

EMS 612-Environmental Mini-Course: Ecological Footprint/Sustainability Indicators

Credits: 1 **Location: Pratt Manhattan** **Tues 5:30-8:00pm**
Type of Course: Lecture/Seminar/Mini-Course
Enrollment Capacity: 15
Instructor: Ariella Rosenberg **Fax: 718/399-4315** **ariellarmit@yahoo.com**

Course Description:

Over the past two decades, various institutions, both private and public, are beginning to set clear targets for environmental performance and are increasingly focusing on measurement tools to assess their progress towards sustainability. Sustainability indicators serve as a management tool that measures progress toward a sustainable economy, society, and environment. The Ecological Footprint Analysis is a type of sustainability indicator that measures how much biologically productive land and water area an individual, a city, a country, a region, or humanity require to produce the resources it consumes and to absorb the waste it generates. This course will introduce the principles underlying sustainability indicators, including the Ecological Footprint Analysis, and will offer students hands on experience with these tools.

Goals/Learning Objectives:

The goal of the class is to familiarize students with the relevant concepts, literature, and practices relating to sustainability indicators and the Ecological Footprint Analysis. Students will be required to critically evaluate what they have read and heard. In addition, the class will give students an opportunity to learn how to express their ideas verbally in class and during their final presentation. The purpose of the final presentation is to give the students personal experience in applying the knowledge and skills presented in the course to a real situation.

Outcomes:

Students will learn the fundamentals of sustainability indicators and will learn to identify appropriate indicators to measure progress towards sustainability.

Course Requirements:

- Ecological Footprint
- Additional selected individual readings will be handed out weekly
- Students will be provided with a listing of web pages relating to each of the topics
- Select readings will be placed on reserve at the Pratt Library

Methods of Assessment:

50% of a student's grade will be for the quality of contributions to class discussion
50% of a student's grade will be for the quality of the final presentation

Weekly Schedule and Readings:

Week 1 – Introduction to critical indicators of the environmental, social, and economic health

Wackernagel, M. and W. Rees, *Our Ecological Footprint*, Chapter 2, Footprints and Sustainability: New Society Publishers, pp.: 31-47, 1996.

Week 2 –Sustainability indicators (industry and commerce)

Veleva, V., M. Hart, T. Greiner, and c. Crumbley, "Indicators of Sustainable Production," *Journal of Cleaner Production*, 9: 447-452, 2001.

National Academy of Engineering, *Industrial Environmental Performance Metrics*, Washington, D.C.: National Academy Press, pp.:19-45, 1999.

Hammit, J.K., "Data, Risk and Science, Foundations for Analysis" in M. Chertow and D. Esty (eds.) *Thinking Ecologically, The Next Generation of Environmental Policy*, New Haven: Yale University Press, pp.: 150-169, 1997.

Week 3 – Sustainability indicators (communities and governments)

(Web) Sustainable Measures: <http://www.sustainablemeasures.com>

Mitra, Anindita, "Painting the Town Green: The use of urban sustainability indicators in the United States of America" January 2003, Rics Foundation, pp: 2-16

Week 4 –Ecological Footprint Analysis

(Web) Redefining Progress "Footprint of Nations 2004 Report",

Wackernagel, M. and W. Rees, *Our Ecological Footprint*, Chapter 3, Gabriola Island: New Society Publishers, pp.: 61-124, 1996.

Calculate your ecological footprint at: www.rprogress.org/programs/sustainability/ef/

Week 5 – Final presentations