

Prof. Bryan Caplan
bcaplan@gmu.edu
Econ 812
<http://www.bcaplan.com>

Micro Theory II Syllabus

Course Focus:

This course covers basic game theory and information economics; it also explores some of these areas' main anomalies. An underlying goal is to teach students "how to think like economists."

Prerequisites:

I assume familiarity with multivariate calculus and intermediate microeconomics.

Texts:

David Kreps, *A Course in Microeconomic Theory*
Steven Landsburg, *The Armchair Economist*
Steven Landsburg, *Fair Play*
Richard Thaler, *The Winner's Curse*
Daniel Kahneman, *Thinking, Fast and Slow*

Readings marked with a * are available on Jstor, www.jstor.org. All my papers are at: <http://econfaculty.gmu.edu/bcaplan/cv.html>.

Grading and Exams:

There will be one midterm and a final exam. The midterm counts for 40%; the final exam is 45%; homework counts for the remaining 15%. These weights are fixed - improvement on later exams will not retroactively raise your grades on earlier exams.

There is no formal grade for participation, but if you are one of the students who (in my judgment) contributes most to the quality of class discussion your grade will be raised if you are on the borderline.

Homework:

There will be eight graded (and two ungraded) homework assignments during the semester. Depending upon how good a job you do, your homework will

receive a check-plus (4 points), a check (3 points), or a check-minus (2 points) if you turn it in; otherwise you receive 0 points. Late homework loses one point. *Late homework is no longer accepted after I pass out my suggested answers for a given assignment.*

Office Hours

The best way to contact me is by email at bcaplan@gmu.edu. Many questions and requests can be satisfied by going to my homepage at <http://www.gmu.edu/departments/economics/bcaplan>. My office is in 8 Carow Hall; my office number is 3-2324. My official office hours are MTh 1:30-3, but you can also schedule an appointment or just drop by and see if I'm available.

Tentative Schedule:

My proposed schedule for the semester follows. If it proves too ambitious, I will try to *simply say less about each topic* rather than cut the topics for the final weeks.

Part I: Game Theory

Week 1: Efficiency and Probability

- The many meanings of efficiency
- Pareto efficiency
- Kaldor-Hicks efficiency and deadweight costs
- K-H efficiency versus utilitarianism
- The comparative institutions approach and "second best"
- Moral philosophy and efficiency
- Probability, objective and subjective
- Objective versus subjective probability
- Conditional probability and Bayes' rule

Readings:

Kreps, 98-102, 149-56

Armchair Economist, chapters 7, 10, 14

Fair Play, chapters 1, 3

Caplan, Bryan. "The Austrian Search for Realistic Foundations." April 1999. *Southern Economic Journal* 65(4), pp.823-838.

Caplan, Bryan. "Probability, Common Sense, and Realism: A Reply to Hülsmann and Block." Summer 2001. *Quarterly Journal of Austrian Economics* 4(2), pp.69-86.

Homework:

HW#1 handed out.

Week 2: General Equilibrium

- Strategic interaction between maximizers
- The easy case: so many actors that *strategic* interaction doesn't matter
- Examples of general equilibrium
- General equilibrium in pure exchange economies
- Sufficient conditions for existence of general equilibrium
- Counter-examples
- The two welfare theorems
- Arrow-Debreu contingent claims markets
- Application: Intertemporal consumption

Readings:

Kreps, 187-201, 216-223

Armchair Economist, chapters 8

Homework:

HW#1 due.

HW#2 handed out.

Weeks 3-4: Intro to Game Theory

- The hard case: when strategy matters
- Extensive and normal forms
- Strictly and weakly dominant strategies
- Backwards induction
- Pure strategy Nash equilibrium
- Mixed strategy NE
- Subgame perfection
- Prisoners' dilemma
- Coordination games
- Ultimatum games

Readings:

Kreps, pp.355-63, 371-2, 376-80, 387-99, 402-25

Homework:

HW#2 due Week 3.

HW#3 handed out Week 3.

Week 5: Repeated Games, Competition, and Cooperation, I

- Finitely-repeated games
- The paradox of backwards induction
- Infinitely-repeated games
- Reputation
- Monopoly and contestability
- Allocative versus productive inefficiency
- Predation, entry deterrence, and mixed strategies
- Bertrand and Cournot competition

Readings:

Kreps, pp.399-402, 503-21, 531-6, 299-304, 325-33

Armchair Economist, chapter 16

Homework:

HW#3 due.

HW#4 handed out.

Week 6: Repeated Games, Competition, and Cooperation, II

- Bertrand and Cournot collusion
- Public goods and game theory
- Coase revisited
- More on coordination
- Bargaining
- War and peace
- Rent-seeking and lobbying inefficiency

Readings:

Kreps, pp.524-531, 551-560

Armchair Economist, chapters 4, 9, 17

Fair Play, chapter 13

Homework:

HW#4 due.
HW#5 (*not to be graded*) handed out.

Week 7: MIDTERM

Part II: Information and Rationality

Week 8: Symmetric Information

- Expected utility theory
- Rational expectations
- Application: testing for RE of economic beliefs
- Search theory and expectational equilibria
- Measures of risk-aversion
- The demand for insurance
- Efficiency implications of symmetric imperfect information

Readings:

Kreps, pp.71-86, 91-3

Armchair Economist, chapters 20, 23

Fair Play, chapter 19

Caplan, Bryan. "Systematically Biased Beliefs About Economics: Robust Evidence of Judgemental Anomalies from the Survey of Americans and Economists on the Economy." April 2002. *Economic Journal* 112, pp.433-458.

Homework:

HW#6 handed out.

Week 9: Asymmetric Information

- Moral hazard
- Adverse selection
- Signaling
- Winner's curse
- Efficiency implications of asymmetric imperfect information

Readings:

Kreps, pp.577-85, 625-38

Armchair Economist, chapters 3, 18

Thaler, chapter 5

Homework:

HW#6 due.

HW#7 handed out.

Week 10: Behavioral Economics and Irrationality, I

- The behavioral approach and choice theory
- Preference reversals
- The endowment effect and status quo bias
- Selfishness and cooperation
- Fairness and vindictiveness
- Preference heterogeneity
- Expected utility anomalies
- Loss aversion and prospect theory
- Intertemporal anomalies

Readings:

Thaler, chapters 1, 2, 3, 6, 7, 8

Kahneman, chapters 26-29

Kreps, pp.112-120

Caplan, Bryan. "Stigler-Becker versus Myers-Briggs: Why Preference-Based Explanations Are Scientifically Meaningful and Empirically Important." April 2003. *Journal of Economic Behavior and Organization* 50, pp.391-405.

Fair Play, chapter 15

Homework:

HW#7 due.

HW#8 handed out.

Week 11: Behavioral Economics and Irrationality, II

- The behavioral approach and belief formation
- Cognitive versus motivational biases
- Belief perseverance and confirmatory bias
- Availability and representativeness biases
- Risk misperceptions

- Systematically biased beliefs about economics

Readings:

Kahneman, chapters 1, 3, 7, 9, 10-12

Caplan, Bryan. 2001. "What Makes People Think Like Economists? Evidence from the Survey of Americans and Economists on the Economy." *Journal of Law and Economics* 44(2), pp.395-426.

Homework:

none

Week 12: Labor Economics

- Human capital theory
- The return to education
- Intelligence and human capital
- Signaling and the social rate of return
- Nominal rigidities
- Efficiency wages

Readings:

Thaler, chapter 4

Fair Play, chapter 16

Homework:

HW#8 due.

HW#9 handed out.

Week 13: Finance and Portfolio Theory

- Permanent income anomalies
- Liquidity constraints versus debt aversion
- PDV, diversification, and risk premia
- Mean-variance efficiency
- The efficient markets hypothesis
- Calendar effects
- Mean reversion
- Betting market anomalies

Readings:

Thaler, chapters 9, 10, 11, 12

Homework:

none

Week 14: Economics of Politics

- The Median Voter Theorem
- Rational ignorance and special interests
- The "miracle of aggregation"
- Voter ignorance, principal-agent problems, and optimal punishment
- Wittman's challenge to orthodox public choice
- "Extreme voter stupidity"
- "Serious lack of competition"
- "Excessively high transactions costs"
- Rational irrationality
- Irrationality as political pollution
- Caplan's critique of Wittman

Readings:

Kahneman, chapters 13, 22, 30, 31

* Wittman, Donald. 1989. "Why Democracies Produce Efficient Results." *Journal of Political Economy* 97(6), pp. 1395-1424.

Caplan, Bryan. "Rational Irrationality and the Microfoundations of Political Failure." June 2001. *Public Choice* 107 (3/4), pp.311-331.

Homework:

HW#9 due.

HW#10 (*not to be graded*) handed out.

FINAL EXAM
