



# *The Hebrew University of Jerusalem*

## *Syllabus*

### *Decision Theory - 55739*

*Last update 27-03-2024*

*HU Credits: 3*

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

*Responsible Department: Business Administration*

*Academic year: 0*

*Semester: 2nd Semester*

*Teaching Languages: Hebrew*

*Campus: Mt. Scopus*

*Course/Module Coordinator: prof. Ella Segev*

*Coordinator Email: [ella.segev@mail.huji.ac.il](mailto:ella.segev@mail.huji.ac.il)*

*Coordinator Office Hours: Mondays 16:30-17:30*

*Teaching Staff:*

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Prof Ella Segev

Course/Module description:

Course description:

The course will introduce the fundamental approaches to modeling decision making and their applications.

Course/Module aims:

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

Learning outcomes

On successful completion of this module, students should be able to analyze problems of decisions making using the different approached that will be introduced.

Attendance requirements(%):

80

Teaching arrangement and method of instruction:

Course/Module Content:

Course content:

Expected Utility Theory

Preference relations and their properties

Axioms of expected utility

von-Neuman Morgenstern's expected utility theory

Risk aversion/ Risk loving

The value of information in decision making

Decision trees

Blackwell's theorem

Collective decision theory

Aggregation of Preferences

Social choice functions

Arrow's Impossibility theorem

Axioms of revealed preferences and their relationship with expected utility

Tversky and Kahneman's criticism on expected utility

Prospect theory

Behavioral decision making - Biases in decision making

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Required Reading:

None

Additional Reading Material:

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*“Decision Making under Uncertainty” by Tapan Biswas, Mcmillan Press LTD.*

*“An Introduction to Decision Theory” by Martin Peterson, 2nd edition, Cambridge University Press*

*“A Primer in Social Choice Theory” by Wulf Gaertner, Oxford University Press*

*“The Analytics of Uncertainty and Information” by Sushil Bikhchandani, Jack Hirshleifer and John G. Riley, 2nd edition, Cambridge University Press*

Grading Scheme:

*Written / Oral / Practical Exam 80 %*

*Active Participation / Team Assignment 5 %*

*Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 15 %*

Additional information: