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Carnegie Mellon University
73-440 Auctions and Markets
Second Semester 2009-2010

SYLLABUS

Overview

Partly analytical, partly experimental, and partly data driven, this course shows how the outcomes of different types of auctions, contracts and markets depend on the characteristics of the bidders and traders, the bidding or trading rules, and the information that the traders have. The course makes extensive use of Comlabgames to simulate the various trading mechanisms we analyze.

Class Website

Lecture material, including the power point slides and in class games, instructions for projects are found at

<http://www.comlabgames.com/73-440>

Course Material and Textbook

To take this course you must own a laptop computer, which should be brought to every class. The course extensively uses the new Comlabgames module found at

<http://www.comlabgames.com>

Comlabgames is free software for designing, running and analyzing experimental games over the Internet for teaching, consulting and research purposes. The text for this class is "Strategic Play" written by Vesna Prasnikar and myself (Stanford University Press, forthcoming 2010). A draft of the manuscript is posted at the class website.

Assessment

Three projects, worth 20 percent each, and two tests, worth 15 percent each, help determine your grade. The first project is on limit order markets and competitive equilibrium, the second project is about individual optimization and bargaining, while the final project is on contracting and auctions. The final 10 percent of your grade will be determined from your participation and performance in classroom experiments in class.

Schedule

Part 1: Limit Order Markets

1. Introduction
2. Arbitrage Pricing

Part 2: Competitive Equilibrium

1. General Equilibrium
2. Differentiated Products
3. Portfolio Choices
4. Rational Expectations

Project 1

Part 3: Individual Optimization

1. Investment
2. Contraction Mapping
3. Uncertainty
4. Risk Aversion

Midterm Examination

Part 4: Bargaining

1. Setting the Agenda
2. Incomplete Information
3. Revelation Principle

Project 2

Part 5: Contracts

1. Nonlinear Pricing
2. Employment Contracts
3. Moral Hazard
4. Hidden Information

Part 6: Auctions

1. Optimal Bidding
2. Equivalent Auctions
3. Affiliated Valuations
4. Monopoly

Project 3

Final Examination