This is the last of the microeconomics courses in the Economics Ph.D. program. It covers the basics of game theory, imperfect information models, general equilibrium analysis, and welfare economics. While there is a substantial amount of theoretical material to cover, the course does cover several applications of the theory, especially of game theory.

The class meets on Tuesdays from 5:30 p.m. to 8:00 p.m. in Speakman 115. I can be found in Ritter Annex 813, telephone number 215-204-8169. My office hours there are Tuesdays and Wednesdays 3:00 p.m. to 4:15 p.m. Appointments for other times can always be arranged by email. Occasionally I will have to cancel or change a scheduled office hour period, depending on my committee meeting schedule. I will provide warning on such changes on Blackboard as early as is feasible.

My email address is dimitrios.diamantaras@temple.edu and I encourage you to use it for most of your questions about the course. Questions on the material and the homework problems will be most welcome all semester long, whether submitted by email or asked in person in office hours. Do not ever delay asking a question! Also, the course is available on Blackboard, and you should monitor activity there regularly for announcements and handouts.

There will be regular homework assignments throughout the semester. The assignments will be graded and the homework average grade will count for 20% of the final grade. There will be an in-class closed-book midterm exam (30% of the final grade) and an in-class closed-book cumulative final exam (50% of the final grade). If a student improves his/her grade on the final exam compared to that of the midterm, the final exam grade will serve for 80% of that student’s grade. I will give no make-up exams or incomplete grades, unless a student proves to my satisfaction that he/she missed an exam for a reason at least as serious, in my judgment, as being hospitalized on the day of the exam; if such an exception is to occur, I must receive notification of the emergency before the start of the examination.

Microeconomics is a vast field. The following tiny selection of books will be referred to in the course outline below. Double-starred items are mandatory readings and are available in the bookstore or will be distributed in class. All other items are recommended readings.
Sources

**Diamantaras, D., K. Campbell, E. Cardamone, S. Deacle, and L. Delgado, A Toolbox for Economic Design, Palgrave Macmillan, 2009, henceforth denoted by “T”**. This is the product of a four-year long effort by myself and four graduate students to write an accessible introduction to the field of economic design. My co-authors were motivated to study this field in more detail when they took this very course.

**Mas-Colell, A., M. Whinston, and J. Green, Microeconomic Theory, Oxford University Press, 1995 (henceforth denoted by “MWG”).** This is a great comprehensive text, and an essential reference book for you to own and use for many years to come; I suggest that you ration out the unassigned part of the book for you to read in your free time, preferably before you start your dissertation research; you will find this effort richly rewarding. You should not be discouraged by MWG’s level of mathematical sophistication; I am here to help you get over the mathematical jargon and into the heart of the matter if further help is required. Also, the Toolbox for Economic Design has been written in such a way as to provide a gradual introduction to the systematic use of mathematical notation to express economic ideas. The reason that economics uses so much mathematical notation is that it is an essential tool for doing economics carefully, i.e., correctly.

**Osborne, M.J., An Introduction to Game Theory, Oxford University Press, 2004 (henceforth denoted by “O”).** A first-rate book on game theory, targeted to the advanced undergraduate student. It makes an excellent companion to the dense chapters on game theory in MWG.


**Milgrom, P., Putting Auction Theory to Work, Cambridge University Press, 2004 (henceforth denoted by “M”).** A fine text on auctions. It discusses the mechanism design approach to the design of auctions and many of the real-life complications the auction designer faces. Written by one of the pioneers of the FCC spectrum auction design in the 1990s, who is also a great expositor of difficult concepts.

**Wolfstetter, E., Topics in Microeconomics: Industrial Organization, Auctions, and Incentives, Cambridge University Press, 1999.** This “alternative” textbook emphasizes the most recent developments in partial equilibrium
analysis, making heavy use of game theory. It covers a wide range of topics, and I highly recommend perusing it in order to round off your microeconomics education and to look for appetizing areas in which to specialize and do research.


Gardner, R., *Games for Business and Economics*, Wiley, second edition, 2003. This is a nice account of (mostly noncooperative) game theory written from the point of view of someone interested in applications to the business world. It is a good choice of a book to be read in parallel with the more notation-heavy chapters on game theory in JR or MWG, although O may be sufficient for this purpose.


Salanié, B., *The Economics of Contracts: A Primer*, second edition, MIT Press, 2005. A nice introduction to contract theory, roughly at the level of MWG, but with more space to devote to the topic than MWG could afford.


**Course Outline**

This outline is subject to small changes as the semester proceeds. Mandatory readings appear in boldface type.

**1 September** Institutions in economics, social choice.  **T, Chapter 1; MWG, Chapter 21.**

**8 September** Private good economies. **MWG Chapter 15.**

**15 September** Public good economies.  **T, Chapter 11 (Appendix).**

MWG Chapter 11, William Thomson’s 1999 survey (will be distributed).
22 September  Public good economies, continued.

29 September  Game Theory I. Foundations. MWG Chapter 7, O Chapter 1.


13 October  Game Theory III. Normal Form Games: Nash equilibrium. MWG Section 8.D, O Chapters 2, 3, 4.

20 October  MIDTERM EXAM: In-class, closed-book exam.

27 October  Game Theory IV: Bayesian Games. MWG Section 8.E, O Chapter 9.

3 November  Game Theory V. Extensive Form Games: SPE, WPBE, PBE. MWG Sections 9.B,C, O Chapters 5, 6, 7, 10.

10 November  Information Economics. MWG, Chapters 13 and 14, JR Chapter 8.


24 November  No class; treat this day as a Thursday (see Temple University’s 2007—2008 academic calendar).

1 December  Bayesian Equilibrium and Mechanism Design. T, Chapter 4.

8 December  Application of Mechanism Design to Auctions and Bilateral Trading. T, Chapter 4, MWG Sections 23.E, F.

15 December  FINAL EXAM: in-class, closed-book exam.