

Course Syllabus
 CHBE 573/CIVL 598H: Environmental Engineering and Sustainability
 Sustainability Leadership in Engineering Education
 Term 2, January – April, 2014: 3 credit course: Tues/Thurs 2- 3:30 pm
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Course description:

This course explores the gap between engineering solutions and societal change (adaptation/embrace) in envisioning a sustainable future. Through research, various advances in science and technology have been made. However, for technological advancements to become solutions that will impact society, various social aspects must be in place. What are the assumptions on how the world operates and how people behave? What does it mean to be an educated member of society wanting to contribute to a more sustainable future? Through leadership training, community service learning, and acquiring framework for sustainable practices, students are empowered to develop their own approach and capabilities in contributing to and envisioning a more sustainable future.

Goals:

- To synthesize one’s own insights and shifts in thinking about one’s own leadership approach
- To identify and hone on leadership capabilities necessary to invoke sustainability practices
- To become environmentally literate
- To understand the barriers to public engagement, and communication across the discipline
- To acquire and apply strategies for behavioural change
- To practice creative thinking
- To recognize leadership actions that support the natural rhythms of change when engaging with others in continuous process of social change
- To apply concepts of mentorship and community engagement through Community Service Learning (CIVL 202)
- To understand mechanisms of policy making
- To walk the talk (what does this mean to you?)
- To understand the significance of working within a framework/systems thinking in applying tools such as life cycle assessment

Four pillars:

Theme	Reading References	Topics/Speakers
Nature & human		
We will explore what each of us value. (We cannot protect what we do not know to be valuable and worth protecting) -sense of place	-Teaching environmental literacy -Earth in Mind: On Education, Environment, and the Human Prospect	Leadership styles Pecha Kucha talk Mental model
Energy/food/water		
-global issues -technical aspects	-Sustainability Revolution	Knowledge sharing among students
Community building		
-CIVL 202 mentorship -CHBE sustainability club -municipal planning, BC government -social change -consensus building strategy -engaging public	-Living Above the Store: Building a business that creates value, restores community and protects the natural world -Fostering Sustainable Behavior	CIVL 202 – Community Service Learning: Susan Nesbit & Ara Beittoei Interdisciplinary engagement through learning activities with another class
Tools		
-LCA/systems thinking -understanding policy -human change dynamics - marketing sustainability -finding your voice	-Merchant of doubt -The practice of adaptive leadership -Industrial Ecology and Sustainable Engineering -Sustainable Development in Practice	Adaptive leadership Understanding policy Insight into behaviour change