Economists assert enormous influence within the policy world. An economics professor serves as chair of the Federal Reserve Board. An economics professor is the senior economic policy adviser to the President. Economics professors make up the Council of Economic Advisers. Economists have maneuvered themselves into the center of the policy making process, and we aren’t going away anytime soon.

As such, nobody with a PhD in public policy can afford to be totally ignorant of economics. Even if you hate economists (which would not be altogether irrational), you will still have economists dogging your steps throughout your career, asking questions at seminars, giving papers, refereeing your journal articles, writing articles you need to read for your research, and generally making nuisances of ourselves.

The goal of RPAD 703 is to equip you with the tools to understand what economists are trying to say. We will focus particularly on tools related to game theory, one of the central tools that economists use and one that is often relevant in other fields, such as political science. Learning game theory will also include learning some core tools, such as probability theory, utility theory, and intertemporal discounting. We will also look at optimization and at some of the key concerns that economists bring to empirical work.

In RPAD/RPUB 503, we have three main objectives:

1) to learn how economists think about the world and about research
2) to become familiar with key methods of economic theory
3) to gain reading comprehension skills in the economics literature

The work of the course will focus on close readings of economics papers and on developing key skills in economic modeling.
Note Well: this course will NOT train you in core microeconomic theory. If you want to learn to be a microeconomist, you need to take a course in the economics department.

Math

Economists use a lot of mathematics. To get a PhD in economics, you would need to know multivariate calculus, linear algebra, and something called “real analysis.” This level of math is NOT a prerequisite for the PhD in public administration, and therefore is NOT a prerequisite for this class. I’ll try to give you an intuitive grasp of what economists are doing when they use terms like “first order conditions,” but you should expect in the readings to encounter math beyond the level of your training. Part of the goal of this class is to give you enough intuition about what economists are trying to do that you can “read around” the technical math parts and still get the main point of an economics paper.

For the sake of problem sets, the exam, and lectures, I will assume that you are familiar with high school algebra at the level of solving systems of equations, such as

\begin{align*}
\text{(1)} & \quad Y + 3 = 4X + 1 \\
\text{(2)} & \quad Y - X = 5
\end{align*}

If you can’t solve the above problem,\(^1\) you should come and talk to me.

We’ll also use exponents and logarithms.

\[^1\text{Using the substitution method: } Y = X + 5 \text{ in (2); plugging into (1) yields } X + 8 = 4X + 1; 7 = 3X; X = 3/7; Y = 5 3/7 \text{ or } 38/7.\]
Grading

15% Presentation
20% Papers
30% Problem Sets
25% Final exam
10% Participation

Assignments

Each of you will present a professional economics paper from a leading economics journal at some point over the course of the semester. Presentations will run 30 minutes.

You will write one 3-page referee report on published papers.

You will write one 5-page paper comparing a professional economics paper to a paper published in a different literature.

There will be 6 problem sets assigned, of which you must do 5. You must choose which problem sets to hand in; I will NOT grade them all and drop the lowest. Problem sets will cover the economic tools covered in the textbook/lectures and also the professional articles.

You will take a final exam, which will cover the content of the assigned professional articles and problems similar to what was on the problem sets.

Grading

Each assignment will receive a letter grade from A to E. I translate these grades into a 4pt scale, with A = 4.0, A- = 3.66, B+ = 3.33, B = 3.0, B- = 2.66, and so on. At the end of the semester, I take a weighted average of all your grades to get your final score. The translation from this score to a final letter grade is not a matter of simple rounding. The cut-off between an A and an A- is a 3.70. The cut-off between a B and a B- is a 3.00. The cut-offs between an A- and a B+ and between a B+ and a B will be selected in part based on the distribution of scores in the class, but will probably be somewhere around a 3.55 and a 3.2.

Plagiarism and Citations

I assume you are familiar with American standards regarding plagiarism. You must familiarize yourself with the information at http://library.albany.edu/usered/plagiarism/index.html. Plagiarism is a major offense and can receive severe punishments, from automatically failing the course to being expelled from the program. If in doubt about acceptable use of sources, ask.
Correct citations are one of the more important elements in avoiding plagiarism. You will need to use the author-date format for citations and the *American Economic Review* style for your works cited: [http://www.aeaweb.org/sample_references.pdf](http://www.aeaweb.org/sample_references.pdf)

The key to a citation is that the reader must be able easily to track down the source.

**Collaboration**

You are strongly encouraged to discuss the assignments with your classmates. However, there are three rules:

1) You need to have attempted each problem or paper on your own before you talk to your colleagues about it.

2) You must write up your own papers and problem sets yourself, from scratch, without having your colleagues’ work in front of you. AT NO POINT should you be modifying a file created by someone else. AT NO POINT should one of your colleagues give you one of her documents. You may take notes on your discussions, but when you actually write up your homeworks you should set those notes to the side and not look at them. (If you get stuck, you can go back and look at your notes again, but then you need to set them aside again while you’re actually writing your answers.) If you don’t understand what your group discussed well enough to do it yourself, then you don’t understand it.

3) At the top of each assignment, you need to acknowledge whom you worked with.

**Textbook**

The textbook for this class is Herbert Gintis, 2009, *Game Theory Evolving*, 2nd edition. It has been ordered at Mary Jane Books. I may also add a book by Amartya Sen for March 5; if so, I will warn you in ample time to order the book.

Substantial class time will be devoted to working problems in Gintis, so please plan on bringing your copy with you to class.

**Readings**

This is a class on economic literacy, and the only way to learn how to read economics papers is…to read economics papers. Therefore, I’m assigning a number of journal articles. All of them are available in full-text online, either through the library website or through the provided links.
Some of the readings will be discussed in class and used to illustrate key points for the tool we are learning that week. Other readings will form the basis for the presentations you will do. Each of you will present one paper at some point in the semester. The presentations will be done the week following the coverage for the tool that reading is intended to illustrate.

I want to learn more about your interests before I finalize the list of readings. I also want to give you some range of choice over which papers you present, so the final readings schedule will depend on which papers people select.

Schedule

Except for the first week, readings and assignments are due on the date listed.

Additional readings will be assigned based on student input, and depending on what presentations people sign up for. You should expect to read one or two professional articles most weeks, in addition to reading in the textbook.

1. Jan 23: How Economists Think

2. Jan 30: Probability Theory and Discounting
   a. Gintis, ch1
   b. Handout on Probability Theory
   c. Handout on Present Discounted Value

3. Feb 6: Rational Actor Theory
   a. Problem Set 1 due
   c. Gintis, ch2

4. Feb 13: Introduction to Game Theory
   a. Gintis, ch3, ch4.1-4.7, 4.11, 4.21
      http://www.economics.harvard.edu/faculty/kremer/files/vaccine1.pdf
5. Feb 20: Nash Equilibrium in Pure Strategies
   a. Problem Set 2 due
   b. Gintis, ch 5.1-5.2, 5.7-5.8, 5.10-5.13, 5.19

6. Feb 27: Nash Equilibrium in Mixed Strategies
   a. Gintis, ch6.1-6.5, 6.13, 6.31, 6.35
   b. Problem Set 3 due

7. March 5: Welfare Economics
   a. Readings TBA

SPRING BREAK

8. March 19: Application: Auctions
   c. Referee report due

9. March 26: Selection and Moral Hazard

10. April 2: Optimization
    a. TBD: one of Amartya Sen’s books
    b. Problem Set 4 due

April 9: No Class

11. April 16: Principal-Agent Problems
    a. Problem Set 5 due
    b. Gintis, ch5.3, 7.1-7.4, 7.7

12. April 23: Information Revelation
    a. Gintis, ch8, sections TBA
13. April 30: Repeated Games
   a. Gintis, ch9-10, sections TBA
   b. Problem Set 6 due

14. May 7: Finale
    a. Comparison paper due

15. TBD: final exam
    (The exam could be scheduled for any point during exam week, but it is highly probable that it will be at 5:45 on May 14.)
I’ll decide exactly which articles to assign, and which ones are assigned to the class as a whole and which are assigned for presentations, after surveying the class.

Introduction to Game Theory

a. Government incentives for R&D; health policy:
   http://www.economics.harvard.edu/faculty/kremer/files/vaccine1.pdf

b. Effects of government purchasing; health policy:

Nash Equilibrium in Pure Strategies

a. Education policy:
   http://kuznets.fas.harvard.edu/~aroth/papers/bostonMay182006.pdf

b. National security:

Nash Equilibrium in Mixed Strategies

a. Management:

b. Encouraging small businesses; auctions:
Application: Auctions


Optimization

a. Corporate governance:
Malmendier and Tate, CEO Overconfidence and Corporate Investment

b. Health policy:

Selection and Moral Hazard

a. Environmental policy:
b. Health policy:
c. Health policy:
d. Health policy:

Principal-Agent Problems

a. Management:

Information Revelation

a. Charity:

b. e-commerce; auctions:

c. e-commerce:
   a. You may also be interested in Dellarocas, 2010, “Online Reputation Systems: How to Design One that Does What You Need,”