

**UNIVERSITY OF COLORADO**  
**Department of Economics**

**Economics 7010-001**  
**Microeconomic Theory 1**  
**Fall 2009**

Professor Jennifer Lamping  
Office: Economics 103  
Email: [jennifer.lamping@colorado.edu](mailto:jennifer.lamping@colorado.edu)  
Lectures: MW 12:00pm - 1:15pm, Economics 119  
Office Hours: W 1:30pm - 3:00pm, 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 Monday on the course website and due in lecture one week later. Solutions will be posted on the course website shortly thereafter. Assignments are to be completed in groups of three to four students. Groups will be assigned on the first day of class.

There will be two midterm exams and one final exam. Exams will be held in class and completed individually.

## 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 four 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 more 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
- *Microeconomic Theory: Basic Principles and Extensions* by Walter Nicholson and Christopher Snyder

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:

- *Fundamental Methods of Mathematical Economics* by Alpha C. Chiang and Kevin Wainwright
- *Mathematics for Economics* by Michael Hoy, John Livernois, Chris McKenna, Ray Rees, and Thanasis Stengos
- *Real Analysis with Economic Applications* by Efe A. Ok
- *Mathematics for Economists* by Carl P. Simon and Lawrence E. Blume
- *Further Mathematics for Economic Analysis* by Knut Sydsaeter, Peter Hammond, Atle Seierstad, and Arne Strom
- *Mathematical Tools for Economics* by Darrell A. Turkington

## Grading

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

Assignments	10%
Midterm Exams	45%
Final Exam	45%

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 24	Mathematical Preliminaries	HLMRS 2.1; R 1.1, 1.2, & 2.1, S 1.1 - 1.4	
Aug 26	Preference Relations	MWG 1.A & 1.B	
Aug 31	Choice Rules and WARP	MWG 1.C & 1.D	PSet 1 Due
Sep 02	Homogeneous Functions and Convex Sets	MWG M.B & M.G; HLMRS 11.5	
<b>Sep 07</b>	<b>No Classes (Labor Day)</b>		
Sep 09	The Consumer's Problem	MWG 2.A - 2.E	PSet 2 Due
Sep 14	Properties of Matrices	MWG M.A & M.D; S 1.3 & 1.5; Definiteness Check	
Sep 16	Implications of WARP for Demand	MWG 2.F	
Sep 21	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 23	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 28	Preferences and Utility	MWG 3.A - 3.C	PSet 4 Due
Sep 30	Preferences and Utility (Cont'd)	MWG 3.A - 3.C	
Oct 05	The Weierstrass Theorem and Unconstrained Maximization	MWG M.J; S 2 - 4	
Oct 07	Constrained Maximization: The Theorem of Lagrange	MWG M.K; S 5; SB 18; SB 19	
<b>Oct 09</b>	<b>Midterm Exam 1</b>	<b>12:00pm - 1:15pm</b>	
Oct 12	Constrained Maximization: The Theorem of Kuhn and Tucker	MWG M.K; S 6	PSet 5 Due
Oct 14	Convexity and Quasi-Convexity in Optimization Theory	MWG M.K; S 7.3 - 7.7 & 8.4 - 8.8	
Oct 19	The Envelope Theorem and Correspondences	MWG M.H & M.L; S 9.1	PSet 6 Due
Oct 21	Correspondences and the Theorem of the Maximum	MWG M.H & M.L; S 9.1 - 9.2	

Oct 26	The Utility Maximization Problem	MWG 3.D	PSet 7 Due
Oct 28	The Expenditure Minimization Problem	MWG 3.E	
Nov 02	Relationships between Demand, Indirect Utility, and Expenditure Functions	MWG 3.G; Consumer Road Map	PSet 8 Due
Nov 04	Welfare Considerations	MWG 3.I	
Nov 09	SARP and Aggregate Demand	MWG 3.J & 4.A - 4.B	
Nov 11	Aggregate Demand and WARP	MWG 4.C	
<b>Nov 13</b>	<b>Midterm Exam 2</b>	<b>12:00pm - 1:15pm</b>	
Nov 16	Aggregate Demand and the Representative Consumer	MWG 4.D	PSet 9 Due
Nov 18	Production Sets	MWG 5.A - 5.B	
<b>Nov 23</b>	<b>No Classes (Fall Break)</b>		
<b>Nov 25</b>	<b>No Classes (Fall Break)</b>		
Nov 30	Profit Maximization	MWG 5.C; Nicholson 8	PSet 10 Due
Dec 02	Cost Minimization	MWG 5.C	
Dec 07	The Single Output Case	MWG 5.D; Producer Road Map	PSet 11 Due
Dec 09	Aggregation and Efficient Production	MWG 5.E - 5.G	
<b>Dec 16</b>	<b>Final Exam (Cumulative)</b>	<b>4:30pm - 7:00pm</b>	

## 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 9<sup>th</sup>** 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](http://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 deal reasonably and fairly 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 observances are available at [www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html).

### Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, 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](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code).

### Discrimination and Harassment

The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment, and the University of Colorado policy on Amorous Relationships apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, 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, the above referenced policies, 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](mailto:honor@colorado.edu), (303) 735 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](http://www.colorado.edu/policies/honor.html) and at [www.colorado.edu/academics/honorcode](http://www.colorado.edu/academics/honorcode).