

UNIVERSITY OF COLORADO
Department of Economics

Economics 7010-001
Microeconomic Theory 1
Fall 2007

Professor Jennifer Lamping
Office: Economics 103
Email: jennifer.lamping@colorado.edu
Lectures: TR 9:30am - 10:45am, Economics 205
Office Hours: T 2:30pm - 4:00pm, Economics 103

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Course Website: CULearn

Course Description

This course is the first of three semester courses that develop the basic tools and results of modern microeconomic analysis. The first semester course covers individual decision making and optimization theory.

The course is highly technical. Although mathematical tools will be taught as needed, it is assumed that you are well-versed in the material covered in Math Camp and comfortable with mathematical notation.

Course Structure

The course will consist of lectures, readings, assignments, and exams. Readings will be primarily from the required textbooks, *Microeconomic Theory* by Mas-Colell, Whinston, and Green and *A First Course in Optimization Theory* by Sundaram. Additional readings will be made available on the course website.

Assignments will take the form of problem sets. In general, assignments will be made available every Wednesday on the course website and due in lecture one week later. Solutions will be posted on the course website shortly thereafter.

There will be one midterm exam in October and a final exam in December.

Textbooks

The required textbooks are

- *Microeconomic Theory* by Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green
- *A First Course in Optimization Theory* by Rangarajan K. Sundaram.

The following two texts offer different presentations of the material in Mas-Colell, Whinston, and Green. If you find that you are having trouble with Mas-Colell, I urge you to obtain one or both of these texts to assist you in understanding Mas-Colell.

- *Advanced Microeconomic Theory* by Geoffrey A. Jehle and Philip J. Reny
- *A Course in Microeconomic Theory* by David M. Kreps
- *Microeconomic Analysis* by Hal R. Varian

If you find that you are having trouble with the mathematics used in this course, I recommend obtaining one or more of the following texts as references:

- *Introductory Real Analysis* by A. N. Kolmogorov and S. V. Fomin
- *Principles of Mathematical Analysis* by Walter Rudin
- *Mathematics for Economics* by Michael Hoy, John Livernois, Chris McKenna, Ray Rees, and Thanasis Stengos
- *Further Mathematics for Economic Analysis* by Knut Sydsaeter, Peter Hammond, Atle Seierstad, and Arne Strom
- *Mathematics for Economists* by Carl P. Simon and Lawrence E. Blume
- *Fundamental Methods of Mathematical Economics* by Alpha C. Chiang and Kevin Wainwright

Grading

The various components of the course will be weighted as follows to determine your final grade:

Assignments	10%
Midterm Exam	35%
Final Exam	55%

The midterm and final exams will each be graded on a 100 point scale with points allotted on the basis of the accuracy of your answers. In contrast, assignments will be graded on a scale from 0 to 2: 0 points for not handing it in, 1 point for a below average performance, and 2 points for an above average performance.

Missed Assignments & Exams

Late assignments will not be accepted since solutions are posted online shortly after the assignment is due. You may not miss an exam. No makeup exams will be given.

Tentative Course Schedule

Date	Topic	Required Readings	Assignments
Aug 28	Mathematical Preliminaries	HLMRS 2.1; R 1.1, 1.2, & 2.1, S 1.1 - 1.4	
Aug 30	Preference Relations	MWG 1.A & 1.B	
Sep 04	Choice Rules and WARP	MWG 1.C & 1.D	
Sep 06	Homogeneous Functions and Convexity	MWG M.B & M.G; HLMRS 11.5	PSet 1 Due
Sep 11	The Consumer's Problem	MWG 2.A - 2.E	
Sep 13	Properties of Matrices	MWG M.A & M.D; S 1.3 & 1.5	PSet 2 Due
Sep 18	Implications of WARP for Demand	MWG 2.F	
Sep 20	Convexity, Quasi-Convexity, and Continuity	MWG M.C & M.F; S 1.2.7 - 1.2.9, 1.4.1 - 1.4.2, 7.1 - 7.2, & 8.1 - 8.3	PSet 3 Due
Sep 25	Convexity, Quasi-Convexity, and Continuity (Cont'd)	MWG M.C & M.F; S 1.2.7 - 1.2.9, 1.4.1 - 1.4.2, 7.1 - 7.2, & 8.1 - 8.3	
Sep 27	Preferences and Utility	MWG 3.A - 3.C	PSet 4 Due
Oct 02	Preferences and Utility (Cont'd)	MWG 3.A - 3.C	
Oct 04	The Weierstrass Theorem and Unconstrained Maximization	MWG M.J; S 2 - 4	PSet 5 Due
Oct 09	Constrained Maximization: The Theorem of Lagrange	MWG M.K; S 5	
Oct 11	Constrained Maximization: The Theorem of Kuhn and Tucker	MWG M.K; S 6	PSet 6 Due
Oct 16	Convexity and Quasi-Convexity in Optimization Theory	MWG M.K; S 7. 3 - 7.7 & 8.4 - 8.8	
Oct 18	The Envelope Theorem and Correspondences	MWG M.H & M.L; S 9.1	PSet 7 Due
Oct 23	Correspondences and the Theorem of the Maximum	MWG M.H & M.L; S 9.1 - 9.2	
Oct 25	The Utility Maximization Problem	MWG 3.D	PSet 8 Due
Oct 30	Midterm Exam		

Nov 01	The Expenditure Minimization Problem	MWG 3.E	
Nov 06	Relationships between Demand, Indirect Utility, and Expenditure Functions	MWG 3.G	
Nov 08	Welfare Considerations	MWG 3.I	PSet 9 Due
Nov 13	SARP and Aggregate Demand	MWG 3.J & 4.A - 4.B	
Nov 15	Aggregate Demand, WARP, and the Representative Consumer	MWG 4.C - 4.D	PSet 10 Due
Nov 20	Fall Break		
Nov 22	Fall Break		
Nov 27	Production Sets	MWG 5.A - 5.B	
Nov 29	Profit Maximization	MWG 5.C	PSet 11 Due
Dec 04	Cost Minimization	MWG 5.C	
Dec 06	The Single Output Case	MWG 5.D	PSet 12 Due
Dec 11	Aggregation and Efficient Production	MWG 5.E - 5.G	
Dec 13	No Class		
Dec 17	Final Exam (Cumulative)	4:30pm - 7:00pm	

University Policies

Students with Disabilities

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services **by September 13th** so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. University policies regarding disabilities are available at www.colorado.edu/disabilityservices. Disability Services can be contacted by telephone at (303) 492 8671 or in person at Willard 322.

Religious Observances

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. If you have a conflict due to a religious obligation, please see me **at least one full week in advance** so that alternate arrangements can be made. Policies regarding religious practice are available at www.colorado.edu/policies/fac_relig.html.

Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. Policies regarding classroom behavior are available at <http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

Discrimination and Harassment

The University of Colorado Policy on Sexual Harassment and the University of Colorado Policy on Amorous Relationships applies to all students, staff, and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at (303) 492 2127 or the Office of Judicial Affairs at (303) 492 5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>.

Academic Misconduct

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu, (303) 725 2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at www.colorado.edu/policies/honor.html and at www.colorado.edu/academics/honorcode.