ECO 7115 FALL 2017 MAT 114 M - W, 1:55 - 3:50 pm S. Slutsky Office: MAT 338 Phone: 2-8106

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#### MICROECONOMIC THEORY

This course develops and applies techniques of optimization to economics. Solving nonlinear programming problems using Kuhn-Tucker conditions, the envelope theorem, comparative statics analysis for optimization problems, and duality theory are covered. These are applied to modeling optimizing behavior of consumers and producers. In addition to basic optimization, preferences and revealed preference theory, consumer surplus, and aggregation are also studied.

The grade is largely based on the midterm and final exams, which count equally. There are also problem sets throughout the semester, which are mostly a learning experience. However, a student on the margin between two grades will receive the higher grade with a good performance on the problem sets and a lower grade with a poor performance.

Required Text: Mas-Colell, Whinston, and Green. *Microeconomic Theory*,

(MWG).

Supplementary Text: Chiang and Wainright, Fundamental Methods of

*Mathematical Economics*, 4<sup>th</sup> Edition (C&W)

#### **TOPICS**

I. Optimization Theory

MWG - Math Appendix

MC, MD, MJ, MK, ML

C & W - Chapters 9, 11, 12, 13

II. Preferences & Utility

MWG - Chapter 1 (A & B)

MWG - Chapter 2(A - D)

MWG - Chapter 3(A - D)

III. Demands

MWG - Chapter 2E

C & W - Chapter 12.5

IV. Duality

MWG - Chapter 3 (E – H)

C & W - Chapter 13.6

### V. Revealed Preference

MWG - Chapter 1 (C, D) Chapter 2 F Chapter 3 J

# VI. Consumer Surplus & Welfare MWG - Chapter 3I

VII. Aggregate Demand MWG - Chapter 4

## VIII. Production Theory

MWG - Chapter 5

C & W - Chapter 12.6 and 12.7