UNIVERSITÄT HEIDELBERG

ALFRED WEBER-INSTITUT

DR. STEFAN BEHRINGER

Master   SoSe 2012

Title: Game Theory with Applications
Language of Instruction   English
Lecture / Tutorial   4 h.p.w. (SWS)
Day / Time / Room   Lectures Wed 11:00-14:00 ÜR 02.036 and
                              classes every other week Mo 13:30-16:00 HS04a

Prerequisites:
Prerequisites for successful completion of this course are a good knowledge of calculus and some statistical basics. Preferably you have taken an advanced microeconomics course before.

Content:
This is a course in game theory and its applications. We study the strategic interactions of rational players and its consequences for applications such as oligopolistic competition. After an introduction to the basic concepts of game theory we look in detail at repeated games and their application to the behaviour of cartels. We will then look at games of incomplete information and apply them to some simple auctions. Eventually we may look at some fundamental results of mechanism design theory and the useful tools of optimal control theory.

Literature:
Main Text is Fudenberg, Drew & Tirole, Jean (1991): Game Theory, MIT Press, Cambridge.

Other Literature:
Gibbons, Robert (1992): Game Theory for Applied Economists, (A Primer in Game Theory), University Press, Princeton. (Simpler)
Mailath, George, & Samuelson, Larry (2006): Repeated Games and Reputations, Oxford UPress. (Advanced)
Milgrom, Paul (2004): Putting Auction Theory to Work, University Press, Cambridge. (Advanced)
Börgers, Tilman (2009): An Introduction to the Theory of Mechanism Design, available at http://www-personal.umich.edu/~tborgers/LectureNotes.pdf, forthcoming University Press, Oxford. (Advanced)
Mas-Colell, Andreu, Whinston, Michael, & Green, Jerry (1995): Microeconomic Theory, University Press, Oxford. (Broad)
Jehle, Geoffrey & Reny, Philip (2001): Advanced Microeconomic Theory, 2nd Ed., Addison Wesley Longman, New York. (Broad)
Weber, Thomas (2011): Optimal Control Theory with Applications in Economics, MIT Press. (For the mathematically inclined)