ENVR 222 URBAN AND REGIONAL ENVIRONMENTS

Winter 2004

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LEARNING OUTCOMES:

Upon completing the course students should be able to

- Demonstrate an understanding of key concepts in environmental management, including the preventive approach, industrial ecology, demand management, and environmental policy.
- Demonstrate an ability to use specific techniques and tools in environmental management, including environmental reports and environmental indicators, cost benefit analysis, environmental auditing and environmental management systems, and GIS.

CONTENT:

The course introduces the student to the theory and practice of environmental management at the urban and regional scale. A preventive approach is explored and applied to industrial and urban systems. A key theme is the collection, interpretation and synthesis of environmental data for decision making. Specific techniques and tools are examined including full cost accounting and cost-benefit analysis, Geographic Information Systems, environmental indicators and state of the environment reporting, environmental auditing and environmental management systems.

APPROACH:

This is an applied course; that is, the emphasis is on the *application* of theory to practice in the field of environmental management. Guest speakers - consultants and government officials – are invited to discuss current practice. Several case studies and site visits within the local urban region are introduced to allow the student to critically examine local issues and policy.

An emphasis is placed on project work that is carried out in small groups.

COURSE READINGS

Course text: Jackson, T., 1996, <u>Material Concerns</u>. Routledge

A lab manual is for sale in the college bookstore.

RESERVE MATERIAL

Roseland, M., 1998, <u>Toward Sustainable Communities</u>. Gabriola Island, BC: New Society

Roseland M., ed., 1997, Eco-City Dimensions. Gabriola Island, BC: New Society

EVALUATION SUMMARY

EMS Project	- 20%
Urban Habitat Project	- 20%
Energy Project	- 10%
Transportation Project	- 15%
Indicators Project	- 10%
Case Study	- 15%
Participation	- 10%

COURSE OUTLINE AND READINGS

Week of				
WEEK 1	Introduction to the course			
Jan 5	Focus on the urban region			
	Viewing the environment as a material concern			
	Preventive approach to environmental management			
	Readings:			
	Jackson Chs.1, 2, 3			
WEEK 2	Principles of prevention			
Jan 12	Environmental auditing and Environmental Management Systems			
	Readings:			
	Jackson Ch. 4			
	Introduction to EMS project			
WEEK 3	Environmental Management Systems			
Jan 19	Guest speaker			
WEEK4	Principles of prevention			
Jan 26	Land use and urban form			
	Concepts of Smart Growth, Low Impact Development			
	Readings:			
	Roseland, Toward Sustainable Communities Ch.10, Land use and urban			
	form			
	Walker L. and William Rees, Urban density and Ecological Footprints in			
	Roseland M., ed., 1997, Eco-City Dimensions.			
WEEK 5	Land use and urban form:			
Feb 2	The Selkirk Waterfront Development			

WEEK 6	Low Impact Development and Stormwater Management
Feb 9	Urban habitat project

Note: Feb 12/13 is Reading Break

- WEEK 7 Urban habitat project
- Feb 16
- WEEK 8 Economics of prevention Feb 23 Obstacles to change **Readings:**

Jackson Chs. 5, 6

Moore J., *Inertia and Resistance on the Path to Healthy Communities*, in Roseland M., ed., 1997, <u>Eco-City Dimensions</u>. Gabriola Island, BC: New Society

Introduction to energy project

- WEEK9 Victoria's Solar House March 1 SITE VISIT
- WEEK 10 Re-thinking the industrial economy March 8 Demand-side management: The case of transporation **Readings:** Jackson Ch. 7
- WEEK 11 Transportation
- March 15 Roseland, <u>Toward Sustainable Communities</u> Ch.9, *Transportation* planning and traffic management
- WEEK 12 Negotiating change in society

March 22 Environmental policy Importance of environmental information: State of the Environmental reports and environmental indicators **Readings:** Jackson Ch. 8

Introduction to Indicators project

Introduction to Case Study project

WEEK 13 Project work March 29

WEEK 14 CASE STUDY PRESENTATIONS April 5

LAB/SEMINAR SCHEDULE Week of:

Jan 5 Towards prevention: A discussion Prevention and waste management: is it happening in the CRD?

Assignment

Visit the CRD web site: <u>Report on the Environment, Phases 1,2,3</u> <u>http://www.crd.bc.ca/rte/report/cover.htm</u>. Examine Priority B, *Use of Infrastucture and Resources*, Indicator B6: *Solid Waste Diverted from Landfill*: <u>http://www.crd.bc.ca/rte/report/p-b6.htm</u>. Print the information and bring it to class.

Question: What does this indicator tell us about how we are managing solid waste in the CRD?

Visit BC Environment's web site: <u>Environmental Trends in BC 2002</u> http://wlapwww.gov.bc.ca/soerpt/publications.html.

Examine the Indicator, *Municipal Solid Waste Disposed of and Recycled* in the topic Status and Trends in Municipal Solid Waste. Choose *View Graph Data*: http://wlapwww.gov.bc.ca/soerpt/9mitigation/municipal.html

Print the information and bring it to class.

Question: What does this indicator tell us about how we are managing solid waste in BC?

Questions for discussion:

What legislation governs the management of solid waste in the CRD? How is solid waste managed in the CRD? Is the current approach to management a preventive approach? Is there a no-waste or zero waste solution to the waste management problem?

Jackson suggests two strategies toward prevention. What are these? Are they currently being used in waste management in the CRD?

Jan 12

Introduction to Environmental Management System (EMS) Project: Developing an EMS for Camosun College

Jan 19 Environmental Management System (EMS) Project Jan 26 Introduction to Urban habitat project: Cecelia and Douglas Creeks

Feb 2 Selkirk Waterfront Development and Cecilia Creek: SITE VISIT

Feb 9 READING BREAK

Feb 16 Urban habitat project

Feb 23 Energy project

March 1 Energy project

March 8 Transportation project and the use of Transport Cost Analyzer

March 15 Transportation project

March 22 Indicators project

March 29 Project work

April 5 EASTER

ASSIGNMENTS AND EVALUATION

ENVIRONMENTAL MANAGEMENT SYSTEM PROJECT (15%)

The project is described in Lab Manual. Project is due Friday Jan 30.

URBAN HABITAT PROJECT (20%)

The project is described in Lab Manual.

Project is due Friday Feb 27. The project focuses on two urban streams: Cecelia Creek and Douglas Creek

RENEWABLE ENERGY PROJECT (10%)

The project is described in Lab Manual. Project is due Friday March 12.

TRANSPORTATION PROJECT (15%)

The project is described in Lab Manual. Project is due Friday March 26.

ENVIRONMENTAL INDICATORS PROJECT (10%)

The project is described in Lab Manual. Project is due Friday April 2.

CASE STUDY (15%)

The project is described in Lab Manual. Students will present their findings at the end of the semester (Monday April 5) Project report is due Thursday April 8.

PARTICIPATION (10%)

Course evaluation is largely based on six projects in which students work in small groups and present a report. In a course of this nature student participation is essential. Students are expected to be fully involved in the course by attending **all** class events -lectures, labs and site visits - and contributing to discussion at these events. Equally students are expected to fully participate in the project work. Student groups have the option to hand in with each report, an evaluation of student member participation in the project if participation in the work has not been equal.

At the end of the semester, on April 8, students will hand in the evaluation form assessing their own participation in the course.

GENERAL INFORMATION FOR WRITTEN REPORTS

All written work handed in must be **type written**.

All reports should be considered **'professional'** in nature, as if you were working as a consultant and submitting a professional report. This is an opportunity to practice technical writing skills in presenting the findings of your project work. All reports must have:

An introduction explaining the nature of the problem.

A discussion of methodology and results.

A conclusion, summarizing findings.

Note that all work must consistently use a standard bibliographic style, including works cited from the internet.

Any report handed in late will lose 10%. Very late submissions (more than one week) will not be accepted.

GRADES

LETTER GRADE	NUMERIC GRADE	DESCRIPTION
A+	95-100%	
А	90-94	Superior Level Achievement
A -	85-89	
B+	80-84	
В	75-79	High Level Achievement
B -	70-74	
C+	65-69	Satisfactory Achievement
С	60-64	Sufficient Achievement
D	50-59	Minimum level of achievement
F	0-49	Minimum level not achieved