

## **Microeconomic Theory**

This course is the first term of the required sequence in microeconomic theory for first-year graduate students in the Economics Ph.D. Program. The subject of the course is individual decision making under certainty and uncertainty. We begin with a discussion of the standard theories of producer and consumer behaviors. We focus on methods of comparative statics: convex analysis, differentiable and algebraic methods, and supermodularity. Next, we proceed to the theory of choice under uncertainty. We discuss expected utility and its axiomatizations, and some alternatives to expected utility. We also present the classical theory of risk aversion and introduce the concept of greater risk.

A recommended text for this course is *Microeconomic Theory*, by A. MasColell, M. Whinston, and J. Green, Oxford, 1995, in particular Chapters 1-6.

### **Course Outline:**

1. Methods of Convex Analysis in Producer Theory.
2. Differentiable Comparative Statics in Producer and Consumer Theories.
3. Algebraic Comparative Statics in Producer and Consumer Theories.
4. Monotone Comparative Statics and Supermodularity.
5. Choice Under Uncertainty: Expected Utility and Alternative Models.
6. Risk and Risk Aversion

### **Office Hours, Recitation, and T.A.**

Professor's Office Hours: Mondays, 1:00-2:30 p.m., 4-139 Hanson Hall.

Phone: 625-0708

e-mail: [jwerner@umn.edu](mailto:jwerner@umn.edu)

Course Website: [www.econ.umn.edu/~jwerner/teaching.htm](http://www.econ.umn.edu/~jwerner/teaching.htm).

Teaching Assistant: Matt Greenblatt

3-129 Hanson Hall

e-mail: [mgreenblatt454@yahoo.com](mailto:mgreenblatt454@yahoo.com)

Office Hours: TBA.

Recitation Place and Time: Thursdays, 4:00 - 5:15 pm, BlegH 115.

## **Exams and Grades:**

There will be midterm and final exams. Weekly homework will be given. **Homework must be handed in on time.**

Grades will be determined on students' performance on:

Homework - 20%

Midterm - 30%

Final - 50%

*or*

Homework - 20%

Final - 80%

whichever is better.

## **Incomplete Grades, Make-up Exams and Scholastic Dishonesty:**

See Department of Economics Procedures and Policies 2011-2012.

## **Supplementary Course Material:**

Sundaram, R. K., *A First Course in Optimization Theory*, Cambridge U. Press, 1996.

Takayama, A., *Mathematical Economics*, 2nd Edition, Cambridge U. Press, 1985.

Topkis, D. M. *Supermodularity and Complementarity*, Princeton University Press, 1998.

Rockafellar, T. A., *Convex Analysis*, Princeton U. Press, 1970.

Jehle, D.A. and Ph. J. Reny *Advanced Microeconomic Theory*, Addison Wesley, 2000.

Kreps, D., *A Course in Microeconomic Theory*, Princeton U. Press, 1990. Varian, H., *Microeconomic Analysis*, (3rd edition), Norton, 1992.

Debreu, G., *Theory of Value*, Yale U. Press, 1959.

Fishburn, P., *Utility Theory for Decision Making*, Wiley & Sons, Inc., 1970.

LeRoy, S. and J. Werner, *Principles of Financial Economics*, Cambridge U. Press, 2001.

Diamond, P. and M. Rothschild, *Uncertainty in Economics: Readings and Exercises*, Academic Press, 1989.