Sustainable Iowa Capstone Experience (SICE)

Spring 2008 **820:140:23** **Friday 9:00-10:50** **CEEE 16**

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Office Hours: By appointment

Course Objectives

This section of Capstone will be taught under the theme of "Sustainable Iowa Capstone Experience (SICE)." This course, first taught in Spring 2006, offers students an understanding of the issues surrounding sustainability, and how to impact thinking and action to achieve it. The first objective of the course is to enhance understanding of the concept of "Sustainable Development," most simply defined as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs." The second one is to help you to realize that beyond a mere concept, sustainable development is likely to be a dominant motivating force in the 21st century that will drive revolutionary changes in how our economy interacts with the biosphere that supports it. The changes that will occur will likely have a profound impact on your lives and the lives of your children and grandchildren.

The transition to a sustainable society will not happen overnight; it will be a decades-long process possibly spanning the entire century. The challenges to transitioning to this kind of society are daunting. We will explore those challenges in this course. Focusing on the challenges alone, however, can easily foster a "doom and gloom" attitude about the future. Instead, we will focus on the tremendous opportunities afforded in meeting the challenges, and creating a world where wealth creation is in harmony with [rather than opposed to] sustaining the biosphere. My wish is that each of you will leave this course excited about this optimistic future and willing to do your part in realizing it.

Course Requirements

Attendance and participation (25%)

You will gain maximum benefit from this class if you actively participate in it through dialogue, comments, and questions [rather than a passive approach where you sit and are content to be lectured to]. It is thus very important that you attend every class and actively engage yourself in the flow of discussion and class activities. I will honor legitimate excuses for absences. If you are an athlete and must attend a sporting event, or have to be away for events related to academics, please inform me **before** the day of the event. Illness and other excusable reasons for your absence should be reported to me as soon as possible. It is the responsibility of those absent from class to make up any assignments or access any materials presented in class that day. If you do not show up at class, and I do not hear from you, points will be deducted from your final grade, even if there is a legitimate excuse.

You will receive a maximum of 10 points for attendance and 15 points for class participation. The measure of your participation will be based on two criteria. One is the **questions or comments** (10 pts.) you offer during class discussion, either during my lectures or during the student presentations. **Since I will not remember who asked what questions or made which comments, you should write down your in-class contributions on a slip of paper and hand it to me directly after class**. Although you do not have to participate verbally during every class, 10 to 15 questions/comments over the course of the semester is a reasonable benchmark to shoot for. You may also receive participation points for attending specified lectures and videos during the semester. This option may be particularly appealing to those who are not as verbal as others in class. The second criterion is based on **class etiquette** (5 pts.). During class I expect you to be attentive and alert. Examples of unacceptable behavior during class time include yawning, gossiping, reading the newspaper, studying or doing homework for other classes, sleeping, or displaying other signs of inattention that will disrupt the tenor of the class. If I notice you are doing any of the above, I will detract points from your overall participation grade. Such behavior is not only rude and disrespectful to others, but also in practical terms you won't have time for goofing off because learning the material in this course will require your full attention. I will also consider how you interact in your group assignments [see below]. As a group member you should do an equal share of the group work. This will benefit the quality of the group project as well as avoid resentments among group members.

Quiz (15%)

In the first part of the course [approximately the first five weeks], I will present a series of lectures to provide background on the circumstances and tendencies that, at this time in human history, are driving the debate about

sustainable development, and actions that can be taken to achieve it. You will learn to be conversant about sustainability issues, and have a vision for how it can be achieved. At approximately the sixth week, you will be quizzed on what you have learned about sustainability. There is no required textbook. You may prepare for the quiz by studying my class slides, which will be posted, and taking lecture notes.

Class Presentations (20%)

In the second part of the course you will learn, by practical example, about the complexity of the trade-offs between economic development and environmental protection that characterize our current era of "non-sustainable" development. The main issue for analysis will be – **Should we continue to build coal-fired power plants?** You will see that answering this question will require consideration of a multi-faceted suite of sub-issues related to environmental/health concerns, economics, politics and policies, and alternative technologies. The class will split into approximately ten groups of three, with each group selecting one sub-issue related to the main issue. You will conduct research on the chosen sub-issue, and present the results of your analysis to the class. Your job is to show the connection of your sub-issue to the main issue, identify the major characteristics and qualities of the sub-issue, discuss important aspects and impacts of the sub-issue as it relates to the main issue, and identify how your sub-issue is linked to the sub-issues of other student groups. Your research topics may span a range of disciplines that include technology, environment, politics, economics, business, sociology, international relations, and public information/perceptions.

Your oral presentation will be worth 15 points, and a written assessment of how your sub-issue is related to the other sub-issues will be worth 5 points.

Action to Improve the Environment (35%)

Perhaps the most rewarding component of the course, and the one that may make the most lasting impression on your views about the environment and sustainability, will be the task of conducting **"a responsible environmental action."** You may conduct the action as a group or as an individual. This academic year, I would like you to consider working on UNI campus service projects pertaining to energy conservation, recycling, or any one of numerous other topics related to sustainability. You may or may not know that there has been an explosion of interest in sustainability on campuses across the U.S. [see for example, the website of the *Association for the Advancement of Sustainability in Higher Education* (AASHE) at www.aashe.org/]. Many thousands of students, faculty, staff, and college administrators are seeking ways to make their campuses more sustainable, and UNI is no exception. In September of 2006, President Allen established the UNI Energy Conservation Committee, challenging its members to provide a plan for saving energy and promoting sustainability at UNI. Achieving these objectives will require cooperation of the entire campus community. Thus, opportunities are plentiful for finding projects on campus or in your dorms/apartments. Last semester my Capstone students conducted nine campus service projects, and some of these would benefit with follow up work. You may consider working on one of those, or you may have your own ideas about projects you can pursue. Each student is expected to invest 10 to 12 hours of work on their projects. Since this component will be a major part of your coursework and final grade, you should finalize your action plan and begin working on your projects within the next few weeks.

Final Exam (5%)

The final exam for this class will be in the form of a short essay [maximum of three double-spaced pages]. The topic will be your evaluation of the course. Reflect on how this course may have influenced your thinking about the environment and sustainability. You are welcome to critique the course, discussing what you have and haven't liked, and offering suggestions for improving course structure or content.

Sustainable Iowa Capstone Experience
Schedule, Spring 2008)
Section 820:140:23
Friday 9:00-10:50
(tentative: January 18, 2008)

January 18	A. Introductions, orientation, course description. B. Preliminary remarks: sustainability, paradigm shifts, and homeostasis. C. Divide into groups for class group activities [Class Presentation, Action to Improve the Environment].
January 25	A. Lecture: Background discussion - Should we continue to build coal-fired power plants? B. Lecture: Challenges and opportunities in the 21st century - Natural global change.
February 1	A. Lecture: Challenges and opportunities in the 21st century – Earth science and human-induced global change. B. Submit draft outlines: 1) Class Presentation; 2) Action to Improve the Environment.
February 8	Lecture: Challenges and opportunities in the 21st century – Achieving sustainability.
February 15	Lecture: Challenges and opportunities in the 21st century - Achieving sustainability.
February 22	Quiz on lecture materials.
February 29	A. Final preparations for group presentations: Discussion of outlines. B. Submit: Progress report on Action to Improve the Environment.
March 7	Student presentations: Should we continue to build coal-fired power plants? Groups 1 and 2 [include hard copy of presentation materials].
March 14	Student presentations: Should we continue to build coal-fired power plants? Groups 3 and 4 [include hard copy of presentation materials].
March 21	Spring Break
March 28	Student presentations: Should we continue to build coal-fired power plants? Groups 5 and 6 [include hard copy of presentation materials].
April 4	Student presentations: Should we continue to build coal-fired power plants? Groups 7 and 8 [include hard copy of presentation materials].
April 11	Group Get-Together
April 18	Student presentations: Should we continue to build coal-fired power plants? Groups 9 and 10 [include hard copy of presentation materials].

	B. Homework assignment: Should we continue to build coal-fired power plants? Linkages between sub-issues, make you decision.
April 25	A. Student presentations: Action to Improve the Environment. B. Final report due: Action to Improve the Environment. C. Homework assignment due: Linkages between group sub-issues, make your decision.
May 2	Guest Lecture, plus in-class writing assignment.
May 9	**Last day for handing in final exam**