

Why are you interested in this FaCE project? What do you hope to gain from the workshop?

In a sense, my interest in sustainability began as I worked with my father on a small farm in northern Indiana. While our operation was not particularly “green”, my father’s efforts were often focused on taking care of the land that he farmed. As an undergraduate, my focus on issues related to sustainability was honed by faculty who taught courses in a broadly based environmental studies program at Butler University. Professor Dick Miller showed me the complexity and rigor of the study of ecology, as well as introducing me to the complex issues of the time: energy, acid rain, water quality, and toxic wastes. Perhaps most importantly, he also introduced me to the work of Aldo Leopold, whose work has shaped my thinking on environmental issues since that time.

Our curricular efforts at Coe in fields related to sustainability have largely been in the sciences in the past 10-15 years. We have an environmental science program, which requires completion of either a chemistry or biology major, with appropriate advanced courses taken in the non-major area. Thus a chemistry major might pick up environmental microbiology and spatial ecology to complement work in analytical and organic chemistry. Several faculty members have research interests in environmental science-related areas, so students typically have an opportunity to pursue summer research projects in addition to course work. The program serves a relatively small pool of students very well, providing a strong background for students wishing to do graduate work in environmental science or to work in the environmental area.

However, in more recent years, there has been steady interest in broader environmental issues from students, staff, and faculty. A student environmental group has displayed sustained interest and activity for several years. Several courses have been added to the curriculum - typically on an occasional or rotating basis - that address environmental issues. A key step has been President Jim Phifer’s decision to sign the American College and University Presidents’ Climate Commitment (ACUPCC), which created an official coordinating group on campus and made a public commitment to moving the college toward climate neutrality. As a result, we have begun implementing more sustainable practices as part of our campus operations - in a manner well-described in Sherman’s “Sustainability - What’s the Big Idea?” included in the reading materials for this meeting. (For more details on these activities, see <http://www.coe.edu/aboutcoe/coegreen>.) We believe that we have a critical mass of interest at all levels to establish a broader environmental program - the question is what type of program will best serve student and faculty interests, and be sustainable over the long run.

The readings provided for this workshop address (or at least pose) many of the questions that we need to answer in designing this program. (Quotes are from “Four Challenges of Sustainability” by David Orr and “The Critical Role of Higher Education in Creating a Sustainable Future” by Anthony Cortese - both included in the reading materials for this workshop.)

- Howard and Elisabeth Odom suggest that a “curriculum organized around the study of relationships between energy, environment, and economics and how these apply across various

scales of knowledge” is key to improving the public understanding of sustainability. This suggests focusing on natural sciences and economics as the core of sustainability education.

- E.F. Schumacher suggests that “human problems, like those posed by the transition to sustainability, are not solvable by rational means alone.” Orr goes on to state that “something akin to spiritual renewal is the *sine qua non* of the transition to sustainability”, suggesting that an understanding of the problems and possible technical solution is inadequate. How do we build this deeper understanding into a student’s education?
- Cortese lays out an ambitious program for higher education that includes changing the *content of learning* to include “systems thinking, dynamics, and analysis for all majors, disciplines, and professional degrees” as well as changing the *context of learning* to “make human/environment interdependence, values, and ethics a seamless part of teaching of all the disciplines”. This way of thinking implies that a specialized program of study for some students isn’t the answer - but is it a stop on the way to a larger integration across the curriculum?
- At a time when many of our institutions are unlikely to be adding new positions to the faculty, what are the most effective strategies for adding the expertise necessary to effectively teach these concepts? If teaching loads are heavy and curricula rigid, how do we most effectively integrate these ideas?

I look forward to hearing about ongoing efforts at other ACM institutions and to stimulating discussions.

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