

Division: ACADEMIC

DATE: June 30, 1993

B: Department: INTERDISCIPLINARY STUDIES

New Course: X

Revision of Course Information form: \_\_\_\_\_

DATED: \_\_\_\_\_

C: Interdisciplinary Studies 102  
Subject & Course No.

D: Perspectives on the Environment - Creating a Sustainable Society  
Descriptive Title

E: 3  
Semester Credit

F: Calendar Description  
Using pollution prevention and waste reduction as a theme, this course takes a multidisciplinary approach to examine social perceptions of the environment and technology. It covers consensus building and public participation, liquid and solid wastes, toxic chemicals, air quality, pollution prevention standards, and economics and marketing issues. Although mandated solutions to environmental problems are discussed, the focus will be on methods grounded in environmental citizenship which encourage voluntary compliance.

Summary of Revisions:  
(Enter date & section)  
Ex: Section C,E,F, &R

G: Type of Instruction:	Hours Per Week/ Per Semester	
Lecture	<u>4</u>	Hrs.
Laboratory	_____	Hrs.
Seminar	_____	Hrs.
Clinical Experience	_____	Hrs.
Field Experience	_____	Hrs.
Practicum	_____	Hrs.
Shop	_____	Hrs.
Studio	_____	Hrs.
Student Directed Learning	_____	Hrs.
Other	_____	Hrs.
<b>TOTAL</b>	<u>4</u>	<b>HOURS</b>

H: Course Prerequisites:

None

I: Course Corequisites:

J: Course for which this course is a pre-requisite

K: Maximum Class Size:  
70

L: College Credit Transfer X  
College Credit Non-Transfer \_\_\_\_\_

M: Transfer Credit:  
Requested X  
Granted \_\_\_\_\_  
Specify Course Equivalents or Unassigned Credit as Appropriate

U.B.C.  
S.F.U.  
U. Vic.  
OTHER:

Valentin Schaefer  
COURSE DESIGNER(S)  
DIRECTOR/CHAIRPERSON

*[Signature]*  
DIVISIONAL DEAN  
REGISTRAR

N: Textbooks and materials to be purchased by students  
(Use Bibliographic Form):

Douglas College. 1993. Pollution Prevention and Waste Reduction Through Social and Technological Change. \$20.00 (approx.)

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Complete Form with Entries Under the Following Headings:

- O. Course Objectives;      P. Course Content;      Q. Method of Instruction;  
R. Course Evaluation

O. Course Objectives:

Upon completion of this course, the student should be able to demonstrate a comprehensive understanding of the following:

1. Local environmental protection issues in the Lower Mainland.
2. Social perceptions of the environment.
3. Consensus building, conflict resolution and paradigm shifts as social processes.
4. Pollution prevention and the minimization of waste in a sustainable community.
5. Solid waste reduction and commercial aspects of recycling.
6. Liquid waste reduction.
7. Toxics use and industrial waste reduction.
8. Air pollution prevention through technological and social change.
9. Air pollution prevention through urban design.
10. Setting and enforcing pollution prevention standards.
11. Interrelationships between the economy and the environment.
12. Consumer awareness and the marketing of recyclables and green products.
13. Environmental citizenship as a new lifestyle approach.

**P. Course Content**

1. Environmental problems in the Lower Mainland and their sources
  - a) population growth trends in BC, with a focus on patterns in the Lower Mainland
  - b) the local physical and natural environment
  - c) land use patterns as they relate to transportation and green space issues
  - d) general considerations of solid wastes, liquid wastes, toxic chemicals, and air quality
  - e) the the history of the livable region strategy and its influence
  
2. Social perceptions of the environment.
  - a) what constitutes the "environment" and "nature"
  - b) the expansionist (domination), Malthusian, and ecological world views
  - c) intrinsic versus instrumental value; deep ecology versus shallow ecology
  - d) challenges to the expansionist world view from ecological, economic, and political domains
  - e) history of current attitudes towards the environment - Aldo Leopold, Rachel Carson, Arne Naess and the Club of Rome
  - f) moral and ethical issues relating to our use and abuse of the environment, and possible solutions to environmental problems
  - g) comparison of different cultural perspectives on the environment, especially those of aboriginal peoples
  
3. Consensus building and public consultation
  - a) definition of circumstances in which there are equally valid priorities
  - b) dispute resolution techniques and approaches as they pertain to social solutions to environmental problems - e.g. Fraser River Estuary Management Program
  - c) the Commission on Resources and the Environment, its successes and failures
  - d) global processes such as the United Nations Commission on the Environment and Development, and the Rio Conference (especially Agenda 21)
  - e) envionics - polling
  
4. Making communities more sustainable
  - a) description of the activities of the National Round Table on the Environment and the Economy
  - b) description of the activities of the BC Round Table on the Environment and the Economy
  - c) general implications of social equity and economic balance in a more environmentally sensitive society
  - d) indicators of progress in areas of social equity, economic balance, and the environment
  - e) bioregionalism and appropriated carrying capacities as considerations in designing sustainable communities
  
5. Reducing solid waste and improving solid waste disposal
  - a) options for reducing solid waste and their business and social implications - electronic mail, standardized beverage containers, composting, etc.
  - b) sources and types of solid waste characteristic of a city, and Greater Vancouver in particular
  - c) differences in dealing with municipal, industrial, commercial, and institutional sources, including demolition, land clearing, and construction wastes
  - d) unique problems each sector faces with collection and disposal
  - e) the strengths and weaknesses of the 3R's approach in changing people's values in adopting more environmentally friendly lifestyles

6. **Reducing municipal liquid waste and improving liquid waste disposal**
  - a) distinction between sanitary sewage and storm drains, combined sewer outfalls
  - b) types and sources of wastes from sanitary sewage
  - c) review of treatment techniques currently used, assessment of costs and benefits
  - d) methods to encourage source reduction and pretreatment of liquid waste from businesses
  - e) sludge treatment; benefits and management of biosolids
  - f) innovative techniques such as wetland treatment
  - g) boats - pleasure craft and recreational liquid waste issues
  
7. **Mechanisms to reduce toxic chemical use in our society and disposal techniques.**
  - a) survey of possible approaches to reduce the need for toxic chemicals - product alternatives (e.g. glass versus plastics), reduced demand (e.g. integrated pest management), fuel alternatives (e.g. solar versus petrochemical)
  - b) types of toxic chemicals, distinction between acute versus chronic effects
  - c) identification of types and sources of hazardous wastes in the home, businesses, and industry
  - e) techniques for hazardous chemical disposal
  
8. **Improving air quality through technology and social change.**
  - a) point sources of industrial and residential air pollutants with respect to global, regional and local issues
  - b) improvements to air quality due to technological change (e.g. pollution control devices on automobiles, precipitators and scrubbers on industrial stacks)
  - c) affect of air pollution on global issues of the Greenhouse Effect, stratospheric ozone depletion, acid rain, and human health
  - d) diffuse sources of air pollutants such as automobile exhaust, smoke, particulate matter, and carbon monoxide
  - e) improvements in air quality through social change - e.g. "Clouds of Change" report, recommendations, successes and failures
  
9. **Improving air quality through changes in urban design.**
  - a) patterns of urban development (e.g. grid versus interrupted, cluster housing) and urban sprawl
  - b) creation of town centres and promotion of nodal development and cluster housing
  - c) transportation patterns and alternatives (e.g. SkyTrain, light rail transit, battery powered vehicles)
  - d) general impact of urban design on other environmental problems such as toxic chemicals from automobile use
  
10. **Setting and enforcing pollution prevention standards.**
  - a) review of acts, regulations, and international agreements relating to waste reduction, waste disposal, and air quality
  - b) environmental impact assessment and environmental indicators
  - c) difficulties in regulating pollution at the regional and international levels
  - d) effectiveness of regulation in protecting the environment
  - e) cultivating new social values in order to promote voluntary compliance to environmental standards within business and industry

11. Economic implications of a more environmentally sensitive society, and using economic measures to improve environmental quality.
  - a) impact of redressing the "tragedy of the commons" by implementing the pollutor-pay principle
  - b) substitution economics as a paradigm to improve environmental quality
  - c) economic instruments to reduce pollution and waste - full cost accounting, life cycle analysis
  - d) interdependence between environmental quality and the economic well being of a community
  
12. Preventing pollution and reducing waste through consumer awareness and marketing..
  - a) options and problems in marketing recyclables and other wastes
  - b) techniques to change buying habits of consumers
  - c) effectiveness of consumer action groups in encouraging less packaging, and promoting the use of uniform beverage containers
  - d) business opportunities created by new environmentally friendly products
  - e) resource accounting and defensive spending as they relate to the GNP
  
13. Environmental citizenship as a new approach to help build sustainable communities.
  - a) elements of environmental citizenship
  - b) the environmental citizen in the Lower Mainland
  - c) improvements to one's quality of life through environmental citizenship
  - d) the environmental citizen in a global community

**Q. Methods of Instruction**

1. Lectures
2. Guest speakers from the community, government and industry in most weeks
3. Public participation through sessions with guest speaker (the general public is invited to these presentations and will join the class)
4. Additional readings may be assigned as required
5. Class discussions will be encouraged
6. Slide shows and/or films

**R. Course Evaluation (At least 5 factors with no single factor worth more than 30%)**

Any Combination of the following to total 100% (To be specified first day of class)

1.	Essays (two to four)	30-60%
2.	Tests (two or more)	20-60%
3.	Instructor's general evaluation (Participation, improvement, quizzes, short assignments, etc.)	10-20%
		_____
		100%