



Eco-health

Prof. Nadav Davidovitch,

Dr Maya Negev

3 weekly hours, 3 credits. **Undergraduate**

Course description

Eco health focuses on the integration of knowledge at the interface between ecological and health sciences. It incorporates different sciences, including natural, social and health sciences, and the humanities. This course examines how changes in the biological, physical, social and economic environments impact human health and public health. It deals with the sustainable health of people, wildlife and ecosystems by promoting discovery, understanding and trans disciplinary.

Ecosystem change has far reaching implications for health and sustainability at local, regional and global scales. It provides an authoritative forum for research and practice that integrates human, wildlife and ecosystem health. The focus on human and wildlife health reflects their centrality as criterion for humankind's search for a sustainable future.

Grade components:

- Quiz 10%
- Participation 10%
- Midterm exam 10%
- Personal project 30%
- Final exam 40%

Text book:

- Ecosystem Change and Public Health: A Global Perspective 2001 Joan L. Aron & Jonathan A. Patz, Johns Hopkins University Press

Other reading materials will be distributed during the course.

Course structure:

The course will follow the structure of its textbook: Aron & Patz. It also includes reading supplements. The first part is an introduction to the concept of eco health and the various disciplines involved, explaining what this interdisciplinary science is made of. The second part discusses how the main environmental problems of our regions (e.g. air, water and radiation) affect our health and how we deal with it both from scientific and policy perspectives. The last part deals with implications of the eco-health perspective to policy making related to issues such as transportation, infectious diseases, food safety, disasters and climate change. The last two lessons will be devoted to summary and students presentation. The exam takes place during the exam period. The project tests the students' ability to synthesize the different interdisciplinary components.

Course schedule:

Lesson 1: Eco-health introduction

Lecturer: Prof. Nadav Davidovitch

Required Readings:

Institute of Medicine (2002). The Future of Public Health in the 21st Century, pp. 1-18 (executive summary),
http://www.nap.edu/openbook.php?record_id=10548&page=1

Additional Readings:

- Textbook chapters 1

Lesson 2: Science/policy interface and integrated assessment

Lecturer: Dr. Maya Negev

Required Readings:

Lubchenco, 1998. Entering the Century of the Environment: A New Social Contract for Science. *Science*.

Additional Readings:

- Textbook chapters 4 & 5

Lesson 3: Environmental epidemiology

Lecturer: Maya Sadeh

Required Readings:

Dean Baker & Mark J. Nieuwenhuijsen, 2008 Environmental Epidemiology, Study Methods and Applications, Oxford University Press, Oxford. Chapter 1 and Chapter 2 p. 15-21.

Additional Readings:

Pekkanen J and Pearce N. (2001). Environmental Epidemiology: Challenges and Opportunities. *Environmental Health Perspectives*.

Lesson 4: Air pollution and health

Lecturer: Prof. Nadav Davidovitch

Required Readings: TBC

Lesson 5: Environmental health policy

Lecturer : Dr. Maya Negev

Stead D. 2008. Institutional aspects of integrating transport, environment and health policies. *Transport Policy*.

Lesson 6: water and public health

Lecturer: Prof. Nadav Davidovitch

Required Readings: TBC

Lesson 7: ethics and public health policy-making

Lecturer: Prof. Nadav Davidovitch

Required Readings: TBC

Lesson 8: Transportation, planning and health

Lecturer: Dr. Maya Negev

Required Readings:

- Transportation pathways <http://www.healthgain.eu/briefing/transport>
- Health on the Move 2 (selected parts, TBA)
<http://www.transportandhealth.org.uk/>
- Corburn, 2009. Toward the healthy city: people, places, and the politics of urban planning. (selected chapters, to be provided)

Additional Readings:

- Giles-Corti et al. 2010, The co-benefits for health of investing in active transportation.http://www.publish.csiro.au/view/journals/dsp_journal_fullt_ext.cfm?nid=226&f=NB10027
- Corburn, 2003. Bringing local knowledge into environmental decision making: Improving urban planning for communities at risk.
<http://jpe.sagepub.com/content/22/4/420.short>

Lesson 9: Pesticides

Lecturer : Dr. Maya Negev

Lesson 10: Climate Change, Desertification and Health

Lecturer: Dr. Maya Negev

Required Readings:

- Climate change pathways <http://www.healthgain.eu/briefing/climate-change>
- McMichael, T. 2010. Climate Change and Human Health, http://healthg20.com/wp-content/uploads/2010/11/121-136-Anthony-J-McMichael_2010.pdf

Additional Readings:

- Dennekamp & Carey, 2010, Air quality and chronic disease: why action on climate change is also good for health http://www.publish.csiro.au/view/journals/dsp_journal_fulltext.cfm?nid=226&f=NB10026
- Kuehn, 2006. Desertification Called Global Health Threat. JAMA;295(21):2463-5
- WHO, 2008. Protecting Health from Climate Change. http://www.who.int/world-health-day/toolkit/report_web.pdf

Lesson 11: One health – veterinary medicine and human health

Lecturer: Dr Eyal Klement

Required Readings: Klement E, Shpigel N, Balicer RD, Baneth G, Grotto I, Davidovitch N, One health - From Science to Policy: Examples from the Israeli Experience, Veterinaria Italiana, 2009; 45: 45-53.

Lesson 12+13: Summary of eco-health as an interdisciplinary science & students presentations

Lecturers: Prof. Nadav Davidovitch, Dr. Maya Negev

Final Exam