ECONOMICS 101A – FALL 2005
MICROECONOMIC THEORY

SYLLABUS (8/25/05)

This course is meant to introduce you to the world of formal economic modeling. Economic models are typically made of three components:

- Consumers;
- Firms;
- A market in which consumers and firms interact.

We deal with these three components sequentially. 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.

The organizational details:

Course Time: Tuesdays and Thursdays, 11.00-12.30 in 3108 Etcheverry

Teacher: Stefano DellaVigna, 515 Evans, sdellavi@econ.berkeley.edu
OH: W 2-4

GSIs: Adriana Espinosa, espinosa@econ.berkeley.edu
Virkam Pathania, pathania@uclink.berkeley.edu

Webpage:
http://emlab.berkeley.edu/users/webfac/dellavigna/e101a_f05/e101a_f05.shtml
You may also want to check out last year’s 101A webpage, it will give you an idea of how the class will develop:
http://emlab.berkeley.edu/users/webfac/dellavigna/e101a_f04/e101a.shtml
A link to both webpages is on my webpage.

Textbook:

Course grading:
30% 6 (or 7) Problem Sets
20% Midterm 1
20% Midterm 2
40% Final Exam (Thursday 12/16/04, 5-8pm)

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. Class participation can increase the score by at most one grade; for example, from B to B+.

Miscellaneous questions:

1. Are problem sets required?
   Yes, problem sets are an integral part of the course. As you can notice, problem sets are also an important part of the grade. There will be a problem set handed out about every other week.
2. How important is attending class and reading the book?
   You will really need to do both! The book unfortunately is not as close to the lectures
   as I would like it to be, so it definitely is not a substitute for attending class. I searched
   extensively for a better book, but could not find it. Coming to the lectures is very
   important. I will distribute handouts of my slides during class to help you take better
   notes and will post them afterwards on the web with corrections in case there were
   some mistakes. However, the handouts are not comprehensive: they do not include
   graphs and go quickly over certain topics that the book covers in more detail.
   Therefore, I think that you will find the book a useful complement to the classes. Day-
   by-day, I will indicate which pages in the book you are responsible for. You should feel
   free of course to read more!

3. Is it ok if I hand in the problems sets late?
   Unfortunately, it is not ok. The GSIs will not be able to accept problem sets turned in
   late. With a class this size we cannot do exceptions. Sorry.

4. Can I work on the problem sets with other people?
   Yes, you can and should. I strongly recommend that you form study groups with other
   people. In fact, one of the strongest reasons why we require problem sets is precisely
   the fact that you get to work on economics problems with other people, you discuss
   with them, and learn from the intuition of others. Nevertheless, we expect that you will
   write and turn in your own solution to the problem set. After you discuss with other
   people, you should make sure that you can write your own solution.

5. How do I know which questions are hard in the problem set?
   We try to give you an idea of that by the points assigned to the different exercises.
   More means harder. In any case, expect to work hard in order to be able to solve the
   exercises. But do not get frustrated. It is normal if you find the exercises hard! If you
   can only get half of an exercise done, just write that part done. This way you can get
   partial credit. Afterwards, by reading the solution to the problem set, you will pick up
   the rest.

6. How do I choose between this class and 100A?
   The answer depends on two things: you mathematical background and your interest in
   economics. As for the first, this course requires a more thorough knowledge of
   mathematical tools than 100A does. You are supposed to be comfortable with
   derivatives and integrals, since we are using them throughout the course. To give an
   example, you should know the difference between a total and a partial derivative.
   To succeed in this course, though, you will need more than just a knowledge of
   mathematics. I expect anyone who takes the class to be seriously interested in
   microeconomics, in writing simple models of the world. I will try throughout the
   course to give intuition and to stress the economic significance to the results we cover.
   If you do not feel comfortable with your mathematical background, but you have a
   strong interest for economics, you may still want to take this class. You should then be
   prepared to work very hard.
   If you neither have a strong mathematical background, nor a strong interest in
   microeconomics, I do not recommend that you take this course.

7. Is it ok to use the older Edition of the Nicholson book?
Using the older (8th) edition of the book is fine by me. The editors of books put out new editions more frequently than needed in order to penalize the used book market and sell more copies of the new book. I am all for saving on the exorbitant cost of the book. The one thing you will have to be careful about is page numbers. I will try to give page numbers for both new and old edition whenever possible.

8. What if I disagree about the grading of an exam?
If we have miscounted points on the midterms or final, tell us immediately and we will correct. If you think that we have inappropriately scored an answer submit a complaint in writing to me. 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.

9. Who should I talk to if I have a question?
The GSIs should be your primary contact for questions related to the problem sets or the exams. Adriana and Vikram will hold regular office hours at a time they will announce. 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. So, if a class made you wonder why consumers do things that they regret ex post (such as not exercising), or why the price of airline tickets varies so widely, I am more than happy to discuss issues like these with you. In general, feel free to come see me during office hours.

10. I would like to talk to Stefano in a more informal setting. Is it possible?
Yes, it is. After most Thursday classes, I will be heading toward Hearst Avenue to get a sandwich. I encourage groups of 2-4 students to join me to grab a sandwich and chat before I (we) head back to Evans. My treat! This 101A tradition has been a lot of fun for me in that has allowed me to get know more of you. I encourage you to take advantage of it once or more during the semester.

11. I am not able to take exams in the normal time because of disability. What should I do?
Definitely, come talk to me. You will need to provide some documentation, and we will arrange a suitable accommodation.

12. What should I expect to learn from this course?
I would like you to be able to face a real world phenomenon/puzzle and be able to write down a sensible economic model of it. This will enable you to analyze more problems than you can imagine, ranging from economics to political science, from psychology to sociology. Perhaps, by the end of the course you will agree with me that microeconomics provides a parsimonious and insightful way to look at the world. That’s my aspiration, and I will do my best to get you to share my enthusiasm for economics!

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.

**Basics**
Lecture 1 (August 30).
Introduction
Maximization in One Variable (Ch. 2)
Maximization in Several Variables (Ch. 2)

Lecture 2 (September 1).
Maximization in Several Variables (Ch. 2), Continued
Comparative Statics
Concavity and convexity
Problem Set 1 posted on web

Lecture 3 (September 6).
Concavity and convexity, continued
Constrained Maximization (Ch. 2)

Consumers
Lecture 4 (September 8).
Constrained Maximization II (Ch. 2)
Preferences and Utility (Ch. 3)

Lecture 5 (September 13).
Common Utility Functions
Utility Maximization and Choice (Ch. 4)
Problem Set 1 due in class

Lecture 6 (September 15).
Utility Maximization and Choice (Ch. 4)
Indirect Utility Function
Problem Set 2 posted on web

Lecture 7 (September 20).
Comparative statics
Expenditure Minimization

Lecture 8 (September 22).
Slutzky Equation
Income and Substitution Effects (Ch. 5)

Lecture 9 (September 27).
Labor Supply
Intertemporal Choice I
Problem Set 2 due in class

Lecture 10 (September 29).
Economics of Altruism I
Choice under uncertainty (Ch. 8)
Introduction to Probability
Expected Utility
Problem Set 3 posted on web

Lecture 11 (October 4).
Risk Aversion
Insurance
Investment in Risky Asset I

Lecture 12 (October 6).
Investment in Risky Asset II
Measures of Risk Aversion
Time consistency (and not)
Application to health clubs I

No lecture (October 11).
1st Midterm

Producers
Lecture 13 (October 13).
Production Functions (Ch. 11)
Isoquants
Returns to Scale
Costs (Ch. 12)
2-Step Cost Minimization
Problem Set 3 due in class

Lecture 14 (October 18).
Isoquants II
Cost Minimization: Example
Total, Average, Marginal Costs
Supply Function
Problem Set 4 posted on web

Lecture 15 (October 20).
Geometry of Cost Curves II
Short-run and long-run costs
One-Step Profit Maximization (Ch. 13)

Lecture 16 (October 25).
Perfect Competition
Aggregation
Market Equilibrium (Ch. 14)
Comparative Statics of Equilibrium
Problem Set 4 due in class

Lecture 17 (October 27).
Taxes
Long-run Market Equilibrium

Lecture 18 (November 1).
Welfare
Monopoly (Ch. 18)
Problem Set 5 posted on web

Lecture 19 (November 3).
Monopoly (Ch. 18)
Price Discrimination
Lecture 20 (November 8).
Price Discrimination

No lecture (November 10).
2nd Midterm

Market Interaction
Lecture 21 (November 15).
Game Theory

Lecture 22 (November 17).
Game Theory
Dynamic Games
Problem Set 5 due in class

Lecture 23 (November 22).
Oligopoly
Game Theory and Oligopoly
Bertrand vs. Cournot competition

No lecture (November 24). Thanksgiving Holiday

Lecture 24 (November 29).
General Equilibrium
Edgeworth Box
Problem Set 6 posted on web

Lecture 25 (December 1).
General Equilibrium
Topics

Lecture 26 (December 6)
Applications: Media Bias and Voting
Applications: House Insurance and Deductible Choice

Lecture 27 (December 8) – Last lecture!
Conclusion
Problem Set 6 due on December 14

Final exam (Thursday December 15, 5-8pm)