

## ECON121b. Intermediate Microeconomics. Spring 2013.

Lectures: 11:35-12:50 MW  
LC 102 (Linsly-Chittenden Hall, 63 High St, Rm. 102)

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**Topic:** Intermediate Microeconomics is the study of individual decision making and the implications of this decision making for market phenomena. The course develops the basic analytical tools used by economists to study economic decisions and market behavior. These are used to examine the behavior of consumers and firms, competitive markets, imperfectly competitive markets, and market failures. Applications include the economics of insurance, education, international trade, health care, pollution, taxation, and other topics.

**Prerequisites:** Economics 121 requires introductory microeconomic and introductory macroeconomics, in the form of one of Economics 110, 115 or 117, and one of Economics 111 and 116. Some students with strong backgrounds in economics and mathematics may prefer to opt out of the introductory courses and begin with Economics 121. Doing so requires permission of the director of undergraduate studies. Your first step if you would like to pursue this option is to contact the DUS ([Prof. Tony Smith](#)).

Economics 121 also requires the prior completion of a course in mathematics at the level of calculus or higher. This would typically be Math 112, 115, 118 or 120, depending on your background in mathematics and the level at which you start. More importantly, you will be expected to be comfortable with the use of mathematics. Mathematics is often the most convenient tool for reasoning precisely, and we will use it regularly. In particular, you will be expected to be comfortable working with derivatives and solving systems of equations.

The mathematics requirement for this course is *single*-variable calculus. One of the first things we will do in class is learn some elementary techniques from *multi*-variable calculus. Should you take multi-variable calculus before taking Econ 121, or should multi-variable calculus be a prerequisite? No, for two reasons. First, there will be nothing conceptually new in what we do—the techniques from multivariable calculus used here

will involve nothing other than taking more than one single-variable derivative. Second, the optimization techniques in which we are interested are typically either covered very, very briefly in a multi-variable calculus class, or are not covered at all. A multi-variable calculus class, while useful for many other reasons and eventually an imperative for economics majors, is thus not required before taking Economics 121.

**Texts:** Hal R. Varian, *Intermediate Microeconomics* (8<sup>th</sup> edition, W. W. Norton and Company, 2009). This text contains more material than we can cover, and we will select various pieces from it. We will sometimes go beyond the treatment offered in the text, both in terms of the depth of coverage and to include additional topics.

The seventh edition, from 2006, is a perfectly acceptable substitute. You can also buy a less expensive electronic version of the book from [Norton](#).

**Requirements:** Grades will be based on:

- 20%: Mid-term exam I: Wednesday, February 13 (in class)**
- 20%: Mid-term exam II: Monday, April 3 (in class)**
- 25%: Homework**
- 35%: Final exam: Thursday, May 2, 2pm (location TBA)**

**Homeworks:** The Wednesday classes will be accompanied by a homework assignment, to be downloaded from [classes\\*v2](#). These will be due in class, one week after they are assigned. Answers will typically be posted the day the homework is due. As a result, late homeworks will not be accepted, under any circumstances. When computing homework scores, your lowest two scores will be dropped, allowing two homeworks to be missed if necessary without dire consequences. Homeworks will be returned and discussed in discussion sections.

**Discussion Sections:** Discussion sections will meet weekly, beginning **Wednesday, January 23**. Registration for discussion sections will begin on **Tuesday, January 15**, via Online Course Selection. Discussion sections are an especially useful opportunity to work through problems and seek answers to questions.

## **Tentative outline of lectures:**

### **I. Individual Choice.**

**Lecture 1 (Jan 14): Budget constraint and preferences.**  
Reading assignment: Ch. 1, 2, 3.

**Lecture 2 (Jan 16): Utility and choice.**  
Reading assignment: Ch. 4, 5, 6.  
HW #1 is posted.

**Lecture 3 (Jan 18): Mathematical digression.**

Topics: partial derivatives, derivatives of implicit functions, optimization with constraints, Lagrange's method, envelope theorem.

**Lecture 4 (Jan 23): Revealed preference.**

Reading assignment: Ch. 7.

HW #1 is due.

Solution to HW #1 is posted.

HW #2 is posted.

**Lecture 5 (Jan 28): Slutsky equation. Endowment income effect.**

Reading assignment: Ch. 8, 9.

**Lecture 6 (Jan 30): Intertemporal choice.**

Reading assignment: Ch. 9.

HW #2 is due.

Solution to HW #2 is posted.

HW #3 is posted.

**Lecture 7 (Feb 4) Choice under uncertainty: Theory.**

Reading assignment: Ch. 12.

**Lecture 8 (Feb 6): Choice under uncertainty: Applications.**

Reading assignment: Ch. 12.

HW #3 is due.

Solution to HW #3 is posted.

HW #4 is posted.

**II. Competitive Markets.**

**Lecture 9 (Feb 11): Consumer surplus. Market demand.**

Reading assignment: Ch. 14, 15.

HW #4 is due.

Solution to HW #4 is posted.

**Lecture 10 (Feb 13): **First Midterm Exam.****

Material: lectures 1-8.

**Lecture 11 (Feb 18): Partial equilibrium.**

Reading assignment: Ch. 16.

**Lecture 12 (Feb 20): Exchange economies: Pareto efficiency and Walrasian equilibrium.**

Reading assignment: Ch. 31.

HW #5 is posted.

**Lecture 13 (Feb 25): Exchange economies: First welfare theorem.**  
Reading assignment: Ch. 31.

**Lecture 14 (Feb 27): Exchange economies: Second welfare theorem.**  
Reading assignment: Ch. 31.  
HW #5 is due.  
Solution to HW #5 is posted.  
HW #6 is posted.

**Lecture 15 (Mar 4): Supply side.**  
Reading assignment: Ch. 18, 19, 20, 21, 22, 23.

**Lecture 16 (Mar 6): Economies with production: Pareto efficiency, Walrasian equilibrium and the welfare theorems.**  
Reading assignment: Ch. 32.  
HW #6 is due.  
Solution to HW #6 is posted.  
HW #7 is posted.

### **III. Market Failure.**

**Lecture 17 (Mar 25): Monopoly.**  
Reading assignment: Ch. 24.

**Lecture 18 (Mar 27): Monopoly (cont'd).**  
Reading assignment: Ch. 25.  
HW #7 is due.  
Solution to HW #7 is posted.

**Lecture 19 (Apr 1): Review.**

**Lecture 20 (Apr 3): **Second Midterm Exam.****  
Material: lectures 1-17, with emphasis on lectures 9-17.  
HW #8 is posted.

**Lecture 21 (Apr 8): Oligopoly.**  
Reading assignment: Ch. 27.

**Lecture 22 (Apr 10): Externalities.**  
Reading assignment: Ch. 34.  
HW #8 is due.  
Solution to HW #8 is posted.  
HW #9 is posted.

**Lecture 23 (Apr 15): Public goods.**

Reading assignment: Ch. 36.

**Lecture 24 (Apr 17): Topic to be determined.**

HW #9 is due.

Solution to HW #9 is posted.

HW #10 is posted.

**Lecture 25 (Apr 22): Topic to be determined.**

**Lecture 26 (Apr 24): Topic to be determined.**

HW #10 is due.

Solution to HW #10 is posted.