



CAMOSUN COLLEGE
School Of Arts & Science
Environmental Technology

Envr 209 Waste Management Remediation
Fall 2004

COURSE OUTLINE

This course covers pollution control, waste management principles and techniques and the concept of industrial ecology. Particular emphasis is given to hazardous secondary materials management, hazardous spill prevention and clean up, contaminated site remediation and associated legislation.

Prerequisites: ENVR 109,110 and CHEM 121.

For current information on the coverage of topics in this term see the course schedule below.

1. Instructor Information

- (a) Instructor: George Giles, P. Eng
- (b) Office hours: Wednesdays 4:30 to 5:00 pm plus by appointment
- (c) Location: F-344D
- (d) Phone: TBA
Alternative: 477-2202
- (e) E-mail: gegiles@shaw.ca
- (f) Website: n/a

2. Intended Learning Outcomes

At the end of this course, students will be able to:

1. Discuss basic waste management technology
2. Demonstrate skills in contingency planning, basic training in marine oil spill response, and oil spill management
3. Discuss provincial and federal legislation on
 - a. Solid, liquid and gaseous waste management
 - b. Transportation of hazardous wastes
 - c. Environmental Impact Assessment
 - d. Contaminated Site Remediation
 - e. Management of hazardous and toxic wastes
 - f. Marine pollution
4. Outline how to conduct a preliminary site investigation and develop a site profile for a potentially contaminate site
5. Discuss environmentally sound waste management options such as
 - a. Pollution prevention (PP or P2)
 - b. Environmental management systems (EMS's)
 - c. Waste reduction, recycling and reuse (WR3)
6. Discuss the analytical techniques for some of the more common pollutants

7. Participate in an oral discussion of environmental pollution and monitoring of the environment
8. Discuss the role and response of society to environmental issues.

3. Required Materials

(a) Texts – The Following text is optional: Nathanson, J., “Basic Environmental Technology, 4th Edition.” Prentice Hall. Columbus, Ohio.2003. There are two copies on special reserve in the library; students might find purchase of the book worthwhile however, both for this course and a general reference. Available from the Camosun Bookstore.

Other N/A

4. Course Content and Schedule

The attached schedule shows the dates, times, places and topics of the class periods. The course will consist of lectures, field trips and include invited speakers.

For field trips, wear clothing that will keep you warm and dry and which you don't mind getting a bit grubby. Proper shoes with closed toes and heels are particularly important. Waterproof boots with good tread are recommended for the visit to the Esquimalt graving dock.

Attendance will not be taken; however, be aware that the final grade will be based in part on field trip reports and that the examinations will be based on all of the lectures, field trips and presentations by guest lecturers. You will obtain maximum benefit from full attendance and class participation. This course covers a lot of material in a wide variety of topics; you will have no opportunity to “catch up” in the next lecture.

5. Basis of Student Assessment (Weighting)

	%
Quizzes	10
Field Trip Reports	30
Mid-term Exam	25
Final Exam	35
TOTAL	100

6. Grading System

The following percentage conversion to letter grade will be used:

A+ = 95 - 100%	B = 75 - 79%	D = 50 - 59%
A = 90 - 94%	B- = 70 - 74%	F = 0.0 - 49%
A- = 85 - 89%	C+ = 65 - 69%	I = See Calendar for Details
B+ = 80 - 85%	C = 60 - 64%	AUD = Audit

W = Official withdrawal has taken place.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

Computer with high-speed internet access, email, MS Office.

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/2-8

ENVR 209 - FALL 2004 SCHEDULE

August 31, 2004

		Hours		Room reserved	Details
Tuesday	07 September 2004	3.00	1:30-4:20 pm	F 200	environmental chemistry and biology
Wednesday	08 September 2004	2.00	2:30-4:20 pm	WT 204	environmental chemistry and biology
Tuesday	14 September 2004	3.00	1:30-4:20 pm	F 200	hydraulics of water flow, sanitary and storm sewers
Wednesday	15 September 2004	2.00	2:30-4:20 pm	WT 204	hydraulics of water flow, sanitary and storm sewers
Tuesday	21 September 2004	3.00	1:30-4:20 pm	F 200	hydraulics of water flow, sanitary and storm sewers
Wednesday	22 September 2004	2.00	2:30-4:20 pm	WT 204	contamination hydrogeology
Tuesday	28 September 2004	3.00	1:30-4:20 pm	F 200	wastewater treatment
Wednesday	29 September 2004	2.00	2:30-4:20 pm	WT 204	wastewater treatment
Tuesday	05 October 2004	3.00	1:30-4:20 pm	F 200	Site visit to Saanich Peninsula Treatment Plant
Wednesday	06 October 2004	2.00	2:30-4:20 pm	WT 204	solid waste management
Tuesday	12 October 2004	3.00	1:30-4:20 pm	F 200	Site visit to Clover Point Pump Station
Wednesday	13 October 2004	2.00	2:30-4:20 pm	WT 204	Site visit to CRD re outfall monitoring program
Monday	18 October 2004	3.00	1:30-4:20 pm	field	Site visit to Hartland Road Landfill
Tuesday	19 October 2004	3.00	1:30-4:20 pm	F 200	environmental assessments/contaminated sites (lectures or site visits)
Wednesday	20 October 2004	2.00	2:30-4:20 pm	WT 204	contaminated sites (lectures or site visits)
Monday	25 October 2004	3.00	1:30-4:20 pm	F 304	contaminated sites (lectures or site visits)
Tuesday	26 October 2004	3.00	1:30-4:20 pm	F 200	contaminated sites (lectures or site visits)
Wednesday	27 October 2004	2.00	2:30-4:20 pm	WT 204	MID-TERM EXAM
Monday	01 November 2004	3.00	1:30-4:20 pm	F 304	contaminated sites (lectures or site visits)
Tuesday	02 November 2004	3.00	1:30-4:20 pm	F 200	pulp and paper industry
Wednesday	03 November 2004	2.00	2:30-4:20 pm	WT 204	oil spills
Monday	08 November 2004	3.00	1:30-4:20 pm	F 304	Site visit to Norske Canada pulp mill at Crofton

Tuesday	09 November 2004	3.00	2:30-4:20 pm	F 200	Site visit to Coast Guard Spill Response unit
Wednesday	10 November 2004	2.00	2:30-4:20 pm	WT 204	environmental management systems and ISO 14001
Tuesday	16 November 2004	3.00	1:30-4:20 pm	F 200	air pollution
Wednesday	17 November 2004	3.00	1:30-4:20 pm	WT 205	air pollution
Tuesday	23 November 2004	3.00	1:30-4:20 pm	F 200	Site visit to Esquimalt graving dock re environmental management
Wednesday	24 November 2004	2.00	2:30-4:20 pm	WT 204	Site visit to MWLAP building re air pollution
Tuesday	30 November 2004	3.00	1:30-4:20 pm	F 200	Site visit to MWLAP building re air pollution
Wednesday	01 December 2004	2.00	2:30-4:20 pm	WT 204	Guest lecture by BC Ferry Services re environmental management
Tuesday	07 December 2004	3.00	1:30-4:20 pm	F 200	review
Wednesday	08 December 2004	2.00	2:30-4:20 pm	WT 204	review

F= Fisher
 WT= Wilna Thomas
field= no room booked