

University of Haifa - Hebrew University - Bar-Ilan University

**Syllabus of the course on
Economic Valuation of Ecosystem Services**

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Goals of the course

The course is designed to cover the main concepts and instruments to assign economic values to ecosystem services, in order to guide public policy to efficient utilization of natural capital, and support court's decisions in case of environmental liability. Students will be prepared to design and implement basic primary or secondary economic valuation studies, know the most appropriate approaches to analyze data, and comprehend relevant applied literature. The course is also open to students without training in economics and statistics.

Grade Breakdown

Class participation: 20%:

Final exam: 80%

The final exam consists of a set of open or closed quizzes

Course Schedule (10 - 15 September 2019):

Session 1: Tuesday 10, 16:00 - 20:00

Session 2: Wednesday 11, 16:00 - 20:00

Session 3: Thursday 12, 15:00 - 21:00

Session 4: Friday 13, 08:00 - 14:00

Course outline:

1. Concepts
 - 1.1. The foundations of economic valuation
 - 1.2 The uses of economic valuation
 - 1.3 Economic efficiency and the nature of economic valuation
 - 1.4 Economic valuation with and without markets
 - 1.5 Welfare measures
 - 1.6 The Total Economic Value paradigm
 - 1.7 The spatial and temporal aggregation of economic values
2. Introduction to primary and secondary economic valuation methods
3. Valuation methods based on revealed preferences:
 - 3.1 The Travel Cost Method

- 3.1.1 Single site: Zonal and individual approaches
- 3.1.2 Multiple sites: Random Utility Model, Linked models. Kuhn-Tucker models, Demand systems approaches
- 3.2 The Hedonic Price Method
- 3.3 The Defensive Behavior and the Damage Cost Methods
- 4. Valuation methods based on stated preferences
 - 4.1 The Contingent Valuation Method
 - 4.1.1 Designing a contingent valuation study
 - 4.1.2 Econometric analysis of contingent valuation data to estimate welfare measures
 - 4.2 The Choice Experiments
 - 4.2.1. Designing a choice experiments study
 - 4.2.2 Econometric analysis of choice experiments data to estimate welfare measures
 - 4.3 Validity and reliability of stated preferences methods
- 5. The benefit transfer method
 - 5.1 The value transfer approach
 - 5.2 The function transfer approach
 - 5.3 The meta-analysis approach
- 6. Environmental valuation databases
- 7. Equivalency methods for environmental liability
- 8. Examination of selected valuation case-studies

Course Reading Materials

The course will draw on the following texts:

Patricia A. Champ, Kevin J. Boyle, Thomas C. Brown (eds): *A Primer on Nonmarket Valuation* , 2nd Edition, Kluwer Academic Publishers, 2017

Timothy C. Haab, Kenneth E. McConnell: *Valuing Environmental and Natural Resources: The Econometrics of Non-Market Valuation*, Edward Elgar Publisher, 2003

David A. Hensher, John M. Rose, William H. Greene, *Applied Choice Analysis*, 2nd Edition, Cambridge University Press, 2015

A reading list and supplementary materials will be also provided during the course