Economics 101A - Fall 2016

Economic Theory: Microeconomics

Prof. Cecile Gaubert.

This course is designed to give you an introduction to the world of formal economic modeling. It serves as a foundation to many microeconomics courses that follow, such as labor, financial or industrial economics. Economic models are typically made of three components:

- Consumers;
- Producers;
- A market in which consumers and producers interact.

The course starts by introducing consumer preferences and utility function. We then move on to consider firms and production functions, and finally we study the market-clearing conditions.

Course Organization

Lectures:

Tuesdays and Thursdays, 9.30-11.00, in Hearst Mining Circle 390.

Professor's Office Hours:

Cecile Gaubert, cecile.gaubert@berkeley.edu, Office: Evans Hall 687.
Office Hours: Tuesdays 12-2.
Email sent to me must have "Econ 101A" plus a descriptor in the subject line.

GSI's Office Hours:

Nicholas Li, nicholasli@econ.berkeley.edu, Office Hours: Monday 2-4, 630 Evans.
Jonathan Schellenberg, jschellenberg@berkeley.edu, Office Hours: Wednesday 10-12, 630 Evans.

Course Material and Website:

I will post the course material on BCourses. I strongly encourage you to bring a printed copy of the handouts to class. The handouts are not comprehensive (for example, they do not include graphs) and are designed to be completed by your notes. Coming to the lectures is very important!

Textbook:

Recommended, not required: Walter Nicholson and Christopher Snyder, Microeconomic Theory, Southwestern Editors. The course outline specifies chapters from the 11th edition. You are welcome to buy the 11th edition, but the 10th will do just fine and will be cheaper.

Grading:

Your grade will be based on the following:

- 6 Problem Sets (30%)
- Midterm 1 (20%)
- Midterm 2 (20%)

- Final Exam (40%)

The percentages above sum to 110%. The worst 10% of the score will not count toward your grades. For example, if the worst score is on the problem sets, the problem sets will only have 20% of weight. There is a second bonus for high-quality participation, meaning participation in class and contributing on Piazza (more on Piazza below). Top contributors/participants will have their grades increased by at most one grade; for example, from B to B+.

If you believe there has been an arithmetic error in adding up the points on your exam, simply point this out to your GSI at the end of section when you receive your exam back. If you think that we have inappropriately scored an answer, submit a complaint in writing to me. Please do so within 7 days of the time the exams are returned in section. I will then re-grade your test from beginning to end. You should keep in mind that this may decrease your final grade, but still you should feel free to submit complaints.

Problem Sets:

There will be 6 problem sets, handed out about every other week. They are **required**: problem sets are an integral part of the course and an important part of the grade.

You are encouraged to work on the problem sets with other students and form study groups. This is an opportunity to discuss economics problems with others, and learn from their intuition. Nevertheless, after you discuss with other students, you must write a solution in your own words and turn in your own solution to the problem set. You may not prepare "group answers".

Problem sets are due at the **beginning** of lecture, on the dates posted below. We will not accept problem sets turned in late. With a class this size we cannot do exceptions. Sorry.

Exams:

Midterm #1 will be held on September 29. Midterm #2 will be held on November 8. The final examination will take place on <u>Tuesday, December 13 (3-6pm)</u>. **If you can't take the final as scheduled, don't take this course!**

Questions and Piazza:

We use Piazza in lieu of emails for questions & answers. Rather than emailing question, post your questions on Piazza. Everyone – the instructors and students – then has the opportunity to answer your question. Answers can be edited, wiki fashion. The instructors can give a 'thumbs up' to good student answers. Others with the same question can see the conversation and chime in. At the end of the term, students whose questions or answers receive the largest number of "good" votes from classmates and instructors will receive extra credit points.

Beyond Piazza, the GSIs should be your primary contact for questions related to the problem sets or the exams. Nicholas and Jonathan will hold regular office hours. If you would like to talk to me, I am delighted to meet during my office hours. In particular, I am happy to discuss issues of economic substance, questions inspired by the lectures, and suggestions for your future studies.

Honor Code:

We at UC Berkeley have adopted this Honor Code: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." Your Econ 101A instructors join you in pledging to adhere to this code.

Laptop and cell-phone policy:

No laptops are allowed in lecture. iPads and Tablet PCs (laid flat and being used for note-taking) are ok. Cell phones should be turned off and put away in your bag.

Special Accommodations:

If you require special accommodations for exams or lecture due to learning or other disability, come talk to me. You will need to provide some documentation, and we will arrange a suitable accommodation.

Enrollment:

Please refer to the "Summary of Enrollment Procedures" (https://www.econ.berkeley.edu/undergrad/home/enrollment-procedures) and the instructions on "How to Stay Enrolled in an Economics Course" (https://www.econ.berkeley.edu/undergrad/staying-enrolled) on the Department of Economics website. Notice that you need to attend section the first two weeks or you will be dropped from the class. For questions on enrollment, contact the Department of Economics Head GSI at headgsi@econ.berkeley.edu .

Course Outline

Here is a preliminary schedule of topics to be covered in class. I anticipate that there will be some changes to this schedule over time. I will distribute updated lists of topics covered as time goes on. The chapter numbers refer to the Nicholson book, 11th edition.

Mathematical Background

Lecture 1   (August 25)

- Introduction
- Motivation
- Maximization in One Variable (Ch. 2)

Lecture 2   (August 30)

- Maximization in Several Variables (Ch. 2)
- Comparative Statics
- Implicit Function Theorem

Lecture 3   (September 1st)

- Constrained Maximization (Ch.2)
- Concavity and convexity

Problem Set 1 posted on BCourses

Consumers

Lecture 4   (September 6)

- Constrained Maximization II (Ch.2)
- Preferences and Utility (Ch. 3)

Lecture 5   (September 8)

- Preferences and Utility II (Ch. 3)
- Common Utility Functions

Lecture 6   (September 13)

- Utility Maximization and Choice I (Ch. 4)

Problem Set 1 due in class

Lecture 7   (September 15)

- Utility Maximization and Choice II (Ch. 4)
- Indirect Utility Function

Problem Set 2 posted on BCourses

Lecture 8   (September 20)

- Expenditure Minimization (Ch. 4)
- Comparative statics

Lecture 9   (September 22)

- Income and Substitution Effects (Ch. 5)
- Slutsky Equation

Lecture 10   (September 27)

- Application: Labor Supply (Ch. 16)
- Intertemporal Choice

Problem Set 2 due in class

September 29: Midterm 1 (No lecture)

Lecture 11   (October 4)

- Choice under uncertainty (Ch. 7)
- Introduction to Probability
- Expected Utility

Lecture 12   (October 6)

- Insurance (Ch. 7)
- Investment in Risky Asset
- Measures of Risk Aversion

Problem Set 3 posted on BCourses

Lecture 13   (October 11)

- Time Inconsistency
- Production Functions (Ch. 9)
- Returns to Scale

Producers and Market Equilibrium

Lecture 14 (October 13)

- Cost Minimization (Ch. 10)
- Total, Average, Marginal Costs
- Supply Function

Lecture 15 (October 18)

- Profit Maximization (Ch. 11)
- Aggregation: Industry supply curve

Problem Set 3 due in class

Lecture 16 (October 20)

- Short-run Market Equilibrium (Ch. 12)
- Taxes

Problem Set 4 posted on BCourses

Lecture 17 (October 25)

- Long-run Market Equilibrium (Ch. 12)
- Welfare (Consumer Surplus and Producer Surplus)

Lecture 18 (October 27)

- Long-run Market Equilibrium II
- Monopoly(Ch. 14)

Market Power and Market Failure

Lecture 19 (November 1)

- Monopoly II
- Price Discrimination

Problem Set 4 due in class

Lecture 20 (November 3)

- Review
- Game Theory (Ch. 8)

November 8: Midterm 2 (No lecture)

Lecture 21 (November 10)

- Oligopoly (Ch. 15)
- Cournot and Bertrand Competition

Problem Set 5 posted on BCourses

Lecture 22   (November 15)

- Oligopoly: Stackelberg
- Auctions

Lecture 23   (November 17)

- General Equilibrium II
- Edgeworth Box

Problem Set 5 due in class

Lecture 24   (November 22)

- Asymetric Information I (Ch. 18)

Problem Set 6 posted on BCourses

- Thanksgiving break -

Lecture 25   (November 29)

- Asymetric Information II (Ch. 18)

Lecture 26   (December 1)

- Externalities (Ch. 19)
- Conclusion

Problem Set 6 due on December 5 by noon

Tuesday, December 13 (3-6pm): Final exam