Sustainability and Social Change

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Requirements:

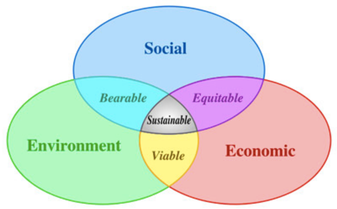
1. Attendance, reading and discussion (30%)
2. Wiki-based group project report (for examples, see previous group projects here). You will meet certain milestones throughout the course. For ideas about projects, join the Sustainability Research FB page (40%)
3. Lab Reports: (30%)

9/20 Week One: Introduction: How do We Define Sustainability?

• With the help of an in-class ranking exercise, we will look at definitions of sustainability.
• I will go over the general structure of the course and explain the group projects.
• In-Class Exercise: Packaging Lab

9/27 Week Two: Sustainability as The Triple Bottom Line

• This week we will be looking at sustainability as "The Triple Bottom Line" (environment, economy, society -- also known at The Three Ps (People, Planet, and Profit). From this perspective, sustainability involves maximizing win-win decisions in the overlap between these different spheres:



• Students from different disciplinary fields will read and present information from their readings to the class:
  - Science: McKay, Sustainable Energy without the Hot Air, Chapter One
  - Humanities: Owen, "Green Manhattan"
  - Social Sciences: Byrne, "Energy as a Social Project."
• In class exercise: Life-Cycle Analysis Lab #1

10/4 Week Three: Sustainability as a Wicked Problem

• We will read some critiques of the best practices approach to sustainability, and some articles on sustainability from the "wicked problem" and flux of nature perspectives.
• In class exercise: Measuring your Carbon Footprint

10/11 Week Four: Sustainability as Design

• We will all read the Sustainable Design Chapter on the blog.
• We will all listen to the TED Talk by Tim Brown:
  - http://www.ted.com/talks/tim_brown_urges_designers_to_think_big.html
  - http://vimeo.com/5861210
  - http://www.ted.com/talks/tim_brown_on_creativity_and_play.html
• DUE: Design Steps 1-3

10/18 Week Five: Sustainability as Planning and Management

• All read:
• Bierman, Managers of Global Change, Chapter 1
• Activity: Life Cycles and Value Chains

10/25 Week Six: Sustainability as Social Entrepreneurship

• Entrepreneurship, Innovation, and Sustainability Strategies at Walden Paddlers, Inc.
Paul H. Farrow, Richard R. Johnson and Andrea L. Larson Interfaces , Vol. 30, No. 3, Sustainable Business (May - Jun., 2000), pp. 215-225

• Guest Speaker Panel: Peter Taylor, Wind Energy Association; Solar Energy Co.

11/1 Week Seven: Sustainability as Alternatives

• Chapters from Goodman, DuPuis and Goodman: Alternative Food Networks

11/8 Week Eight: Sustainability as Social Justice

• Chapters from Cultivating Food Justice
• Activity: Is your cellphone sustainable?

11/15 Week Nine: Sustainable Cities

• Readings on the New Urbanism
• New Urbanism Tour

11/22 Week Ten: No class -- project teams meet with instructor

11/29 Week Eleven: Project Presentations

University academics have been stymied by a specific question: How do we teach sustainability and, more anxiously, *can* we teach this stuff?

"[S]ustainability scholarship and activism are conceptual hybrids that do not fit into traditional disciplinary boundaries"

Yet, even more than this, sustainability involves a "multiplicity of knowledge as well as a multiplicity of *forms of* knowledge"

--Brand and Karvonen (2007:23,25).

In other words, sustainable knowledge is not just the "whats" of technical facts but also the "how" of these various hybrid, multidisciplinary, multi-modal knowledge production processes.

Therefore, while it is still important to impart technical facts -- like the efficiency of wind farm blade designs -- to students, it is equally important to train students in tacit, "post-normal," interdisciplinary, contextual and issue-driven knowledge production processes (Functowitz and Ravetz, 1993).

Reflexivity, like normal science, requires the acquisition of skills. Sustainable Design as Social Change seeks to teach these "know how" skills:

Know How 1: Subjective Knowing
Each person learns important information through personal experience, history and their own social situatedness.

Know How 2: Discursive Knowing
Discursive knowing is produced through social interaction and conversation among collaborators who work jointly to complete complex tasks that require coordinated action.

Know How 3: Practice-based Knowing
Practice-based knowing is a form of situated activity that is distributed across the tools-in-use, users, and the material and social context in the field of discovery

Example: The Packaging Lab
A collaborative, active learning in class activity that trains students in all three know-how skills.

Step 1: Subjective Knowing
Students begin by individually ranking the packaging of selected consumer goods in terms of their degree of "sustainability" (a concept left undefined in the lab) relative to the others.

Step 2: Discursive Knowing
Students work in small groups and therefore must come up with a consensual rankings despite different individual criteria.

Step 3: Technical Knowing
In the process of discussion, students begin to ask technical questions, in order to ascertain whether or not particular packages in fact met their subjective criteria ("Is this plastic recyclable?" "Is less packaging that is less recyclable really better than more but recyclable packaging?").

Step 4: Practice-based Knowing
Students work together to collaboratively design a sustainable package.