

Pratt Institute: Syllabus

Pratt Institute Graduate Center for Planning & Environment/School of Architecture

Semester Spring 2006

EMS 621- Environmental Mini-Course: Solid Waste Management Systems and Alternatives

Credits - 1 Location – Pratt Higgins Hall North, 109 Day and Time - Mondays 5:30-8:30

Type of Course - Lecture/Seminar/Mini-Course Elective

Enrollment Capacity - 15

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Coordinator: Eva Hanhardt evahanhardt@nyc.rr.com or ehanhardt@pratt.edu

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MINI-COURSE DESCRIPTION:

This mini-course will present relevant concepts, literature, and practices, both historical and current, relating to solid waste management at the local, regional, national and global levels. Particular emphasis is placed on new innovations in solid waste management including recycling, reuse and reduction. The course will examine the environmental planning implications of various practices and technologies relating to solid waste management and will prepare planners and architects to identify and promote more sustainable ways of managing solid waste. The class will be taught by a visiting Professor who is leading professional in the field of solid waste. The Professors will be assisted in preparing for and conducting the Mini-Courses by the Environmental Planning Coordinator. The Coordinator will also be available, as needed, to assist and advise students.

COURSE REQUIREMENTS:

The class will include readings, lecture, class discussion, and a site visit

There is a course reader/ textbook that will be distributed in class

- 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
- Selected readings will be placed on reserve at the Pratt Library

Students are expected to complete all assigned readings, participate in class discussions and attend site visits/field work trips. Students must stay current with required readings as the quality of class discussions depends on all students staying abreast of the reading. For materials from the Internet, students are not expected to read every word, but you should have a good grasp of the material and read thoroughly those parts that will assist them in class discussions

Final - Students will be required to prepare a final application of the materials/skills covered in the course in the form of: drawings, written material, models, charts, tables, and/or other presentation methods. Students will also be required to provide a digital version of the above final assignment.

COURSE OUTLINE:

The mini- course will have 5 sessions - An Introductory class; 2-3 Lecture/Seminar classes; 1-2 Site visits/Field work trips (where appropriate); a Final Integrative class.

Week 1 – Introduction to Solid Waste Management;

Readings *Gone Tomorrow: The Hidden Life of Garbage*, chapters 1&2 required, entire book recommended.

“Zero Waste as the Last Solid Waste Paradigm,” Neil Seldman, Institute for Local Self Reliance

Guest Speaker: Heather Rogers, author of *Gone Tomorrow*

Week 2 –Recovery Options: Reuse, Recycling, and Composting;

Readings: *Wasting and Recycling in the US, 2000*, Grassroots Recycling Network

“Beyond 50% Diversion through Reuse, Recycling and Composting,” Brenda Platt, Institute for Local Self Reliance.

Welfare for Waste, Grassroots Recycling Network, Executive Summary required, entire report recommended.

“Turning Green Into Gold: Creating Resources from London’s Waste,” London Development Agency

“Waste Management and Climate Change,” Ackerman, Frank
NYC Solid Waste Management Plan, Recycling Section

Guest Speaker: Tom Outerbridge, Hugo Neu Corporation

Week 3 – Looking Upstream: Extended Producer Responsibility, Environmentally Preferable Purchasing, and design/production issues;

Readings: “Extended Producer Responsibility: A Waste Management Strategy that Cuts Waste, creates a clean environment and saves taxpayer money” Clean Production Action. Extended Producer Responsibility Principles, A Prescription for Clean Production, Pollution Prevention and Zero Waste at: <http://www.eprworkinggroup.org/>;

“Unintended Consequences: MSW Management and the Throwaway Society,” Bill Sheehan and Helen Speigelman. (<http://www.no-burn.org/resources/library/wiadt.pdf>)

Week 4 – “Toxic Tour” of Waste Management Sites, discussion of disposal options and issues; Readings “Municipal Solid Waste Landfills,” National Solid Waste Management Association,

(<http://wastec.isproductions.net/webmodules/webarticles/anmviewer.asp?a=438&z=85>)

“Waste Combustion” National Solid Waste Management Association

(<http://wastec.isproductions.net/webmodules/webarticles/anmviewer.asp?a=462>)

“Landfills, Financial Assurance and the Future of Recycling,” Peter Anderson, Center for a Competitive Waste Industry.

“Energy Recovery from NYC Solid Wastes,” Themelis, Kim, Brady

“Biological, Chemical and Thermal Technologies,” Gary Liss, Gary Liss Associates.

“Waste Incineration: a Dying Technology,” Global Alliance for Incinerator Alternatives (<http://www.no-burn.org/resources/library/wiadt.pdf>), executive summary required, entire report recommended.

“Taking out the Trash” Organization of Waterfront Neighborhoods, Chapters 1 &2. (<http://www.consumersunion.org/other/trash/about.htm>)

Week 5 – Final Integrative Class; Final assignment presentations.

For their final assignment, students will be asked to work in groups to develop a zero waste plan, or a model zero waste community. The plans can be written, drawn diagrammed or otherwise depicted and can be for a municipality (real or imagined), a neighborhood, a business, or an institution (school, hospital, etc).

GOALS/LEARNING OBJECTIVES:

As an environmental specialty Mini-Course, the goal of the class is to familiarize students with relevant concepts, literature, and practices, both historical and current, relating to solid waste management at the local, regional, national and global levels. Taught by leading NYC practitioners in the field the mini-courses give students concrete technical and analytical skills and an understanding of real world applications that will be important to their work as planners, architects, designers and/or environmentalists.

Professors/Instructors have been selected who have significant professional experience with the topic they are teaching. 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 and through the final application assignment.

The overall goal of this mini-course is for students to be able to prepare a solid waste management plan for any project, business, institution, or municipality they may work with. To do so, the students must be able to determine 1) what waste is generated, 2) how it is currently handled, 3) how it could be better managed to improve environmental and economic performance and achieve zero waste; and 4) the combination of steps (policy, planning and program) that must be taken to achieve zero waste (or close to it).

The purpose of the final assignment is to give the students personal experience in applying the knowledge and skills presented in the course to a real site and situation. In developing a zero waste plan, or a model zero waste community students will learn the fundamentals of gathering and applying environmental information; evaluation of appropriate methods and technologies; presentation of ideas and proposals in verbal, visual and written form.

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 application

SUPPLEMENTALS: BIBLIOGRAPHY - OTHER REFERENCES:

Solid Waste Plans

“Reaching for Zero: The Citizen’s Plan for Zero Waste in NYC”

<http://www.consumersunion.org/pdf/ZeroReport.pdf>

“Rethinking Rubbish in London: Highlights of the Mayor’s Waste Management Strategy”

“Implementing Zero Waste: Reuse and Recycling, California Style,” Bill Worrell, Executive Director, San Luis Obispo County Waste Management Authority

Zero Waste Strategic Plan, City of Palo Alto, CA, at:

http://www.cityofpaloalto.org/zerowaste/graphics/Strategic_Plan_Final_100405.pdf

Zero Waste Action Plan, Nelson, British Columbia at:

http://www.grrn.org/assets/pdfs/action_plans/ZWActionPlan_23%20Dec%202003.pdf

Canberra, Australia No Waste by 2010 Strategy Report at:

<http://www.act.gov.au/nowaste/wastestrategy/index.htm>

Related Web Sites

GAIA – The Global Alliance for Incinerator Alternatives. www.no-burn.org/resources.

The GrassRoots Recycling Network. www.grrn.org

List of Zero Waste Communities at: <http://www.zwia.org/zwc.html>

Center for a Competitive Waste Industry at <http://competitivewaste.org/publications.htm>

Institute for Local Self Reliance Waste to Wealth Program at www.ilsr.org/recycling

[Incentive Programs for Local Government Recycling and Waste Reduction](#) at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=914>

[Resource Recovery Parks](#), A Model for Local Government Recycling and Waste Reduction at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=919>

Business Recycling Plans and Policies at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=915>

[Curbside Recycling: The Next Generation](#) at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=969>

[C&D Recycling Plans and Policies](#) at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=926>

Organics Options: Opportunities for Local Government Reuse, Recycling, and Composting at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=970>

Last Chance Mercantile: A Model for Local Government Recycling and Waste Reduction at:

<http://www.ciwmb.ca.gov/Publications/default.asp?pubid=966>

Recommended Books

Garbage Land: On the Secret Trail of Trash, Elizabeth Royte

Fat of the Land, Benjamin Miller

Takedown: The Fall of the Last Mafia Empire, Rick Cowan and Douglas Century