Intro to Economic Analysis

Alberto Bisin - NYU

1 General information

1.1 Location and times

- Course: Mondays and Wednesdays 11:00-12:15, Paulette Goddard Hall B, 79 Washington Square East.
- Labs: Wednesdays 2:00-3:15, Tisch Hall UC57; Fridays 11:00-12:15, Waverly Building 429

1.2 Contact information

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1.3 Goal

- Introduction to Economic Analysis is the introductory course of the theory concentration major in Economics. It is intended for students who wish to begin their formal study of economic reasoning. Its goal is to develop concepts and analytical tools that economists use to understand general social and economic phenomena. As such it relies on a higher level of abstraction and focuses on the concepts and the techniques of economic analysis rather than on the understanding of specific economic problems or institutions. It is particularly well suited for those who are interested in pursuing careers or higher degrees in economics or in quantitative fields such as finance.
1.4 Readings

- **There is no main book for this course.** You will hate this, but there is no way out. There is no book which covers the material of the course with the "right" (not too much, not too little) mathematical precision. But a handout will be given for each class. Also, all the handouts are available for downloading in PDF format from my web page.\(^1\)

The following books might be useful at times.


- For some classes specific references will be given, to accompany the handout. Papers will be posted on my webpage; books will be available at Bobst library (70 Washington Sq. South) and, most probably, at the NYU Book Center (18 Washington Pl.). Also, the books are available at any of the online booksellers. You can check (www.amazon.com or www.pricenot.com for the lowest price).

1.5 Office hours

- By appointment. Feel free to drop by my office to ask questions, or even just to introduce yourself. You can e-mail any question, and I will try to respond promptly.

- The T.A. has formal office hours: Thursday, 10:30-12:30 (provisionally). You can also e-mail your questions.

1.6 Mathematics

- How much math do you need? Economists very often express their ideas using mathematical concepts simply because these allow them to express themselves more precisely than with spoken language. Virtually, all the math we will use comes from high school algebra and geometry. Still, more than a little brushing up might be helpful. In any case, we will explain thoroughly any mathematical concept we use and introduce. Again, the handouts will be distributed. Nonetheless, it is very useful that you have

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\(^1\)Thus, you need Adobe Acrobat Reader Version 4.0 to read these files. If you do not have Acrobat Reader installed, you can download it from Adobe Home Page (www.adobe.com). If you already have Acrobat Reader installed, you can start the Adobe Viewer simply by clicking on the link to a file on my web page.
some fun doing math and formal logical reasoning. If you are still worried, Simon-Blume (1994) is a great reference to read and feel strong and prepared for the course. (But sometimes it has the opposite effect: you read it, do not understand it, and either drop the course or start it all freaked-out. To you the decision to read it or not at this point. I will just note that success in the course is much more correlated with how much fun you have doing math than with how much math you know!).

1.7 Problem sets
- Each week (typically on Wednesday) a problem set will be assigned and will generally be due on the first class the following week. The problem sets are meant to be learning tools but are mandatory. Do them yourself!

1.8 Exams
- The requirements for a grade in the class are as follows:

There will be 10 or more mandatory problem sets, worth approximately 25% of the class grade.

There will be two mid-term exams: the first midterm is pass/fail, while the second midterm will be worth approximately 25% of grade.

The will be a final exam, worth 50% of the grade.

The exams will test your basic knowledge of the course material and your ability to apply this material to new problems.

2 Outline

There are 28 classes. This is the distribution by topics, and the dates of the midterms.

- Introduction and motivation (1 class).
  - Economics is a broad-ranging discipline, both in scope and in the methods been used. We will introduce it by means of examples.
  - A good reading to be introduced to economics is G. Becker’s Nobel lecture posted on my web page.

- Rationality, Preferences, and Choice (2 classes).
  - This section of the course introduces formally the rational agent paradigm which is the central tool of economic analysis. We will characterize what rationality implies regarding the economic agent’s preferences, and choice. Topics discussed include: completeness and transitivity of preference orderings; utility representation; utility maximization.

- Consumer Choice (2 classes)
  - This section introduces the maximization problem which underlies consumption choice with a fixed budget. This is the workhorse model in economics. (It is boring, but important as it is used repeatedly in this course.)

- Review class and then the first midterm examination. We will schedule dates in class.

- Markets and Exchange (2 classes).
  - Here, we investigate the fundamental economic problem of allocation of commodities through competitive markets. What determines prices? Why is water cheap and gold expensive, even though water is necessary for life, hence more "valuable"? When is the allocation of commodities through competitive markets efficient? Topics discussed include: competitive equilibrium and the First theorem of welfare economics; gains from trade.
  - Before this class, read any version of the *King Midas’* myth.
  - Those of you with interests on the history of ideas should look at G. Stigler’s paper on Ricardo’s (and Marx’s) ‘labor theory of value,’ posted on my webpage.

- Time and Uncertainty (3 classes).
  - In this section, by using the techniques that we have already learned, we examine the consumer’s saving and consumption behavior over time, and the determinants of economic growth and development. We then deal with preferences and choice under uncertainty. Topics discussed include: Permanent Income Hypothesis, endogenous growth, expected utility, risk aversion.
  - Finally we study the issue of asymmetric information: why bad money drives out good money (and bad cars drive out good cars), why managers hold part of their shares as signal; why you are studying difficult irrelevant stuff (e.g., this course for you, ancient Greek for me).
- On consumption and saving you might want to read C. Meghir’s introduction to Friedman’s Permanent Income Hypothesis, posted on my webpage.

- On growth you should read W. Easterly, *The Elusive Quest for Growth*, MIT Press, 2001. It will give you a clear sense of the damages "bad economics" can inflict.

- Financial Markets and Arbitrage (3 classes)

  - Here, we apply the previous analysis of competitive markets, exchange, and price determination to a specific set of markets: financial and monetary markets. Are stock prices "predictable"? Are arbitrage opportunities available in equilibrium? Does it matter how a firms finances itself? Topics include: Black and Scholes formula, no arbitrage theorem, Modigliani-Miller Theorem.

  - See the *Wall Street Journal’s* Dartboard Contest, at http://www.investorhome.com/darts.htm

- Economic Policy (3 classes)

  - This section will introduce the analysis of economic policy. Is economic policy effective? How should policy institution be designed to realize efficient outcomes? In particular, is it better to set rules for policy institutions to follow, or allow discretion? Topics discussed include: Monetary Neutrality, Ricardian equivalence, Time-inconsistency of policy/Reputation.

  - You might want to read R. Lucas’ Nobel lecture on Monetary Neutrality, posted on my web page. Also, try and read Sargent and Wallace’s *Unpleasant Monetarist Arithmetic*, posted on my web page (I say ‘try and read’ because this is a real paper, actually a classic paper, not a survey or a Nobel lecture).

- The second midterm examination. We will schedule the date in class.

- Game Theory (3 classes).

  - Game theory is a natural generalization of the single decision-maker theory which deals with how a utility maximizer behaves in a situation in which her payoff depends on the choices of another utility maximizer. Topics discussed include: Normal form games, Nash equilibrium in pure and mixed strategies, Extensive form games, Subgame perfection.

  - While it is not required, those of you who hate my notes have now a good book to study on: M. Osborne’s *An Introduction to Game Theory*, in particular chapters 2, 4, 5.
• Norms, Cooperation, and bargaining (2 classes)
  
  – In this section we will address, using the tool of game theory just developed, a set of questions which are fundamental for all social sciences and biology as well: How do norms of behavior emerge? How is it that non-altruistic agents (animals) cooperate? What is the outcome of a bargaining process? Topics discussed include: Folk Theorem, Evolutionary game theory, Rubinstein’s bargaining.
  
  – Again, a good reference for this material is M. Osborne’s book; in particular chapters 13, 14, 16.

• Empirical Analysis (3 classes).
  
  – In this section we introduce some of the methods economists use to empirically test their theories and to measure (estimate) the relevant parameters values of their models. The success of specific models, forecasts of prices and quantities, and policy recommendations, ultimately are all based on empirical analysis. Topics discussed include: Regression analysis, Causality, Selection.

• We will have a review class on the last class. The final examination will be held during the university exam week and the date will be scheduled in class.