What this course is about

Knowledge plays critical roles in many issues that are relevant to Canadian Studies and Sustainability Studies: the evolution of the functions and authority of the state; the relations between the state, economic actors, and civil society, particularly in the context of environmental controversy; the formation and defence of place-based identities and interests; and contested views of nature. This course will examine the significance of scientific and other forms of knowledge, with particular reference to the environment and sustainability. The course will be interdisciplinary, providing students with opportunities to read, analyze, and critically integrate interesting work from a variety of disciplinary contexts.

The literature to be examined will be drawn from work in several countries and several disciplines, including the history and philosophy of science, science and technology studies, environmental history, political science, political ecology, postcolonial inquiry, and environmental justice. The course is also intended to extend beyond conventional approaches to understanding the roles of science in society, to encompass the diverse ways in which individuals, organizations, and society make sense of their surroundings, their experiences, and their values. There will be a special focus on how these ideas about knowledge and society have been, and could be, applied in the Canadian context.

This course is available to students in both the Canadian Studies and Indigenous Studies Program and the Sustainability Studies Program. I imagine that students in either program may have somewhat different purposes in taking this course, and we'll adjust the topics and readings as necessary to ensure that it meets everyone's needs.

The course is organized in three sections, each of which represents a distinct perspective on knowledge, society, and the environment:

1) Critical perspectives on science and society.
Participation                      8 x 3% = 24%
Research Essay                   50% (due in final class)

Each seminar presentation will include preparation of a discussion paper (c. 1500 words) on the week's readings, and leading at least part of that week’s discussion.

Each of the eight participation marks includes preparation of a summary (c. 800 words) of the week's readings, as well as contributions to the class discussion.

The research essay can be on any relevant topic. The finished paper should be c. 25-30 pages, and should represent a significant piece of original research. Ideally, the paper will use a specific issue, case, or event to explore a broader topic that relates to the theme of the course. Students will be encouraged to format their essay so as to be potentially suitable for journal submission. Some potential topics may include:
- Expertise and environmental justice
- Expert knowledge and the urban environment
- The politics of agricultural research and practice
- The intersection of environmental history and the history of science
- Expertise as a political resource
- Expertise and the relations between civil society and the state
- Geographies of knowledge in Canada
- Biodiversity science and conservation
- Knowledge and political controversy
- The evolution of the roles of science in the Canadian state
- The interaction between expert and public perspectives on the environment
- The implications of commercial funding of university research

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Course outline – CSID-SUST 5401H/CAST 6201H, revised as of January 18, 2012

The course will be conducted as a weekly two hour seminar. These readings are subject to revision, in response to student interests and as new literature becomes available.

Section 1. Critical perspectives on science and society. An examination of the social, political, and cultural dimensions of contemporary science, with special attention to the roles of expertise

January 11: Getting acquainted: Introductions, and what we'd like to get out of this course

January 18: Perspectives in Science & Technology Studies: How to think about knowledge: objectivity, rationality, credibility, realism, contingent knowledge and other notions
Readings:
Collins & Evans. Rethinking Expertise (2007): Chapter 1, “The Periodic Table of Expertises 1: Ubiquitous and Specialist Expertises”.

January 25: Expertise, the state, and civil society: The co-production of scientific and political authority

**February 1**: The intersections of indigenous knowledge and scientific knowledge
Readings:

**February 8**: Science and other ways of knowing. The relation between scientific knowledge and knowledge gained through our senses, and within communities
Readings:
Corburn. Street Science: Community Knowledge and Environmental Health Justice (2005), Chapter 2: "Street Science: Characterizing Local Knowledge".
Irwin & Wynne (1996), Chapter 1, Wynne.

**February 15**: Case study: Science and agriculture: Knowledge, economic interests, and sustainability
Readings:

**Section 2. Science and the Canadian environment: historical perspectives. The history of the relationship between Canadians and their environment, examined in terms of the evolution of scientific knowledge, and of the social roles of science and other forms of knowledge**

**February 29**: Historical geographies of knowledge in Canada. The expansion of scientific activity and of scientific conceptions of the landscape.
Readings:

**March 7**: Science and the formation of the Canadian state. The relation between scientific expertise and evolving conceptions of government in Canada
Readings:
Atkinson-Grosjean. Public Science, Private Interests: Culture and Commerce in Canada's Networks of Centres of Excellence (2006), Chapter 1, "Two Divides".
Doern & Kinder. Strategic Science in the Public Interest (2007), "Introduction".


**Section 3. Seeking effective science. An examination of ideas about how scientific and other forms of knowledge can be used in understanding and addressing challenging environmental issues**

**March 21**: Science and “wicked” problems: the case of climate change. How can science help in dealing with the biggest and most complex environmental challenges?

Readings:

**March 28**: Science and economic interests. What are the prospects for effective science in the public interest, when economic interests play a large role in determining its goals and practices?

Readings:
McGarity & Wagner. *Bending Science: How Special Interests Corrupt Public Health Research* (2008), Chapters 1, 2, and 12.
Michaels. *Doubt is our Product: How Industry’s Assault on Science Threatens Your Health* (2008), Chapters 1 and 18.

**April 4**: Science and Democracy

Readings: