

# **Course Syllabus**

## **14.03: Intermediate Applied Microeconomics, Spring 2003**

### **Instructor:**

Professor: David Autor, E52-371, 617.258.7698, [dautor@mit.edu](mailto:dautor@mit.edu)  
Assistant: Lauren Fahey, E52-383, 617.253.4669, [lola@mit.edu](mailto:lola@mit.edu)  
Office Hrs: MW, 1pm – 2pm and by appt.

Head TA: Mark Lewis ([lewismj@MIT.EDU](mailto:lewismj@MIT.EDU))  
Assistant TAs: Matilde Bombardini ([matildeb@MIT.EDU](mailto:matildeb@MIT.EDU)), Constantin Chiscanu ([chiscanu@MIT.EDU](mailto:chiscanu@MIT.EDU)), Tracey Seslen ([tseslen@MIT.EDU](mailto:tseslen@MIT.EDU)).  
Office Hours: Mondays and Wednesdays, 4pm – 5pm, E52-232 (except Feb 12).

### **Schedule**

Class hours: Tuesdays and Thursdays, 2:30 - 4:00pm , Room 4-270.  
Recitations: Fridays at 10am, 1pm, 2pm and 3pm in Room 3-343.  
*There will be no recitation the first week of class.*

### **Textbook:**

Nicholson, Walter, Microeconomic Theory: Basic Principles and Extensions, 8<sup>th</sup> edition, New York: Dryden Press, 2002. (ISBN 0-03-033593-0)

**Purchase note: This book lists for \$111.00 but can often be found for half that price on the web. Try <http://www.addall.com/> and search for the ISBN above.**

### **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.*

### **World Wide Web:**

The World Wide Web address for the class is <http://stellar.mit.edu/S/course/14/sp03/14.03/>. Problem sets, the syllabus, reading assignments, and the reading list will be available in either text or PDF form. We will try to keep the web site up to date.

### **Useful references:**

*Copies of these texts will be placed on reserve at Dewey Library (next to E-52):*

Binger, Brian R. and Elizabeth Hoffman, Microeconomics with Calculus, 2<sup>nd</sup> 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. But it's expensive: \$120 new.*

Permberton, Malcolm and Nicholas J. Rau, Mathematics for Economists: An Introductory Textbook, Manchester University Press, 2001. *Not on reserve but only \$25 at Amazon.*

### **Problem Sets:**

This course will require 6 to 8 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 class, they should be placed in the 14.03 box in, E52-380, where my assistant Lauren Fahey sits. 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 90-minute exams will be given, all during class. 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 on 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.

## Class Outline

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(\*) Starred readings are required.

### 1.1. Overview of the course

### 1.2. The Minimum Wage: Review of supply and demand models

### 1.3. Microeconomic models, comparative statics, and optimization

(\*) Nicholson, Chapters 1 and 2. (math refresher)

(\*) Krugman, Paul “The accidental theorist,” *Slate*, January 23, 1997, available from <http://web.mit.edu/krugman/www/hotdog.html>

(\*) 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.

<http://libproxy.mit.edu:8015/sici?sici=0002-8282%28199409%2984%3A4%3C772%3AMWAEAC%3E2.0.CO%3B2-O>

(\*) 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.

<http://libproxy.mit.edu:8015/sici?sici=0019-7939%28199507%2948%3A4%3C828%3ACBR%3E2.0.CO%3B2-D>

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

<http://libproxy.mit.edu:8015/sici?sici=0022-0515%28199512%2933%3A4%3C1950%3ATEEOMW%3E2.0.CO%3B2-K>

Recommended: 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. Applications: Food Stamps, Gift Giving, Consumer Price Indices

(\*) Nicholson, Chapters 3 - 7.

(\*) Dwyer, G.P. and C.M. Lindsey, "Robert Giffen and the Irish Potato," *American Economic Review*, 74(1), March 1984, 188 – 192.

<http://libproxy.mit.edu:8015/sici?sici=0002-8282%28198403%2974%3A1%3C188%3ARGATIP%3E2.0.CO%3B2-Y>

(\*) Jensen, Robert and Nolan Miller, "Giffen Behavior: Theory and Evidence." Kennedy School of Government Faculty Research Working Paper Series #RWP02-014, January 2002, available for download at: [http://ksgnotes1.harvard.edu/research/wpaper.nsf/rwp/RWP02-014/\\$File/rwp02\\_014\\_millerjensen.pdf](http://ksgnotes1.harvard.edu/research/wpaper.nsf/rwp/RWP02-014/$File/rwp02_014_millerjensen.pdf)

(\*) Waldfogel, Joel. "The Deadweight Loss of Christmas" *American Economic Review*, 1993, 83 (5), 1328 – 36.

<http://libproxy.mit.edu:8015/sici?sici=0002-8282%28199312%2983%3A5%3C1328%3ATDLOC%3E2.0.CO%3B2-W>

(\*) Whitmore, Diane. "What are Food Stamps Worth?" Princeton Industrial Relations Section Working Paper #468, July, 2002. URL:

<http://www.irs.princeton.edu/pubs/pdfs/468.pdf>

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

<http://www.ssa.gov/history/reports/boskinrpt.html>

### **3. Choice, 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.

<http://libproxy.mit.edu:8015/sici?sici=0033-5533%28199605%29111%3A2%3C467%3ATMAAA%3E2.0.CO%3B2-B>

(\*) Thaler, Richard H., Amos Tversky, Daniel Kahneman, and Alan Schwartz, "The Effect of Myopia and Loss aversion on Risk Taking: an Experimental Test." *Quarterly Journal of Economics*, 112(2), May 1997, 647 – 661.

<http://libproxy.mit.edu:8015/sici?sici=0033-5533%28199705%29112%3A2%3C647%3ATEOMAL%3E2.0.CO%3B2-2>

(\*) Tversky, Amos and Daniel Kahneman, “Rational Choice and the Framing of Decisions,” in *Rational Choice: The Contrast Between Economics and Psychology*, Robin Hogarth and Mevlin Reder, eds., Chicago: University of Chicago Press, 1987, 67-94.

#### **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 “Ricardo’s Difficult Idea.” Available at:  
<http://www.pkarchive.org/trade/ricardo.html>

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

(\*) Kristof, Nicholas D. “Let Them Sweat” *New York Times*, June 25, 2002, Section A.

#### **5. Deviations from perfect efficiency**

##### **5.1. Externalities, public goods and regulation**

(\*) Nicholson, chapter 24.

(\*) Krugman, Paul, “The Tax Reform Obsession,” *New York Times Magazine*, April 7, 1996, 36 – 37.

(\*) Cheung, S.N.S. “The Fable of the Bees: An Economic Investigation.” *Journal of Law and Economics*, 16, April 1973, 11 - 33.

Recommended: Stavins, Robert N. “What Can We Learn from the Grand Policy Experiment? Lessons from SO<sub>2</sub> Allowance Trading,” *Journal of Economic Perspectives*, 12(3), Summer 1998, 69 – 88.

<http://libproxy.mit.edu:8015/sici?sici=0895-3309%28199822%2912%3A3%3C69%3AWCWLFT%3E2.0.CO%3B2-T>

##### **5.2. Insurance, moral hazard and adverse selection**

(\*) Nicholson, Chapter 9. (Warning: this chapter is a poor introduction to information economics.)

(\*) 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.

<http://libproxy.mit.edu:8015/sici?sici=0033-5533%28197611%2990%3A4%3C629%3AEICIMA%3E2.0.CO%3B2-N>

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

<http://libproxy.mit.edu:8015/sici?sici=0002-8282%28199805%2988%3A2%3C122%3AASAAR%3E2.0.CO%3B2-B>

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

<http://libproxy.mit.edu:8015/sici?sici=0033-5533%28197008%2984%3A3%3C488%3ATMF%22QU%3E2.0.CO%3B2-6>

### 5.3. Market signaling

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

<http://libproxy.mit.edu:8015/sici?sici=0033-5533%28197308%2987%3A3%3C355%3AJMS%3E2.0.CO%3B2-3>

(\*) 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. Information and Strategy: Game Theory and Network Externalities

(\*) 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.

<http://libproxy.mit.edu:8015/sici?sici=0002-8282%28198505%2975%3A2%3C332%3ACATEOQ%3E2.0.CO%3B2-I>

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

(\*) Resnick, Paul and Richard Zeckhauser, “Trust among Strangers in Internet Transactions: Empirical Analysis of eBay’s Reputation System.” (Appears in: Advances in Applied Microeconomics, Volume 11, Amsterdam, Elsevier Science, 2002. Available for download at: <http://www.si.umich.edu/~presnick/papers/ebayNBER/RZNBERBodegaBay.pdf>

(\*) Krugman, Paul “Entertainment values” *Slate*, January 22, 1998. Available at: <http://web.mit.edu/krugman/www/values.html>

Bonus: Price discrimination and the Disney Land problem.