

ENVR 222 URBAN AND REGIONAL ENVIRONMENTS

WINTER 2008

Sections 01A and 01B

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LEARNING OUTCOMES:

On completing the course students should be able to

- Demonstrate an understanding of key concepts in environmental management, including natural capitalism, preventive approach, 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 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 carried out in small groups.

COURSE READINGS:

Chapters have been extracted from the following texts:

Roberts, J., 2004, Environmental Policy. Routledge

Hawkin, Paul, Amory and Hunter Lovins, 1999, Natural Capitalism. New York: Little, Brown

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

A course manual is for sale in the college bookstore.

INTERNET ACCESS

Course notes and materials can be found online

<http://www.elkint.disted.camosun.bc.ca/>

EVALUATION SUMMARY

Projects:

Project 1: Local food miles	- 10%
Project 2: Low impact development	- 30%
Project 3: Environmental Management Systems	- 15%
Project 4: Economics & environmental management	- 20%
Project 5: Environmental policy	- 20%
Participation	- 10%

COURSE OUTLINE AND READINGS

WEEK 1

Jan 7 Introduction to the course
Focus on the urban region

Jan 9 Environmental management: Key principles

Readings

Hawkin, Paul, Amory and Hunter Lovins, 1999, Ch. 1: 'The next industrial revolution' in Natural Capitalism. New York: Little, Brown

Wendell Berry, 2006. The Idea of a Local Economy, Orion Magazine

Project 1: *Focus on local food*

Lifecycles <http://www.localfooddirectory.ca/>

WEEK 2

Jan 14 **Project 1:** Focus on local food
Lifecycles <http://www.localfooddirectory.ca/>

Jan 16 Science and environmental management

- Ecological modernization and preventive environmental management
- Working with material cycles
- Land use and urban form: Smart growth, low impact and carbon-neutral development, green building and LEED.
- Case studies: Selkirk Waterfront; Dockside Green

Readings

Roberts, J. Environmental Policy Ch. 4: 'Science and technology: policies and paradoxes'

WEEK 3

Jan 21

Project 2: Low Impact Development:
Managing the hydrologic cycle
Managing material cycles using CITYgreen.

Jan 23

Land use and urban form: Selkirk Waterfront Development, Cecilia Creek

WEEK 4

Jan 28

Project 2: Low Impact Development:
Part 1: Managing the hydrologic cycle
Part 2: Managing material cycles using CITYgreen

Jan 30

Low Impact Development - SITE VISIT

WEEK 5

Feb 4

Project 2: Low Impact Development:
Part 1: Managing the hydrologic cycle
Part 2: Managing material cycles using CITYgreen

Feb 6

Green building and LEED
Guest speaker: Wendy Macdonald, Sustainability Consultant, Thornley
BKG Consultants

WEEK 6

Feb 11

Project 2: Low Impact Development:
Part 1: Managing the hydrologic cycle
Part 2: Managing material cycles using CITYgreen

Feb 13

Environmental management and the corporate sector

- Corporate environmental policy and values-based business
- Environmental Management Systems
- Natural Step

Readings

Roberts, J. Environmental Policy Ch. 5, 'Corporate environmental policy making'

The Natural Step. <http://www.naturalstep.ca/> (see course manual)

Making a Profit and a Difference. New York Times, October 2006 (see course manual)

WEEK 7

Feb 18 **Project 3: EMS at Camosun College**

Feb 20 EMS: ISO 14000
Guest Speaker: Federal government

WEEK 8

Feb 25 **Project 3: EMS at Camosun College**

Feb 27 Environmental management and the market economy

Readings

Jackson, T., 1996, Material Concerns, Ch. 5: *Easy Virtues*. Routledge.

Hawkin, Paul, Amory and Hunter Lovins, 1999, Ch. 8, 'Capital Gains' in Natural Capitalism. New York: Little, Brown

WEEK 9

March 3 **Project 4: Economics and Environmental Management**
Part 1: Case of renewables and energy efficiency

March 5 Transportation policy
Guest speaker: Todd Litman, Director, Victoria Transport Policy Institute

Readings

Todd Litman [Land use impact costs of transportation](#) (World Transport Policy & Practice, Vol. 1 No. 4, 1995, pp. 9-16)

WEEK 10

March 10 **Project 4: Economics and Environmental Management**
Part 2: Case of transportation

March 12 **Project 4: Economics and Environmental Management**

Week 11

March 17 **Project 4: Economics and Environmental Management**

March 19 Dockside Green - SITE VISIT
Guest speaker: Lehna Malmkvist, Swell Environmental Consulting

WEEK 12

March 24

Easter Monday

March 26

Environmental management and the public sector

- Environmental policy in government
- Importance of environmental information: State of Environment reports and environmental indicators
- Obstacles to action

Readings

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

In-class exercise

Monitoring the local region: State of environment in the Capital Region

Assignment for in-class discussion

Access the online version of State of Environment Indicators in BC's Capital Region <http://www.crd.bc.ca/rte/report2006/index.htm>.

The report's findings relate to several goals. Goal 2 asks the question: *Is sustainability being achieved through transportation and land use planning?* Goal 4 focuses on *implementing the principles of environmental stewardship and sustainability in decision making.*

We will examine some key indicators used to examine the region's environment in relation to each of these goals

Goal 2: Read Section 5, Land use. What criteria are used to measure effective land use? What indicators are used?

Examine the section, *Land removed from the ALR*, and measure the rate of loss of agricultural land. Is the rate increasing or decreasing? **Print the information and bring it to class.**

Question: What is the implication of losing agricultural land?

Goal 4 is tracked by examining resource use and waste reduction in the region (Section 6 in the report). Examine Section 6.4, Solid Wastes and Recycling, on pages 54-57. In particular examine the key indicators in Figures 29 and 30. **Print the information and bring it to class.**

Question: What do these indicators tell us about how we are managing solid waste in the Capital Region?

Access BC Environment's online report Environmental Trends in BC 2002 <http://www.env.gov.bc.ca/soerpt/>

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://www.env.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:

How is the CRD assessing land use in the region? What are the issues? What legislation governs the management of solid waste in the CRD? How is solid waste managed in the CRD? Can the current approach to waste management be criticized? Is there a no-waste or zero waste solution to the waste management problem?

WEEK 13 **Project 5: *Environmental policy***
March 31

April 2 **Project 5: *Environmental policy***

WEEK 14
April 7 **Project 5: *Environmental policy***

April 9 **Project 5: *Environmental policy***

PROJECTS

Project 1: Local Food (10%)

Students measure food miles in the Victoria region. Project is due Jan 23.

Project 2: Low Impact Development (30%)

Part 1: Students examine the impact of storm-water runoff on two urban streams, Cecelia Creek and Douglas Creek in Greater Victoria.

Part 2: Students use ArcGIS and CITYgreen to assess environmental impacts of expanding student car parking on Lansdowne campus.

Project is due Feb 16.

Project 3: Environmental management system (15%)

Students develop an EMS for Camosun College.

Project is due March 3.

Project 4: Economics and Environmental Management (20%)

Part 1: Case of renewables and energy efficiency

Students evaluate the feasibility of investment in renewable energy and energy efficiency, focusing on residential sector in Greater Victoria as a case study.

Part 2: Case of transportation

Students evaluate full costs of transportation patterns and examine the effectiveness of demand management as a preventive approach, based on transportation in Greater Victoria as a case study.

Project is due March 31.

Project 5: Environmental policy (20%)

Students use scientific data to monitor and map air quality patterns in the GVRD, and apply the policy process, from measurement through to taking action.

Project is due Monday April 14.

Participation (10%)

Course evaluation is based on participation in all aspects of the course. In an applied academic course of this nature, participation is essential if students are to be successful. Students are expected to be fully involved in the course by attending **all class events** – lectures and site visits - and contributing to discussion at these events. At the end of the semester, by April 14, students will hand in the evaluation form assessing their own participation in the course.

Equally students are expected to fully participate in all project work in which students work in small groups to tackle a problem and present a report based on their findings. 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 for all students.

INFORMATION FOR PROJECT REPORTS

All REPORTS must be **type written**.

All REPORTS should be considered '**professional**' in nature, as if students were working as consultants and submitting a professional report to a client. 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 and its relation to the larger context of environmental management. What is important here is that you show that you understand the relationship between the project, and its associated problem, in the context of the theory of environmental management.
- **A discussion** of methodology and results;
- **A conclusion**, summarizing findings.

It is expected that students will consistently cite course readings, and other research, to demonstrate understanding of the theoretical context of their work.

Note that all work must consistently use an accepted bibliographic style, including works cited from the Internet.

Any report handed in late (within 3 days) will lose 5%; up to a week 10%. Very late submissions (more than one week) will not be accepted.

GRADING

Letter grade	Numeric grade	Description
A+	90-100%	Superior Level Achievement
A	85-89	
A -	80-84	
B+	77-79	High Level Achievement
B	73-76	
B -	70-72	
C+	65-69	Satisfactory Achievement
C	60-64	Sufficient Achievement
D	50-59	Minimum level of achievement
F	0-49	Minimum level not achieved

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Registrar's Office or the College web site at

<http://www.camosun.bc.ca>

ACADEMIC CONDUCT POLICY

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html