Course Title: ***'Environmental Controversy'*** ***ENV 222 - 4***
Section: D100 ***Term: 2016 Spring*** ***Course Outline***

Course facilitators: Vance Williams (vancew@sfu.ca)
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Course locations: Tuesdays WMC 3253 (2:30-5:20pm)

Description of Topics:

This course is about environmental controversy and how controversy can inform our thinking about complex socio-scientific issues. In our teaching we will use, experiential, issues-based, and problem –based forms of education to deeply consider two environmental contoversies which will be presented as socio-scientific issues (SSI) where topics in scientific content are examined in their social, environment, cultural, moral, legal, and personal context. The nature of socioscientific issues;

-have a basis in science
-involve forming opinions
-deal with incomplete information due to the nature of science
-address local, national and global dimensions of society and politics
-involve cost-benefits analyses in which risks interact with values
-involve values and ethical reasoning

Socio-scientific issues can be described as, 'ill-defined, multidisciplinary, value-laden, and constrained by missing knowledge' as opposed to more traditional issues based approaches using disciplinary knowledge, objectively oriented and engaging the 'right' procedures often resulting in a single right/wrong answer. SSI is also a pedagogical strategy with clearly defined goals: it aims to stimulate and promote individual intellectual development in morality and ethics as well as awareness of the interdependence between science and society.

Selected Controversy Topics:

For the Spring 2016 Term we have selected the following controversies to consider deeply through a series of experiential learning, dialogue, and problem based- learning scenarios -- each of these is stated below as a thesis to consider and will be lead by one a lead facilitator from the team :

1) That the practice of eating 'green' is bad for the environment. (D. Zandvliet)
2) That the use of 'bio-fuels' is bad for the environment. (V. Williams)

Course Grading Scheme:

The final letter grade will be based on the following weights:

Seminar / Fieldtrip and Tutorial Participation 10%
Maintaining a Reflective Journal 10% (weekly entries)
Individual Assignment 20% ('position paper' due _____)
Small Group Writing Response 20% ('nature of controversy' due _____)
Group Presentation / Paper 40% (problem 'dissection' due _____)

Detailed information re: assignments will be discussed in the first class.
Note: Mandatory participation is required for all field experiences

Rationale for the Course Approach and Teaching Methods

Experiential Learning

Our vision for this course is that students should be given opportunities to engage in environmental learning within and beyond the classroom walls, where critical questions can be asked and a sustained and meaningful dialogue can take place. The term 'environmental learning' assumes that with increased awareness, knowledge, skills, attitudes, values, and motivation, all Canadians can become more ecologically literate and act competently to build a sustainable future for humans and ecosystems.

We feel also that environmental learning has a 'skills base' and that it should be inextricably linked to values and ethical ways of thinking. All learning has value and students (as citizens), engaged in the life of the community, should be involved in the discussions, debates, and decisions that will shape their futures. Educators can, and should, find ways to present environmental and sustainability concepts that will allow learners to draw their own conclusions about important environmental and societal issues.

Our view of environmental learning aims to integrate concepts and principles of the sciences and social sciences, such as ecology, biogeography, sociology, environmental chemistry, environmental psychology, politics, and economics under a single interdisciplinary framework. We want students to learn about how they are connected to the natural environment through traditional subjects and through direct experience in both natural and human designed systems. In the ecological view, students may come to know and understand that all human environments, societies and cultures are deeply embedded and dependent on natural systems, both for their development and their continued survival. These 'ecological' notions of environmental learning are also congruent with the developing discourse around place-based education.

Place-based Focus for Issues

The idea of place-based learning connects theories of experiential learning, contextual learning, problem-based learning, constructivism, outdoor education, indigenous education and environmental education. As BC is a large, diverse province – our ideas about environmental learning would have to take seriously the notion of communities and their importance for both the consultative process, and for deep knowledge about local ecologies, teaching and learning. We will engage with a variety of community resource people as required during the course as guest speakers, panelists or facilitators.

Socio-scientific Issues Approach

Socio-scientific Issues (or SSI) is an issues-based education, where topics in scientific content are examined in their social, environment, cultural, moral, legal, and personal context. In this course we will articulate the nature of socio-scientific issues through a series of carefully selected controversies that will organize our work together. By definition, a true controversy involves issues that are, 'ill-defined, multidisciplinary, value-laden, and constrained by missing knowledge'. SSI is a pedagogical strategy with clearly defined goals – it is process oriented and skill based and will require your full participation in order for you to develop and master these critical and logical problem-based approaches. Through engagement with controversy, we aim to stimulate and promote individual intellectual development in morality and ethics as well as awareness of the interdependence between science and society. An important point to clarify is that SSI education recognizes the personal beliefs of the student when examining issues, instead of the removed objectivity of traditional forms of science education.

Detailed Course Schedule

Jan 12	Course orientation / overview of assignments
Jan 12	Seminar / Project teams assigned
Jan 19	Sample Controversy
Jan 19	Commence Seminar / group work
Jan 26	Sample Controversy (revisited)
Jan 26	Writing Response to Readings
Feb 2nd	Debrief of Sample Controversy
Feb 2nd	Tools / Lenses for Analyzing Controversy
Feb 9th	Reading Break (no seminar)

Group Lead Issues

16-Feb	Fieldtrip No. 1 -- TBA Debrief of fieldtrip no. 1
23-Feb	Issues panel no. 1 Seminar /group work
01-Mar	Problem based session no. 1 Seminar /group work
08-Mar	Fieldtrip No. 2 -- TBA Debrief of fieldtrip no. 2
15-Mar	Issues panel no. 2 Seminar/group work
22-Mar	Problem based session no. 2 Seminar /group work
29-Mar	Issues Groups (Prep Day)
29-Mar	Seminar/group work
05-Apr	Final Group Presentations

Controversy in the Popular Press (due date: _____)

Summarise a controversial issue

Your task is to locate a controversial topic in a newspaper, popular magazine or press release that relates to an environmental concept. Read the article and then summarize it by including a comment on its newsworthiness, importance to the environment and relation to the curriculum. This summary should take up no more than a few paragraphs or so – be sure to include the title, publication and date where you found the article. Please incude the article when you hand this in.

Opinion piece

After summarising the article, it is important to consider both sides of the issue. Take an authentic position on the topic and begin to develop some arguments to defend it. A strong defense of your position might draw on evidence from a number of different perspectives - for example legal, moral, scientific or aesthetic viewpoints related to the topic. State your position on the issue and then detail the arguments you make in support of your position.

Now be contrarian

This is sometimes the hard part in any argument. In this case, we are asking you to now argue the other side of the issue. Repeat the opinion piece above from the opposite perspective now describing the opposing viewpoint and highlighting a number of strong arguments in support of your now contrarion position on the issue. Can you think of as many arguments as you did above? (try very hard!). Finally, consider why these perspectives are different than those above.

Reconciliation

Is there some common ground between the two viewpoints you have described? Does the problem have an easy solution? (Why or why not?) What more could you find out about the topic which could inform either viewpoint. Where might you find this information? In short we want you to describe the 'anatomy of the controversy' and critically analyse whether it is a 'true controversy' and why the issues may or may not be difficult for society to resolve.