Exams: There will be a midterm and a final exam. The midterm exam is worth 30% of your final grade. The midterm is Wednesday, March 11. The final exam is worth 40% of your final grade. The tentative date of the final is Friday, May 8 (9-12). Make-up exams are available only in the cases of medical or family emergencies.

In the course outline *JR* refers to Jehle and Reny, *K* refers to Kreps and *R* to Rubinstein.

Course Outline

Part I Consumer Theory

Chapter 1 of Jehle and Reny

- 1.1 Primitive Notions
- 1.2 Preferences and Utility (*JR* pp 3-18)
 - Regularity (*K* chapter 2; *R* lectures 1 and 2)
 - Taste (*R* lecture 4)
 - Utility Functions (*K* chapter 3; *R* lecture 4)
- 1.3 The Consumer's Problem (*JR* pp 19-26)
 - Basic Demand Problem (*R* lecture 5)
 - Continuity of Demand
 - Inequality Constraints
- 1.4 Indirect Utility and the Expenditure Function (*JR* pp 27-45; *R* lecture 6)
- 1.5 Properties of the Demand Function (*JR* pp 46-59)

Chapter 2 of Jehle and Reny

- 2.1 Duality (*JR* pp 69-79)
- 2.2 Integrability (*JR* pp 80-85)
- 2.4 Uncertainty (*JR* pp 92-111)
 - Preferences (*K* chapter 4; *R* lecture 8)
 - von Neumann Morgenstern Representation (*K* chapter 5)
 - Attitudes toward Risk (*K* chapter 6; *R* lecture 9)

Part II General Equilibrium and Welfare

Chapter 5 of Jehle and Reny

- 5.1 Equilibrium in Exchange (*JR* pp 181-186)
- 5.2 Equilibrium in Competitive Market Systems (*JR* pp 187-204)
- 5.4 Core and Equilibria (*JR* pp 220-231)

Chapter 6 of Jehle and Reny

- 6.2 Social Choice and the Arrow Impossibility Theorem (*JR* pp 240-249; *R* lecture 10)
- 6.3 Measurability, Comparability, and Some Possibilities (*JR* pp 250-258)