

**Mapping Sustainability Education at UMass**  
*A Report of the Education and Research Sub-Committee  
of the Chancellor's Sustainability Committee*

**Spring 2013**

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## Executive Summary

During Fall 2012 a task force of the Education and Research Subcommittee of the Chancellor's Sustainability Committee (formerly known as the Environmental Performance Advisory Committee) held a series of five workshops to engage faculty in discussions about current practices and challenges relevant to sustainability education at UMass Amherst. Over 50 faculty members, instructors, and staff from 23 departments and representing eight additional academic programs attended these events.

Overall, data collected at these workshops show that there exists a distinctive group of faculty across the entire campus who are united by a strong interest in sustainability education. In particular, we discovered a surprising and encouraging degree of agreement among these diverse faculty members regarding,

- *learning outcomes* related to sustainability education.
- that achieving these learning outcomes impacts “*not only what we teach but how we teach.*”
- that the current discipline-based administrative structure of the university presents *challenges* to the continued emergence and development of sustainability related educational programs on campus.

Based on these findings this report makes three interrelated recommendations that members of the task force believe will advance the ongoing development of sustainability education at UMass. We believe implementing these recommendations will help demonstrate that UMass Amherst is a leading national university in matters related to sustainability.

- The implementation of a framework and process for ongoing development of ***sustainability-related learning outcomes*** for the whole university as a way to advance sustainability education.
- The creation of a campus-wide ***Sustainability Education Program Committee*** to provide academic oversight of sustainability related courses, programs, and co-curricular activities.
- Campus commitment to ***ongoing faculty development*** in the sustainability area.

The body of this paper provides (1) background regarding the state of sustainability education at UMass Amherst as of December 2012, (2) a brief description of the process used by the task-force to develop and implement the fall 2012 workshops, (3) a detailed description of the “takeaways” from the workshops and, (4) the resulting recommendations.

## **The (mostly) Autonomous Emergence of Sustainability Education at UMass-Amherst.**

Interest in sustainability education has grown demonstrably over the last decade. Today, many consider exposure to sustainability concepts and trends a foundational part of a college education. Indeed in a recent survey seventy-eight percent of businesses reported that the importance of environmental and sustainability education as a hiring factor will continue to increase and that moving forward, “many jobs will be green jobs.”<sup>1</sup>

As a consequence, many U. S. universities and colleges have begun to both integrate sustainability concepts into existing programs, as well as develop new, sustainability-focused programs. *The New York Times* recently reported a survey by *The Princeton Review* in which 69 percent of prospective students “said that a campus's eco-friendliness would influence their decision on where to apply to college.”<sup>2</sup> Consistent with this national trend, in 2008 the University of Massachusetts joined some 665+ U.S. colleges and universities in signing the American College & University President’s Climate Commitment that commits the institution to integrate climate and sustainability into education and research.

But although the University has made a centralized, institutional commitment to sustainability education, course and program development has proceeded in an uncoordinated fashion. Acting more or less independently, individual faculty and departments have revised courses and developed sustainability related programs. The surprising fact is that even without central coordination, departments from each of our colleges and schools have moved in a similar direction, and UMass Amherst now has a rich set of course offerings covering various elements of sustainability. Indeed, a new on-line sustainability course database developed by our subcommittee in 2012 lists over 150 courses with a sustainability component and these courses are offered through 25 different departments.<sup>3</sup>

It is clear therefore, that not only will sustainability issues play an important role in the future of higher education, but that UMass Amherst has significant strengths in this new emerging area. Faculty and departments across campus have recognized the importance of sustainability issues and have responded accordingly. The relatively autonomous manner in which courses and programs are being developed, however, raises questions about the consistency and coherence of emerging sustainability curricula. To begin to address these concerns, during fall 2012 a task force of the Education and Research Sub-committee of the University’s Chancellor’s Sustainability Committee<sup>4</sup> held a series of faculty workshops to (1) gain a better

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<sup>1</sup> Companies Cite Growing Interest, March 2009, ([www.greenbiz.com/news/2009/3/19](http://www.greenbiz.com/news/2009/3/19))

<sup>2</sup> More Colleges Adding 'Green' to School Colors, August 2011  
(<http://www.nytimes.com/cwire/2011/08/16/16climatewire-more-colleges-adding-green-to-school-colors-4232.html>)

<sup>3</sup> UMass Sustainability Course list (<https://www.umass.edu/sustainability/class-list>)

<sup>4</sup> The Chancellor’s Sustainability Committee was formerly known as the Environmental Performance Advisory Committee.

sense of where and to what degree sustainability concepts are being integrated into curricula across campus, (2) assess faculty interest and commitment to such efforts, and (3) tap the collective wisdom of interested faculty regarding how sustainability education can best be advanced on campus.

### **Mapping Sustainability Education at UMass: The Fall 2012 Workshops**

To prepare for the on-campus workshops two members of the task force attended a three-day “train the trainer” type workshop held by the Association for the Advancement of Sustainability in Higher Education (AASHE) during June 2012.<sup>5</sup> During this event, attendees learned best practices and shared experiences with colleagues from other institutions on how best to advance sustainability education on campus.

Informed by this experience, the taskforce designed and conducted a sequence of three mini-workshops. Interested faculty from across campus were invited to attend. To accommodate as many faculty as possible the October and November workshops were each offered twice (alternative teaching days during the same week). In the end, 50 faculty members from 23 departments, as well as staff representing eight academic support programs attended these events. Observations and feedback from the events suggest high interest and motivation among attendees.

Our first workshop (September 19 and 20) began with an overview of alternative perspectives and definitions of sustainability drawn from the AASHE conference. Next, small-group discussions brainstormed lists of learning outcomes relative to sustainability that faculty believe all students, regardless of discipline, should acquire. These discussions generated a rich sharing of information and a set of insights leading to an emerging set of common learning outcomes. Highlights of the discussions were reported back to the larger group and documented on newsprint.

Between the September and November workshops, task force members reviewed and analyzed the information generated by the attendees. The result was a preliminary set of learning outcomes to be considered at the next sessions.

During the second set of workshops the preliminary learning outcomes were presented to the group. The larger group was then organized into sub-groups and asked to discuss the following set of questions.

- Are there additional learning outcomes (or better ways of grouping these six) that should be considered?
- Which of the learning outcomes do the courses you teach contribute to?
- Which of the outcomes does your department’s curriculum contribute to?
- Are any of the outcomes currently being overlooked?

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<sup>5</sup> AASHE is the leading international organization advancing sustainability education in higher education. It provides services such as the workshop referenced here to over 1000 educational member organizations throughout the world and administers the STARS rating system

- If so, what types of courses/programs (including co-curricular activities) would contribute to underrepresented learning outcomes?

Between the November workshops and the final one in December, task force members again reviewed and analyzed the output generated by the attendees. The result was a growing awareness of institutional barriers that create challenges for sustainability education. During the last workshop attendees were asked to discuss opportunities and challenges to the continued development of sustainability education at UMass.

### **Key Takeaways: Learning Objectives, Opportunities, and Challenges**

Several broad conclusions can be drawn from the workshops.

- 1 There is a growing and strong interest in sustainability education among faculty at UMass.
- 2 Among these faculty there is a general consensus concerning the goals and outcomes of sustainability education and that achieving these outcomes has implications for not only what we teach but how we teach.
- 3 The current discipline-based administrative structure of the university presents *challenges and disincentives* to the continued emergence and development of sustainability-related educational programs on campus.

More specifically, the workshop discussions reflected a high level of agreement regarding the following sustainability related learning outcomes.

- Students should have an understanding of 21<sup>st</sup> century national and global environmental and social challenges.
- Students should understand concepts of sustainability and how they are connected to issues of social justice, the environment, and the economy.
- Students should have an understanding of how systems are interrelated and be able to utilize systems thinking in problem solving.
- Students should have an appreciation of multiple disciplines and be able to work productively in multi-disciplinary teams.
- Students should understand the need for civic engagement and how to apply sustainability principles to local issues.

In discussing learning outcomes attendees recognized that in addition to presenting sustainability related content, achieving these outcomes is greatly impacted by how we teach. In particular, attendees cited the need for.

- Multi-disciplinary approaches to course development and delivery.
- Courses that include students from multiple majors/disciplines
- Experiential and Service Learning courses and co-curricular activities.

As these ideals became recognized and appreciated attendees made note of the university's discipline based administrative and academic structures and how these created unintended obstacles and disincentives for the continued development of sustainability education on campus.

### **Recommendations for Advancing Sustainability Education at UMass**

Based on the information and discussions held during the workshops the sub-committee has developed a set of three interrelated recommendations that members believe will advance the ongoing development and delivery of sustainability education at UMass.

- The implementation of a framework and a process for ongoing development of *sustainability-related learning outcomes*.
  - Adoption of the learning outcomes described above as a preliminary framework to be used across campus as a tool for guiding course and program development and determining the degree to which specific courses and programs are focused on or are related to sustainability.
  - Approval of a process for the development of sustainability related learning outcomes that is inclusive and ongoing. This process should recognize sustainability education as an evolving field. Learning outcomes should be revisited annually and revised as necessary to accommodate recommended amendments, additions, etc. from the campus community.
- The creation of a campus-wide *Sustainability Education Program Committee* to provide academic oversight and coordination of sustainability related courses, programs, and co-curricular activities.
  - Members of this committee will be recommended by the Deans from each of the Colleges and appointed by the Provost. The committee will make recommendations and reports to the Dean's and the Provost each semester.
  - In addition to academic oversight of courses, programs and other activities, the committee will seek to enhance interdisciplinary collaboration among faculty, provide faculty training opportunities, and oversee and track institutional achievement in sustainability academics and research.

- This committee would replace the present Chancellor's Sustainability Committee's Education and Research sub-committee.
- Campus commitment to *ongoing faculty development* in the sustainability area.
  - The committee will actively engage faculty in on-campus development opportunities and develop funding mechanisms for faculty to engage in regional and nationally supported trainings to further sustainability literacy and pedagogy among campus faculty.

In closing, it should be noted that the above recommendations are seen as interim steps to facilitate the ongoing evolution of sustainability based education on campus. Over time we anticipate sustainability becoming increasingly integral and central to the University's educational mission. Thus, in addition to an ever-evolving set of learning outcomes, we envision the eventual creation of a more formal ***administrative structure*** that facilitates interdisciplinary collaboration and program development.