Auction theory and applications

Summer 2016

Lecturer: ao. Univ.-Prof. Mag. Dr. Ana B. Ania
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Lectures: Lectures take place on Mondays and Tuesdays between March 1st and June 28, 2016.
Mondays at 09.45-11.15 in seminar room 13, 2nd. floor.
Tuesdays at 08.00-09.30 in seminar room 13, 2nd. floor.

ECTS points: 8 ECTS credit points (4 hours) in the Economics Master.

Registration: Online registration.

Prerequisites: Game theory with some notions of Bayesian and sequential games; basic knowledge of probability theory, specifically the use of distribution functions and calculus of expectations.

Objectives: Students are introduced to the basic auction formats, they learn how to compute equilibrium bidding strategies and expected revenues for the seller, both for the case of independent private values as well as for the case of affiliated interdependent values; they are also introduced to the theory of mechanism design and optimal auctions and they get a glimpse in the practicalities of auction design by looking in some detail to existing internet auctions.

Content: Basic auction formats, revenue equivalence, optimal auctions, auctions with interdependent values, multi-unit auctions and sequential sales. Applications to internet and spectrum auctions.

Methods: The analysis is done using game theory, mechanism design, and basic probability theory.

Grading: Students are expected to attend and participate actively in class. They will get homework assignments that they can solve using all class materials and in discussion with other students. Two compulsory written exams will take place in the course of the semester. For the exams students are only allowed to use a scientific pocket calculator (no online devices). The final grade will correspond to the sum of points in a midterm (up to 50 points) and a final exam (up to 50 points). Students are required 50 out of a 100 points to pass the class. Regular class participation and homework assignments can improve the final grade up to 20 points.

Exam dates: Midterm on April 25th at 9.45 a.m. Final on June 28th at 8.00 a.m.

References:

*** Vijay Krishna. Auction Theory. Academic Press.

** Paul Klemperer. Actions: Theory and Practice. Princeton University Press.

** F. Menezes and P. Monteiro. An Introduction to Auction Theory. Oxford University Press.

* Paul Milgrom. Putting Auction Theory to Work. Cambridge University Press.

* David Salant. A Primer on Auction Design, Management, and Strategy. MIT Press.

Materials: Students can access class materials in the Moodle site for this course.
https://moodle.univie.ac.at/course/view.php?id=48578