



Full Syllabus



Course Title	
ENVIRONMENTAL ECONOMICS	
Lecturer	
Dr. Zvi Baum	
Semester	
Spring	
Course requirements	
4 homework assignments. Final exam.	
Final grade components	
4 Homework assignments: 30% Final exam: 70%	
Course schedule*	
Class no.	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Introduction: natural and environmental resources, society the economy and the environment, sustainable development indicators. Required Reading: Tietenberg and Lewis Ch. 1.
2 - 3	The market mechanism: Supply and demand, social welfare as a policy criterion, market failures, public goods, externalities, natural monopoly. Required Reading: Tietenberg and Lewis Ch. 2.
4	Cost benefit Analysis: introduction to Net Present Value (NPV), NPV principles, methods for determining the discount rate, cost benefit analysis as a policy tool. Required Reading: Tietenberg and Lewis Ch. 3.
5 - 6	Valuing the environment: methods overview, use value vs. non-use value, revealed vs. stated preference methods, contingent valuation methods, hedonic pricing, travel cost method. Required Reading: Tietenberg and Lewis Ch. 4.
7 - 8	Land and water resource management: the value of land resources, land allocation, land-use conversion, land management policies; water resource allocation, water demand management and pricing policies. Required Reading: Tietenberg and Lewis Cha. 9,10.



Full Syllabus



9	Fishery economics: fishery modeling, sustainable and efficient fishery, fishery policy and regulation measures. Required Reading: Tietenberg and Lewis Ch. 12.
10 - 11	Non-renewable natural resources: static vs. dynamic efficiency, optimal management of non-renewable natural resources. Required Reading: Tietenberg and Lewis Chapter 6.
12	Renewable energy resources: global trends, renewable energy in power generation – potential and challenges, smart grids, the economics of energy storage and demand side management. Required Reading: Tietenberg and Lewis Chapter 7.
13	Energy policy and regulation: forming energy policy, policy measures, Levelized Cost of Energy (LCOE), energy and the environment, emission abatement policies. Required Reading: Web Search.

* The order of lectures is subject to change.

Required course reading

Tietenberg, T., Lewis, L. (2016), Environmental & Natural Resource Economics, 10th Edition, London ; New York : Routledge, Taylor & Francis Group.

Optional course reading

Perman, R. J., Ma, Y., Common, M., Maddison, D., & McGillvray, J. W. (2011). Natural resource and environmental economics, 4th Edition, Pearson Education.

European Commission (2012). Beyond GDP Initiative: Summary prepared by the Environment Department. Available from: http://ec.europa.eu/environment/beyond_gdp/download/factsheets/bgdp-ve-gpi.pdf

World Bank. (2011). The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium. Environment and Development. World Bank. © World Bank. Available from: <https://openknowledge.worldbank.org/handle/10986/2252>
License: CC BY 3.0 IGO.

Tol, R. S. J. (2009). The Economic Effects of Climate Change. Journal of Economic Perspectives 23 (2), 29–51.

International Handbook on the Economics of Energy (2009), chapter 18. Edited by Lester C. Hunt and Joanne Evans,. University of Surrey, UK. Edward Edgar.

Midttun, A. (2012). The greening of European electricity industry: A battle of modernities. Energy Policy 48, 22–35.

Kessides, I. N. (2012). The future of the nuclear industry reconsidered: Risks, uncertainties, and continued promise, Energy Policy 48, 185–208.



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Websites for additional learning (optional)

The World Bank - Environment: <http://www.worldbank.org/en/topic/environment>

Yale Environment 360: <https://e360.yale.edu>

Israeli Water Authority : <http://www.water.gov.il/Hebrew/Pages/Water-Authority-Info.aspx>

The Israeli Ministry of National Infrastructures, Energy and Water Resources:
<http://archive.energy.gov.il/english/Pages/default.aspx>

US Energy Information Administration: www.eia.doe.gov

British Petroleum: <https://www.bp.com/>

OPEC: <https://www.opec.org>

International Energy Agency: www.iea.org