

API-101A
Markets and Market Failure

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| Faculty: | Chris Avery chris_avery@harvard.edu KSG L208 617-496-4063 |
| Teaching Fellow: | Matthias Weiden matthias.weiden@googlemail.com |
| Meetings: | Monday, Wednesday, 10:10 am – 11:30 am, Starr Auditorium |
| Review Sections: | Friday, TBA. |
| Important Dates | |
| Midterm Exam: | Friday October 26, 2012, 10:10 am to 11:30 am. |
| Final Exam: | Wednesday, December 12, 2012 9:00 am to 12:00 pm. |

Overview

API-101 applies microeconomic reasoning to public issues, policies and programs. It considers economic incentives and organizations; models of economic behavior; the operation of markets; the price system and how it works; the consequences of market failure and interventions in markets; and policy objectives and instruments. *All sections cover a common set of core topics. Section A is differentiated from the other sections because it assumes prior knowledge of calculus.*

Details about the “A” Section

The A-section is aimed at students who feel quite comfortable using math, have a working knowledge of basic calculus, and are motivated to delve more deeply into some topics and also to learn some advanced skills. By using calculus based methods, Section A is able to cover some topics in more depth than the other sections of API-101. The use of mathematics in Section A is only a means of communication rather than an end in itself; the common objective of all sections of API-101 is to provide students with a solid economic intuition and an ability to apply economic insights to real-world problems.

If you find that the use of mathematics often fails to clarify things for you, you are probably better off in the non-calculus sections of API-101. If you have had a lot of economics before and are now looking for a much more advanced treatment of the same material; then the A-section is probably not for you either, and you might consider taking API-111.

Add/Drop Policy

Students can add or drop the A-section during the regular add/drop period. Additionally, students who have taken the API-101A midterm exam will be allowed to switch from the A-section to a regular section of API-101 during the 7-day period after the return of the A-section midterm exam.

Requirements

The formal course requirements are: completion of nine problem sets, a midterm examination, and a final examination. The A-section uses a different textbook and has different problems sets and exams than the other sections.

The midterm will count for 40 percent of the final grade and the final exam for 60 percent. Although the problem sets will not be graded, there will be a penalty for not turning them in on time (see below). The examinations will be “in-class”; books and notes cannot be consulted during examinations. Note that the midterm will be held on **Friday, October 26**, from 10:10 to 11:30 AM *for all sections*. The final exam will be held on **Friday, December 12** from 9 AM to 12 PM *for all sections*. The final exam will be cumulative. Please check your calendars early in the semester and avoid any scheduling conflicts for the midterm and the final. We do not schedule makeup exams except for students with documented dire emergencies.

A problem set will typically be assigned (and due) every week. Students are required to turn in their solutions to the problem sets. Although problem sets will not be graded in detail, they will be checked and corrected by the course assistants. If a particular problem set is not turned in on time, *two* points (i.e. out of a potential 100 points) will be taken off from the final score in the class. It will be *extremely difficult* (read: *impossible*) to do well in the midterm and final exams unless the student is familiar with and can solve the types of problems that are assigned in the problem sets. Class participation is strongly encouraged, but will not be graded.

Small groups of students (no more than 4) are **STRONGLY** encouraged to work together on the problem sets. Problem solutions *must* be written independently by each of the students in the small group, and *must* indicate the name of the students in the group. Answer sheets will be distributed shortly after each problem set is turned in.

Readings

The textbook for this course is *Microeconomics: Theory and Applications with Calculus* by Jeffrey M. Perloff. The book is on reserve at the HKS library and can be purchased at the Coop.

The exams will be based primarily on the material covered in lectures and on the problem sets. We also provide written notes to supplement the information in each lecture. As a result, you may find that the textbook is not essential. In previous years some students indicated that they did not read the textbook very much while others found one to be helpful. You may wish to assess your propensity to rely on a textbook before purchasing one.

You may also wish to consider the use of an alternative textbook. Nearly every microeconomics textbook covers the topics we will talk about in class, so you should feel free to use any alternative textbook that uses calculus and seems appropriate to you, such as:

Intermediate Microeconomics by Hal Varian.

Introduction to Economic Analysis by Preston McAfee (free online, legally).

COURSE OUTLINE AND READINGS

I. Introduction (Classes 1-4)

1. **Supply and Demand, Introduction to Comparative Statics Analysis**
Perloff, 2.1 – 2.5
2. **Policy Applications of Supply and Demand**
Perloff, 2.6 – 2.8

II. Theory of the Consumer (Classes 3-7)

3. **Revealed Preference and Consumer Choice**
Perloff, 3.1 (p.58-62), 4.5
4. **Indifference Curves and the Consumer Problem**
5. **The Lagrangian Approach to the Consumer Problem**
Perloff, 3.2-3.5 (p.62-87)
6. **Hicksian and Slutsky Compensation**
Perloff, 3.5 (p. 87-89), 4.1, 4.2, 4.4

Optional Reading: Boskin, Michael J. 1998. "Consumer Prices, the Consumer Price Index, and the Cost of Living." *Journal of Economic Perspectives*, 12(1): 3–26

7. **Duality and the Slutsky Equation**
Perloff, 4.3
8. **Welfare Analysis**
Perloff, 5.1-5.4

III. Theory of the Firm (Classes 8-9)

9. **Production theory**
Perloff, chapter 6.
10. **Profit maximization and competitive supply**
Perloff, Chapter 7.

IV. Competitive Equilibrium Reexamined (Classes 10-13)

11. **Competitive Markets with Exchange**
Perloff, 10.1-10.3
12. **General Equilibrium with Production**
Perloff, Chapter 9.1-9.4, 10.4-10.5.
13. **International Trade**
Perloff, 9.5-9.6

14. **Tipping Points**

Optional Reading: Thomas Schelling, Micromotives and Macrobehavior, ch. 3.

V. Market Failures and Policy Responses (Classes 15 – 24)**15. Introduction to Market Failure. Monopoly.**

Perloff, Chapter 11.

16. Price Discrimination and Regulation.

Perloff, 12.1-12.3

17. Oligopoly; Cournot model.

Perloff, 14.1-14.4

18. Prisoner's Dilemma; Basics of Game Theory.

Perloff, Chapter 13

19. Adverse Selection and Lemons

Perloff, Chapter 18.1-18.3

20. Adverse Selection and Health Insurance

Optional Reading: Einav, Liran, and Amy Finkelstein. 2011. Selection in Insurance Markets: Theory and Empirics in Pictures. *Journal of Economic Perspectives* 25(1):115—138.

21. Signaling

Perloff, 18.4

22. Moral Hazard

Perloff, 19.1-19.4

23. Externalities

Perloff, Chapter 17.1-17.7

24. Applications of Externalities

Reading TBA

API-101A
Fall 2012 Schedule of Lectures and Assignments

| Class | Date | Topic of Discussion | Assignment due |
|-------|----------------------|--|----------------|
| 1 | Fri., Sept. 7 | Basics of Supply and Demand | |
| 2 | Mon., Sept. 10 | Supply and Demand in action: Taxes, Price Controls | |
| 3 | Wed., Sept. 12 | Revealed Preference and Consumer Choice | Set 1 |
| 4 | Mon., Sept. 17 | Indifference curves and the Consumer Problem | |
| 5 | Wed., Sept. 19 | The Lagrangian Approach to the Consumer Problem | Set 2 |
| 6 | Mon., Sept. 24 | Hicksian and Slutsky Compensation | |
| 7 | Wed., Sept. 26 | The Duality Principle and the Slutsky Equation | Set 3 |
| 8 | Mon., Oct. 1 | Welfare Analysis | |
| 9 | Wed., Oct. 3 | Production Functions | Set 4 |
| | Mon, Oct. 8 | No class—Columbus Day | |
| 10 | Wed., Oct. 10 | Cost Functions and Factor Demands | |
| 11 | Mon., Oct. 15 | Profit Maximization and Competitive Supply | Set 5 |
| 12 | Wed., Oct. 17 | General Equilibrium; Consumer and Producer Surplus | |
| 13 | Mon., Oct. 22 | International trade | Set 6 |
| 14 | Wed., Oct. 24 | Multiple Equilibrium and Tipping Points | |
| | Fri., Oct. 26 | MIDTERM EXAM for ALL sections, 10:10 – 11:30 am (Starr) | |
| 15 | Mon., Oct. 29 | Market Power and Market Failure: Monopoly | |
| 16 | Wed., Oct. 31 | Price Discrimination and Regulation | |
| 17 | Mon., Nov. 5 | Game Theory and the Prisoners' Dilemma | Set 7 |
| 18 | Wed., Nov. 7 | Oligopoly: Cournot Competition | |
| | Mon., Nov. 12 | No class—Veterans' Day | |
| 19 | Wed., Nov. 14 | Adverse Selection and Lemons | |
| 20 | Mon., Nov. 19 | Adverse Selection and Health Insurance | Set 8 |
| | Wed., Nov. 21 | No class—Thanksgiving recess | |
| 21 | Mon. Nov. 26 | Signaling | |
| 22 | Wed., Nov. 28 | Moral Hazard | |
| 23 | Mon., Dec. 3 | Externalities | Set 9 |
| 24 | Wed., Dec. 5 | Externalities and Pricing | |
| | Wed., Dec. 12 | FINAL EXAM FOR ALL SECTIONS, 9am – 12pm | |

Note: Problem sets will be handed out a week before and returned to the student a week after they are due.