



Rothberg International School
בית הספר לתלמידים מחו"ל ע"ש רוטברג
THE HEBREW UNIVERSITY OF JERUSALEM
האוניברסיטה העברית בירושלים



Department of Summer Courses
and Special Programs

המחלקה לקורסי קיץ
ותוכניות מיוחדות

**The Hebrew University International Summer Program in Economics
Education (ISEE) - 48789**

June 29 – August 10, 2020

Academic Hours: 90 | Credits: 6

Course Description:

The program consists of seven modules in Economics and Finance designed to prepare students for graduate studies in leading universities in the U.S. and Europe. Each module covers an essential area in the field of economics at a mid-advanced level. The modules taught are in Microeconomics, Macroeconomics, Finance, Public Finance, Econometrics and Behavioral Economics..

Students can also choose to participate in an optional workshop in which students will engage in an independent research study under the guidance of a mentor from the Economics Department.

Course Requirements

- Class attendance and participation.
- A written test on the last day of the course.

It is mandatory for all students to attend classes and participate in class activities. Failure to attend classes will result in a student being denied the right to partake of the final assignment and receive a final grade in a course. Students who have a justified reason to miss class (illness, mourning, etc.) must communicate with their instructors and the Department of Summer Courses and Special Programs, and complete the material that they have missed.

Students who have missed class due to illness must obtain a signed and stamped sick note from a treating physician and submit it to the Dept. of Summer Courses and Special Programs immediately following their return to class. Failure to do so will result in an unexcused absence.

The Department reserves the right to refer the issue to an Academic Committee. In some cases, the Academic Committee may decide, in light of the requirements of the course, that it is not possible to make up the missing course work.

Grading Rubrics

- Participation and attendance: 20% of the final grade
- Final examination: 80% of the final grade (for students taking the research workshop, the final paper will be worth 20% of the final grade and the exam worth 60%)

Description of modules:

1. Microeconomic Theory 1

Alex GersHKov

The design of the institutions through which individuals interact can have a profound impact on the results of that interaction. The theory of mechanism design takes a systematic look at the design of institutions and how these affect the outcomes of interactions. The main focus of mechanism design is on the design of institutions that satisfy certain objectives, assuming that the individuals interacting through the institution will act strategically and may hold private information that is relevant to the decision at hand. In this short course we will cover some of the fundamental results in the theory of mechanism design. Preliminary list of topics includes:

- Dominant strategy
- Gibbard – Satterthwaite Theorem
- Vickrey-Clarke-Groves Mechanism (budget balance; uniqueness)
- Single-peaked preferences
- Bayesian mechanism design
- Expected externality mechanism
- Characterization of Bayesian incentive compatibility
- Revenue equivalence and optimal auctions
- Myerson-Satterthwaite Theorem
- Public good provision
- Correlated types

References:

- Borghers, T., (2015): "An introduction to the Theory of Mechanism Design," *Oxford University Press*.
- Mas-Colell, A., Whinston, M., and J. Green (1995) "Microeconomic Theory," *Oxford University Press* (Ch. 23).
- Moulin, H. (1980), "On Strategy-Proofness and Single Peakedness," *Public Choice* **35**, 437-455.

2. Microeconomic Theory 2

Liad Blumrosen

This course crystallizes some fundamental ideas in microeconomics via the study of auctions and market design. The first part of the course will discuss auctions for a single item. We will analyze dominant strategy and Bayesian equilibria in such auctions, revenue equivalence and revenue maximization. The second part of the course will cover general multi-unit assignment problems. We will study the Vickrey-Clarke-Groves mechanisms, the connection to market equilibria and Walrasian prices, and the design of iterative auctions. We will analyze in detail the auctions used by search engines (e.g., Google) to sell sponsored ads, and auctions used by the US FCC to sell spectrum licenses.

References:

- *Auction Theory* (Second Edition, 2010), Vijay Krishna, Academic press.
- *Simultaneous Ascending Auctions*. Peter Cramton. Published in Peter Cramton, Yoav Shoham, and Richard Steinberg, eds., *Combinatorial Auctions*, Cambridge, MA: MIT Press, chapter 4, 2006.
- *Incentives in Core-Selecting Auctions*, Paul R. Milgrom and Robert Day . *Int. J. Game Theory* (2008)
- *Internet Advertising and the Generalized Second-Price Auction: Selling Billions of Dollars Worth of Keywords*. Edelman, Benjamin, Michael Ostrovsky, and Michael Schwarz. *American Economic Review* (2007).

3. Econometrics

Alon Eizenberg

The econometrics class will include four lectures covering several topics, emphasizing methods utilized in applied microeconomic research. We begin by reviewing the general regression framework, noting that it covers nonlinear and nonparametric regressions as special cases. We then explore the binary response model which can be used to analyze a large range of microeconomic choices (e.g., whether or not to purchase life insurance). We show how to apply this framework using linear, nonlinear and nonparametric specifications, discussing the relative advantages and disadvantages of each approach. We further cover selection models and their relevance for applications in the area of labor economics. If time permits, additional applied topics will be covered, such as corner solution models.

References:

- Wooldridge, J.M., 2010. *Econometric Analysis of Cross Section and Panel Data*," The MIT Press, Cambridge, Massachusetts
- Pagan, A., and Ullah, A., 1999, *"Nonparametric Econometrics,"* (Themes in Modern Econometrics), Cambridge University Press
- Goldman, D.P., 1995: *"Managed Care as a Public Cost-Containment Mechanism,"* The RAND Journal of Economics, 26(2): 277-295

4. Finance

Ilan Kremer

The finance module will give a review of modern finance. This will include corporate finance, disclosure of information, NPV, IRR and portfolio model, the CAPM – capital assets pricing model and interest rates, options and futures, bond markets, Merton's model and its applications to corporate finance including convertible debt, dividend payments and credit risk assessment. We will explore the intuition behind the main financial models, but given the time constraints we will not go into technical details. We will also look at topics related to financial crisis.

5. Public Finance

Esteban Klor

The first part of this module will focus on models of social choice. These models rely on individuals' preferences. We will analyze different mechanism to aggregate those preferences. We will try to determine which mechanism is the most desirable based on pre-defined axioms of social choice. We will study theoretical and empirical applications related to income redistribution. The second part of this module will focus on the behavior of rational individuals in situations where the entire society shares a common goal.

References:

- Acemoglu and Robinson (2013). "Economics versus Politics: Pitfalls of Policy Advice," *Journal of Economic Perspectives*, 27(2), 173-192.
- Meltzer and Richard (1981). "A Rational Theory of the Size of the Government," *Journal of Political Economy*, 89(5), 914-927.
- Karabarbounis (2011). "One Dollar, One Vote," *Economic Journal*, 121(553), 621-651.
- Fernandez and Rogerson (1995). "On the Political Economy of Education Subsidies," *Review of Economic Studies*, 62(2), 249-262.
- Roemer (2001). *Political Competition: Theory and Applications*, Harvard University Press.

6. Behavioral Economics

Eyal Winter

Behavioral Economics deals with the interface of Economics and Psychology. It uses experimental and empirical methods to investigate economic behavior in the context of consumption, financial decisions and strategic interactions. We will primarily focus on team behavior. We will discuss several papers on peer effects in teams, on contracting between agents and a principal and on the role of inequality aversion in team incentives.

References:

- John Kagel and Alvin Roth "The Handbook of Experimental Economics" by (1995) Princeton University Press.
- Winter, E. (2009) "Incentive Reversal." American Economic Journal: Microeconomics 1(2) 133-147.
- Winter, E. (2004) "Incentives and Discrimination" American Economic Review. 94, 3 764-773.
- Esteban F Klor, Sebastian Kube, Eyal Winter, and Ro'i Zultan. (2014) Can higher rewards lead to less effort? incentive reversal in teams. Journal of Economic Behavior & Organization, 97:72–83.
- Sebastian J. Goerg, Sebastian Kube, and Ro'i Zultan. (2010) Treating equals unequally: incentives in teams, workers' motivation and production technology. Journal of Labor Economics, 28(4):747–772

7. Incentives in Organizations

Eyal Winter

The course will survey some of the recent theoretical literature on incentive schemes in teams with special emphasis on the role peer effects in these schemes. While most of the course builds on theory papers we will also discuss experimental and empirical papers on team behavior and on peer effects in teams. We will discuss the following topics

1. Moral Hazard in Team
2. Optimal Incentives in Sequential Production.
3. Optimal Assignment of Agents and Tasks to Production Slots.
4. The Effect of Information about Peers on Incentives.
5. Social Interactions Among Peers
6. Experimental Results on Incentives and Team Production.
7. Empirical and Field evidence on Peer Effects and Incentives in Teams.

References:

- Bernstein, S. and E. Winter (2011) "Contracting with Type-Dependent Externalities," forthcoming in American Economic Journal –Micro.
- Dubey, P. and C. Wu (2001), "When Less Scrutiny Induces More Effort," Journal of Mathematical Economics 36, 311-336.
- Feldman, M. M. Babaioff, N. Nissan and E. Winter "Combinatorial Agency" Discussion Paper the Center for the Study of Rationality, The Hebrew University of Jerusalem.
- Goerg, S., Kube, S. and Zultan, R. (2010). Treating Equals Unequally - Incentives in Teams, Workers' Motivation and Production Technology. Journal of Labor Economics, 28, 747-772.
- Gould, E. and E. Winter (2009), "Peer Effect within the Firm: Evidence from Professional Baseball," The Review of Economic and Statistics (9)1, 188-200.
- Falk, A. and A. Ichino (2005), "Clean Evidence on Peer Pressure," The European University Institute (mimeo).

- Ichino, A. and G. Maggi (2000), “Work Environment and Individual Background: Explaining Regional Shirking Differentials in Large Italian Firms,” *Quarterly Journal of Economics*, 115, 1057-1090.
- Klor, E. S. Kube, E. Winter and R. Zultan (2016) “Incentive Reversal in the Lab” *Journal of Economic Behavior and Organization*

Economics Research Workshop

The research workshop aims at exposing students to the world of research in economics. It involves the discussion of research papers that students will be assigned to and provides students with the opportunity to discuss research ideas that they have developed as part of an undergraduate paper or an MA thesis. The workshop will be primarily in the fields of Microeconomic Theory, Experimental/Behavioral Economics, Public Finance, Political Economy and Public Finance.