The Hebrew University of Jerusalem

Syllabus

Issues on Border of Economics and Computation - 67677

Last update 12-12-2023

<u>HU Credits:</u> 2

<u>Degree/Cycle:</u> *2nd degree (Master)*

<u>Responsible Department:</u> *Computer Sciences*

<u>Academic year:</u> *0*

<u>Semester:</u> *1st Semester*

<u>Teaching Languages:</u> *English and Hebrew*

<u>Campus:</u> *E. Safra*

<u>Course/Module Coordinator:</u> *Prof Moshe Babaioff, Dr. Alon Eden*

<u>Coordinator Email:</u> [moshe.babaioff@mail.huji.ac.il, alon.eden@mail.huji.ac.il](mailto:moshe.babaioff@mail.huji.ac.il)

<u>Coordinator Office Hours:</u>

Teaching Staff:
  Prof Moshe Babaioff

Course/Module description:
  In recent years, especially due to the emergence of the Internet, new research directions combine computational issues with economic and game-theoretic issues. This course will present central results from this border.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:
  The students will be able to combine computational and economic considerations, where appropriate.

Attendance requirements(%):
  0

Teaching arrangement and method of instruction:

Course/Module Content:
  Mechanism design, auctions including combinatorial auctions and ad auctions, "price of anarchy", digital goods, learning in games, potential games, equilibrium computation, and related topics.

Required Reading:
 Selected chapter from the book ALGORITHMIC GAME THEORY edited by NISAN, ROUGHGARDE, TARDOS, VAZIRANI published by CAMBRIDGE UNIVERSITY PRESS (free online edition available)

 Additional Reading Material:

 Grading Scheme:

Additional information:
  Givat-Ram Campus.

Third year BSc students can register following approval from the course coordinators (email your grade sheet).