



## *The Hebrew University of Jerusalem*

### *Syllabus*

## *Auctions - Theory and Practice - 55809*

*Last update 10-10-2021*

*HU Credits: 3*

*Degree/Cycle: 2nd degree (Master)*

*Responsible Department: Business Administration*

*Academic year: 0*

*Semester: 1st Semester*

*Teaching Languages: Hebrew*

*Campus: Mt. Scopus*

*Course/Module Coordinator: Dr. Liad Blumrosen*

*Coordinator Email: [blumrosen@huji.ac.il](mailto:blumrosen@huji.ac.il)*

*Coordinator Office Hours: Wednesdays 16:30-17:15 - by appointment,*

*Teaching Staff:*

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Dr. Liad Blumrosen

Course/Module description:

We will learn how to build a model for an auction, and analyzing this model. The theoretical analysis will use tools from game theory and auction theory. We will also discuss empirical and experimental results that approve or disprove the theoretical predictions. We will run several class experiments to demonstrate the main insights from game theory and auction theory. Examples will be given from real-life auctions. We will also discuss reverse (procurement) auctions and analyze some popular reverse auction formats.

Course/Module aims:

Knowledge in game theory and auction theory.  
Familiarity with different auction formats in various business environments.

Learning outcomes - On successful completion of this module, students should be able to:

Auction design and bidding. Analyzing business situations and decision making using game theory.

Attendance requirements(%):

80

Teaching arrangement and method of instruction: Lecture

Course/Module Content:

Topics:

1. A short introduction to game theory: Games in normal form, Dominant Strategies and Nash Equilibrium.
2. Introduction to Auction Theory: via analysis of simple single item auctions.
3. Efficiency and revenue in auctions, revenue equivalence.
4. Private values vs. common values.
5. Auctions for multiple items. VCG mechanisms.
6. Applications: online advertising, stock markets, internet platforms.

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7. *Procurement Auctions:*

*dynamic vs. static, role of common values, scoring rules and quality.*

Required Reading:

1. *"The Art of Strategy: A Game Theorist's Guide to Success in Business and Life"* by Barry J. Nalebuff and Avinash K. Dixit.

2. *"Intermediate microeconomics "*, Hal Varian, , W.W. Norton, Chapter 18: Auctions, chapters 29-31 (Game Theory and behavioral)

3. *"Combinatorial Auctions:",* by Peter Cramton, Yoav Shoham and Richard Steinberg, The MIT Press, Chapter 23.

4. *"Best Practices for Online Procurement Auctions"*, Diane H. Parente.

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 78 %

Presentation 0 %

Participation in Tutorials 7 %

Project work 0 %

Assignments 15 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information:

*Some changes may occur - they will be published on the course web site and during the first meeting of the course.*