

Course Syllabus

14.03: Intermediate Applied Microeconomics, Fall 2000

Class: Two sessions / week, 1.5 hours / session.
Recitation: One session / week, 1 hour / session.
There will be no recitation the first week of class.

Text:

Nicholson, Walter. *Microeconomic Theory: Basic Principles and Extensions*. 7th edition, New York: Dryden Press, 1997.

Course Reader:

A packet of reading materials is available at Graphic Arts. Readings (in addition to the text) will be assigned every week. The reading is important for the course, but some of the articles have more technical sections that are not required. Reading assignments will given in class and problem sets will provide further guidance as to what is important. *Note that some class articles are on the web but not in the reader. Check the syllabus for a URL before you conclude that the article is missing.*

Other useful references:

Copies of these texts will be placed on reserve at Dewey Library

Binger, Brian R. and Elizabeth Hoffman, *Microeconomics with Calculus*, 2nd edition, Massachusetts: Addison-Wesley, 1998. *An alternative to Nicholson but more math and less intuition. Chapters 1 – 3 provide a more detailed mathematical introduction to the tools of this course than Nicholson. If you are dissatisfied with Nicholson's chapter 2, you should look here.*

Gibbons, Robert, *Game Theory for Applied Economists*, New Jersey: Princeton University Press, 1992. (Also in paperback.) *A great introductory reference for the game theory part of the class.*

Simon, Carl P. and Lawrence Blume, *Mathematics for Economists*, New York: W.W. Norton, 1994. *This is a great source that starts with the basics and goes quite deep.*

Shapiro, Carl and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy*, Boston: Harvard Business School Press, 1999.

Problem Sets:

This course will require approximately eight problem sets that are due in class and will be discussed in section on Friday. The problems sets normally have two parts: one covering more technical problems out of the text book and class lectures and the other covering applications based on the assigned reading and class discussion. Problem sets will not be accepted after 5 p.m. on the stated due date. After 5pm of the due date, you will receive no credit for your assignment. *There will be no exceptions.*

In order to accommodate unanticipated events, illness, or conflicts in your schedule, we will drop the problem set with the lowest score (for example, the one that you don't hand in) when computing your problem set grade.

Exams, problem sets, classroom performance, and grading:

Grading: Problem sets 25%. 3 exams, 25% each. *Plus in-class performance.*

Your in-class contribution matters. I adjust grades upwards – sometimes substantially – for students who prepare for class, participate in class discussion, and take risks by sharing their ideas – even if those ideas aren't always correct. Excellent class participation can increase your grade by as much as two-thirds of a letter grade (e.g., from straight B to A-). I reserve the right to cold call in class.

Three exams will be given, two in class and one during final exam period. The in-class exams will be 90 minutes each and the third exam will probably be closer to two hours. I attempt to stagger the exams so that they don't fall during regular mid-term period. This means that you can give more time to studying for 14.03 exams, and the exams will be more challenging accordingly.

Each exam will only focus on the new material since the last exam, although of course you will need to understand the older material to apply the new material. The exams will be based on the textbook, the problem sets, the assigned readings, and *classroom discussion*. Performance on exams is highly correlated with performance problem sets.

The class is not graded on a strict curve; it's possible for everyone to do well. At the same time, I *do* take into account relative performance when assigning grades; if the high score on an exam is 75 points, I call that an A, not a C+.

On attending and contributing to class:

This is not a textbook class and you will do poorly if you miss the lectures on the assumption that you can make it up with the textbook. *If you were planning to take another class that meets at the same time as 14.03, I strongly discourage it.* Students who have tried this in the past fared poorly – and received little sympathy from the instructor. For better or worse, this is not a generic micro-theory class and accordingly our textbook does not adequately cover everything we'll be discussing this semester.

Questions regarding grading:

Questions regarding grading are to be directed first to our TAs. Questions regarding the grading of a problem set or exams must be received by the TA no later than one week after the problem set or exam has been handed back. After one week, no appeals will be considered. To have the grading re-considered you must follow the following steps:

- (1) Take the material to the TA along with a note describing specifically what you believe the problem to be. (Make a copy of your note and the problem set/exam for your own safekeeping.) Leave the material and note with the TA along with your email address.
- (2) After the TA has contacted you by email, come to the TA's office to discuss the question.

This procedure is designed to help to ensure fair grading by providing your TA with an opportunity to think about your questions carefully before responding.

Schedule:

Class topics and readings are subject to revision. It is possible that some topics and related readings will be dropped if time runs short.

COURSE OUTLINE

(*) Starred readings are required.

1.1. Overview of the course

1.2. Review of supply and demand

1.3. Microeconomic models, comparative statics, and optimization

(*) Nicholson, Chapters 1 and 2.

Pindyck and Rubinfeld, Chapters 1.1 – 1.3.

(*) Krugman, Paul “The accidental theorist,” *Slate*, January 23, 1997, available from

(*) Card, David and Krueger, Alan B., “Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania,” *American Economic Review*, 84(4), September 1994, 772 – 93.

(*) Freeman, Richard “Comment: Review symposium on Myth and Measurement: The new economics of the minimum wage,” *Industrial and Labor Relations Review*, 48(4), July 1995.

(*) Kennan, John “The elusive effects of minimum wages” *Journal of Economic Literature*, 33, December 1995, 1950 – 65.

Card, David and Krueger, Alan B., *Myth and measurement: The new economics of the minimum wage*” Princeton: Princeton University Press, 1995.

2. Choice and the theory of demand

2.1. Rationality axioms, utility, and indifference curves

2.2. Constrained utility maximization, demand functions, indirect utility, the expenditure function

2.3. Individual demand, income and substitution effects

2.4. Substitutes and complements, market demand, and elasticities

2.5. Price indices

(*) Nicholson, Chapters 3 - 7.

(*) Dwyer, G.P. and C.M. Lindsey, “Robert Giffen and the Irish Potato,” *American Economic Review*, 1984, March, 188 – 192.

(*) Waldfoegel, Joel. “The Deadweight Loss of Christmas” *American Economic Review*, 1993, 83 (5), 1328 – 36.

(*) Boskin, Michael, et al, “Toward a more accurate measure of the cost of living,” Interim report to the Senate Finance Committee from the Advisory Commission to Study the Consumer Price Index, September 15, 1995.

(*) Krugman, Paul “The CPI and the rat race” *Slate*, December 21, 1996.

3. Choice and uncertainty, and information

3.1. Uncertainty, risk, von Neumann-Morgenstern expected utility.

(*) Nicholson, Chapter 8.

(*) Kane, Thomas J. and Douglas Staiger, “Teen Motherhood and Abortion Access,” *Quarterly Journal of Economics*, 1996, 111 (2), 467 – 506.

4. Prices, perfect competition, general equilibrium and economic efficiency

4.1. Economic efficiency and welfare analysis

4.2. General competitive equilibrium

4.3. Trade, comparative advantage, competitiveness, and redistribution

(*) Nicholson, chapter 15, 16, and 17.

(*) Scherer, F. M. “The U.S. Sugar Program,” Kennedy School of Government Case 1128.0, 1992.

(*) Krugman, Paul, “Competitiveness: A dangerous obsession,” *Foreign Affairs*, 73 (2), March – April 1994, 28 – 44.

(*) Krugman, Paul, “A Raspberry for Free Trade.”

(*) Krugman, Paul, “The tax reform obsession,” *New York Times Magazine*, April 7, 1996, 36 – 37.

5. Information Economics: Insurance, moral hazard, adverse selection, and signaling.

(*) Nicholson, Chapters 8 and 9. (Warning: sadly, chapter 9 is a poor introduction to the topic of information.)

(*) Rothschild, Michael and Joseph E. Stiglitz “Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Information” *Quarterly Journal of Economics*, 1976, 90(4), 630 – 649.

(*) Altman, Daniel, David M. Cutler and Richard J. Zeckhauser, “Adverse selection and adverse retention” *American Economic Review*, 88(2), 1998, 122 – 126.

(*) Akerlof, George A. “The Market for ‘Lemons:’ Quality Uncertainty and the Market Mechanism.” *Quarterly Journal of Economics*, 1970, 84(3), August, 488 – 500.

(*) Spence, Michael “Job Market Signaling.” *Quarterly Journal of Economics*, 1973, 87(3), 355 – 374.

(*) Tyler, John H., Richard J. Murnane, and John B. Willet, “Estimating the Labor Market Signaling Value of the GED” *Quarterly Journal of Economics*, 2000, 115(2), 431 – 468.

6. Game Theory and applications to Network Externalities in the information age

(*) Nicholson, Chapter 10.

Recommended: Gibbons, *Game Theory for Applied Economists*, Chapters 1 and 2.

(*) David, Paul E. “Clio and the Economics of QWERTY,” *American Economic Review*, 75(2), 1985, 332 – 337.

(*) Shapiro, Carl and Hal R. Varian, *Information Rules*, chapters 3 and 7, Boston: Harvard Business School Press, 1999, 173 – 226.

(*) Krugman, Paul “Entertainment values” *Slate*, January 22, 1998.

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Class Schedule: Fall 2000

Note: When a reading is designated as 'reading for class discussion,' you are responsible for its content on the day of the lecture.

1) Class #1

Economics as a social science.
Economic models.
Hot dog economy.
Class requirements.

Reading: Krugman, "Accidental Theorist."

2) Class #2

Review of supply and demand in the context of the minimum wage debate: assumptions behind competitive model of wage setting, monopsony model. Natural experiments and empirical methodology in economics. Card & Krueger article.

Readings for class discussion: Card & Krueger, "Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania."

Readings: Nicholson, Chapters 1, Freeman, "Comment: The new economics of the minimum wage." Kennan, "The elusive effects of minimum wages."

Supplemental reading: Card and Krueger, *Myth and measurement: The new economics of the minimum wage.* (available from Dewey reserve.)

Problem set #1 available.

3) Class #3

Whistle-stop tour of mathematical tools for 14.03: Unconstrained optimization, constrained optimization, implicit function theorem, envelope theorem for unconstrained and constrained problems, duality.

Reading: Nicholson, Chapter 2.

Recommended supplemental reading to Nicholson Chapter 2: Binger and Hoffman, *Microeconomics with Calculus*, 2nd edition, Chapters 1 – 3. (On reserve at Dewey and Hayden.)

4) Class #4

Choice and the theory of demand: Rationality axioms, utility, indifference curves, constrained utility maximization.

Readings: Nicholson, chapters 3 and 4.

Problem set #1 due

5) Class #5

Individual demand, income and substitution effects. Duality: Expenditure functions and indirect utility, the Slutsky equation.

Readings: Nicholson, chapter 5

Problem set #2 available.

6) Class #6

Engel's law. Normal, inferior and Giffen goods. Marshallian vs Hicksian demand. The Weak Axiom of Revealed preference.

Reading for class discussion: Dwyer and Lindsey, "Robert Giffen and the Irish Potato"

7) Class #7

Applications of Consumer Theory: Lump-sum v. in-kind transfers, taxes and rebates, and the distortionary effects of taxation, price changes and consumer surplus.

Reading for class discussion: Waldfogel, Joel. "The Deadweight Loss of Christmas" *American Economic Review*, 1993, 83 (5), 1328 – 36.

Problem set #2 due.

Problem set #3 available.

8) Class #8

Price indices: Demand relationships among goods: Net substitutes and complements, gross substitutes and complements. Laspeyres v. Paasche, the ideal price index, sources of bias.

Readings for class discussion: Boskin, et al, "Towards a more accurate measure of the cost of living," Newspaper article(s) to be distributed in class.

Readings: Nicholson, chapter 6. Krugman, “The CPI and the rat race.”

9) Class #9

Complements and substitutes. Market demand and elasticities: Income and price elasticity, cross-price elasticities. Elasticities and their relationship to consumer choice.

Reading: Nicholson, chapter 7.

Problem set #3 due.

10) Class #10

FIRST EXAM.

11) Class #11

Choice under uncertainty, risk and risk aversion, insurance (Partial review from 14.01).

Readings: Nicholson, Chapter 8.

12) Class #12

Problem set #4 available

Application of theory of choice: Demand for abortions, effects of abortion restrictions on abortions and birth rates.

Readings for class discussion: Kane and Staiger, “Teen motherhood and abortion access”

13) Class #13

Continuation of risk and choice: Demand for abortions, effects of abortion restrictions on abortions and birth rates.

14) Class #14

Prices and perfect competition. Applied competitive analysis: tax incidence and analysis, trade restrictions.

Reading for class discussion: Scherer, “The U.S. Sugar Program.”

Problem set #4 due. Problem set #5 available.

15) Class #15

General equilibrium in a pure exchange economy. Edgeworth box. Production possibility frontier. Fundamental welfare theorems.

Reading: Nicholson, Chapters 16 and 17 (part).

16) Class #16

General equilibrium continued. Comparative advantage vs. competitiveness. Gains from Trade. Redistribution and its relationship to trade. Fairness and the political economy of trade.

Reading for class discussion: Krugman, "Competitiveness: A dangerous obsession," Krugman, "A Raspberry for Free Trade."

17) Class #17

General equilibrium wrap-up.

If time permits: Limits of the market: Externalities and public goods, social efficiency vs. competitive equilibrium, means to alleviate externalities.

Reading: Nicholson, Chapter 24.

Reading for class discussion: Krugman, "The tax reform obsession."

Problem set #5 due.

18) Class #18

SECOND EXAM.

19) Class #19

Economics of information I: Why is information different? Adverse selection, moral hazard, competitive behavior, and market failure. Why don't perfect insurance markets exist?

Readings: Nicholson, Chapter 9, Rothschild and Stiglitz, "Equilibrium in competitive insurance markets: An essay on the economics of information"

Insurance markets continued.

20) Class #20

Insurance markets continued.

Readings for class discussion: Altman, Cutler and Zeckhauser, “Adverse selection and adverse retention.”

Problem set #6 available

21) Class #21

Economics of information II: The market for lemons: adverse selection in product markets.

Readings for class discussion: Akerlof, “The market for lemons: Quality uncertainty and the market mechanism”

22) Class #22

Economics of information III: Human Capital and Job Market signaling.

Reading: Spence, Michael “Job market signaling” *Quarterly Journal of Economics*, 87 (3), 1973, pp. 355 – 374.

Problem set #6 due. Problem set # 7 available.

23) Class #23

Application of signaling: The General Educational Development certificate.

Readings for class discussion: Tyler, Murnane, and Willet, “Estimating the Labor Market Signaling Value of the GED.”

24) Class #24

An introduction to game theory.

Reading: Nicholson, Chapter 10.

Problem set #7 due. Problem set # 8 available.

25) Class #25

Problem set #5 due

Problem set #6 available

Game Theory continued.

Reading: Nicholson, Chapter 10.

26) Class #26

Network externalities in the information age: A model of network externalities.

Readings for class discussion: Shapiro and Varian, *Information Rules*, chapter 7, Paul David, “Clio and the economics of QWERTY,” Krugman, “Entertainment values.”

Problem set #8 due. Problem set #9 available (not for credit).

27) Class #27

Network externalities continued.

Price discrimination and versioning.

Readings for class: Shapiro and Varian, *Information Rules*, Chapter 3