האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Electronic Commerce and Advertising - 55773

Last update 16-09-2020

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*

Coordinator Office Hours:

Teaching Staff:

Dr. Liad Blumrosen

Course/Module description:

Due to the explosive growth of the Internet in recent years, many forms of trade and commerce have been moving to the Internet or to similar computer networks. This course will lay the foundations for the design of large internet-based electronic commerce systems. We will use methods from game theory and auction theory to analyze several multi-billion dollar commerce systems; this analysis will be accompanied by examples from real world markets. A particular focus will be given to online advertising systems, their structure and performance. We will study design issues behind recommendation systems and online communities, and explain how digital currencies work. We will discuss mechanisms used by large Internet companies as Google, Facebook, eBay, Yahoo, Amazon, Tripadvisor and Yelp.

The courses presents several case-studies about modern e-commerce systems and we will discuss their effect on managerial decision making.

Course/Module aims:

Understand the fundamentals of electronic market design. Explain the complex structure of online advertising and online communities and the economic considerations behinds them.

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

Understand major design and incentive issues in internet commerce and online advertising.

Understanding the structure and the logic behind advanced Internet-based systems, as recommendation systems, prediction markets, electronic currencies etc.

Attendance requirements(%):

75%

Teaching arrangement and method of instruction: Lectures, Problem sets (3-4 sets), Final exam.

Course/Module Content:

Auction design fundamentals:
o Basic game theory concepts.

o Auctions for a single item: efficiency and revenue.
o Multi-item auctions: VCG, the simultaneous ascending auction.

Online advertising:
o History, business models, market structure, SEM's, ad-exchanges, sponsored search and adWords.
o The generalized second price auction, equilibrium analysis, Google vs. Facebook, two-sided market platforms.
o Consumer search and the long tail.

Online currencies: the BitCoin example.

Wisdom of the Crowds and Commerce:
o Recommendation systems and online communities.
o Prediction markets and scoring rules.
o Crowdsourcing.
o Privacy and private data.

Required Reading:
Reading list includes chapters from several books (partial list below), academic articles, and some articles from popular media.

• E-Commerce 2019: Business, Technology and Society, Global Edition Laudon, Kenneth C.

• "Algorithmic Game Theory", by Nisan, Roughgarden, Tardos and Vazirani. Cambridge University Press.

• "Auctions: Theory and Practice", by Paul Klemperer. The Toulouse Lectures in Economics.

• "Combinatorial Auctions", by Cramton, Shoham and Steinberg.

• "Bitcoin and Cryptocurrency Technologies", Narayanan et al. Draft textbook.

• "Networks, Crowds, and Markets", by Kleinberg and Easley.

• "Recommender Systems: An Introduction", Cambridge University Press (2010).

• "Building Successful Online Communities: Evidence-Based Social Design.", by Kraut and Resnick. MIT Press.

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 50 %
Assignments 50 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
Calculation of the final grade and the course's requirements may change - will be presented in the first class and on the course's web page.

Under Corona related restrictions, the course will be taught online, with participation requirements.

The final project will be in a format of a home exam (or online exam).