



COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/geog.html>

Ω Please note: the College electronically stores this outline for five (5) years only.
 It is **strongly recommended** you keep a copy of this outline with your academic records.
 You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Tim Elkin		
(b)	Office Hours:	Tues 12.30-2.20; Wed 10.30-11.20; Thurs 1.30-2.20; Fri 10.30-11.20		
(c)	Location:	E238		
(d)	Phone:	370-3115	Alternative Phone:	
(e)	Email:	elkint@camosun.ca		
(f)	Website:			

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

Upon completion of this course the student will be able to:

1. Demonstrate a knowledge of ecological systems and the impact of human activity on those systems.
2. Demonstrate an understanding of key environmental issues.
3. Demonstrate a knowledge of courses of action which address environmental concerns.

3. Required Materials

The required text for the course is Raven, Berg and Hassenzahl, 2012, Environment (8th edition), Toronto: Harcourt [although the earlier edition text (7th, 2010) is acceptable; there will be some differences].

Several required readings are indicated in the topic outline below. These readings, along with the labs, are available in the **course manual**. Students should purchase the **course manual** from the bookstore.

4. Course Content and Schedule

Week starting

Jan 7- Introduction to the course: course outline
 Week1 The Environment: What is the problem?

Lab: Geography of pollution

Class discussion: Human impact on the environment.

What are the most important environmental problems facing us today?

EXAMINING THE HUMAN RELATIONSHIP WITH NATURE

Jan 14- Introducing environmental science and sustainability
 Week 2 Ecological Footprints
 Text: Chap 1

Lab: Environmental science: research and the scientific method; geography of environment; human impact on the environment; measuring ecological footprints

Class discussion 1: Recognizing ecological limits

Do Canadians need to recognize ecological limits and reduce their ecological footprint?

Context: "The world will no longer be divided by the ideologies of 'left' and 'right,' but by those who accept ecological limits and those who don't.", [Wolfgang Sachs](#), Wuppertal Institute

Canada's ecological footprint is one of world's largest, at 7.1 ha per person (*Living Planet Report 2008*); yet its bio-capacity is also very large, at 14.5 ha per person, giving Canadians an ecological reserve of 7.4 ha, and eco-credit of 150% (bio-capacity relative to footprint). Can it be said that Canadians are in fact living within limits?

Required reading:

Global Footprint Network, *Living Planet Report 2008*, p.2-3;
(See Course manual)

Class discussion 2: Scientific assessment, risk analysis and the precautionary principle: Examining risks associated with major projects such as oil development.

Is oil sands development in Alberta an acceptable risk?

Context: The oil spill resulting from BP's drilling in the Gulf of Mexico highlights risk associated with rapidly developing science and technology, and, more importantly, its regulation. As Kenneth Rogoff states, *The disaster ... poses a much deeper challenge regarding how modern societies regulate complex technologies. The speed of innovation seems to be outstripping government regulators' capacity to deal with risks, much less anticipate them.*

In reviewing Andrew Nikiforuk's book, [Tar Sands: Dirty Oil and the Future of a Continent](#), Greystone Books states:

Advancements in technology and frenzied development have created the world's largest energy project in Fort McMurray where, rather than shooting up like a fountain in the deserts of Saudi Arabia, the sticky bitumen is extracted from the earth. Providing almost 20 percent of America's fuel, much of this dirty oil is being processed in refineries in the Midwest. This out-of-control megaproject is polluting the air, poisoning the water, and destroying boreal forest at a rate almost too rapid to be imagined.

Required reading:

Kenneth Rogoff, *Technology, complexity, economy, catastrophe*.
[Globe and Mail](#) Jun 02, 2010 (See Course Manual)

Video: H2Oil

Jan 21-
Week 3

Addressing environmental problems: Policy, economics and worldviews
Text: Chap 2

Lab: Addressing environmental problems: Policy and economics; worldviews.

Class discussion: Addressing environmental problems

How 'green' is our campus? What environmental problems exist on the Camosun campus? What solutions can you identify to these problems?

Video: Subdue the Earth

UNDERSTANDING ECOSYSTEMS

Jan 28-
Week 4

Ecosystems and Energy
Text: Chap 3

Lab: Ecosystems and Energy

Class discussion: Whaling.

Is whaling an unacceptable practice that should be stopped immediately?

Context: The hunting of whales (whaling) has a long history. Traditional hunts by small groups of primarily indigenous peoples have been replaced by high tech factory-style whaling. Until the modern era, whale populations were rarely at the point of extermination. Now, populations of most of the large species and many of the smaller species are at critical levels. Should whaling in international waters be allowed to continue? Should whaling be limited to closely monitored hunts by indigenous people?

Consider the opposing views of whalers and environmentalists who oppose whaling.

Feb 4-
Week 5

Structure and function of ecosystems
Ecosystems and the Physical Environment; Ecosystems and Living Organisms.
Text: Chap 4, 5

Lab: Climate and ecosystems

Class discussion 1: The nature of community.

Is community based mostly on competition or cooperation between members?

Consider concepts in the chapter that support your answer.

Class discussion 2: Agriculture and the use of chemical fertilizers.

Should society use legislation to prohibit farmers using chemical fertilizers? Is there an alternative to chemical fertilizers?

Feb 11-
Week 6

Ecosystems of the World
Text: Chap 6

Class discussion: Protecting BC's temperate rainforest ecosystem
Should cutting of BC's old growth temperate rainforest be stopped immediately?

Lab: Examining ecosystems: Examining Canada's ecosystems using GIS

Feb 18-
Week 7

TEST I

READING BREAK

Feb 25-
Week 8

Human population
Text: Chap 8

Class discussion: Overpopulation

The current human population crisis causes or exacerbates all environmental problems, including energy issues and climate change: What is the solution?

Lab: Human population dynamics

Videos: Hans Rosling, [No more boring data](#); The population bomb

HUMAN ACTIVITY AND ECOSYSTEM CHANGE

March 4-
Week 9

Wildlife and biodiversity
Text: Chap 16

Lab: Biodiversity

Required reading (lab):

Leakey, R., The Sixth Extinction. Ch. 8: *Value in Diversity*. Toronto: Doubleday (see Course manual)

Class discussion: Arctic National Wildlife Refuge

Should the Arctic National Wildlife Refuge be protected or developed as part of North America's oil and gas reserves?

Context: The fate of the Arctic National Wildlife Refuge relates to decisions the US makes about energy policy, transportation choices, and other seemingly unrelated matters. Caught in the balance are the culture and livelihood of the Gwich'in people and the migratory wildlife in this fragile ecosystem.

Video: Oil on ice

March 11-
Week 10

Food

Text: Chap 18

Class discussion: Meat eating and the environment

Should Canadians be required to follow a vegetarian diet?

Required reading (discussion):

Michael Bond, 2008, *the trouble with meat*, Engineering and Technology (See Course Manual)

Lab: Calculating your Ecological Footprint

Required reading (lab):

Wackernagel, Mathis, How Big is Our Ecological Footprint? (See Course Manual)

Video: Ecological Footprint

March 18-
Week 11

Climate change

Text: Chap 20

Lab: Climate change

Required reading (lab):

Thomas Homer-Dixon, 2010, *Introduction* in Homer-Dixon T. (ed.), Carbon Shift: How Peak Oil and the Climate Crisis will change Canada (Vintage Canada) (See Course Manual)

Online discussion

Canada's position on carbon reduction targets:

Should Canada's efforts at addressing climate change be more far-reaching? Given historic emissions does Canada have the same or more responsibility than nations such as China and India? What should we be doing?

Context: *The Conservative Prime Minister made no effort to hide his scepticism over the treaty and his determination not to allow carbon caps or carbon taxes to undermine the Canadian economy. Still, polls showed that most Canadians were deeply concerned about climate change and wanted the government to take action.* (Globe and Mail, Dec 13, 2011)

Canada and the US are unique in setting their targets against 2005 levels, as most nations have set their reductions to be measured by the common UN standard of 1990 levels - the European Union has agreed to 20% carbon reductions from 1990 levels by 2020. The US & Canada are in favour of a 2005 baseline as their carbon emissions have ballooned steadily since 1990. In fact, the US target is only 3.4% below 1990 levels. In Canada, the new target actually increases emissions by 3%, not decreases them.

Required reading (Discussion):

Ronald Wright, 2010, *Foreword* in Homer-Dixon T. (ed.) Carbon Shift: How Peak Oil and the Climate Crisis will change Canada (Vintage Canada) (See Course Manual)

March 25-
Week 12 **Lab:** Examining Canada's climate with GIS

EASTER HOLIDAY

April 1
Week 13 **TEST II**

Focus on research paper

April 8-
Week 14 Focus on research paper

Lab: Thinking of the Future; reflecting on worldviews
Video: Sun Come Up

Research paper due in class

5. Basis of Student Assessment (Weighting)

Tests	- 30%
Lab work	- 40%
Discussion questions	- 10%
Research paper	- 20%

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at camosun.ca for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>

CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.
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7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

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, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED