

## Cross-cultural education for sustainability: development of an introduction to sustainability course

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### Abstract

This paper reports on Ball State University's activities in the area of education for sustainability and current activities to develop an Internet-based Introduction to Sustainability course. As the course will be Internet-based, it will mesh well with and can serve as the introductory course in the sustainability curriculum of Ball State University Land Design Institute's international network of Sustainability Consortia, and can be used in sustainability education programs within the context of other international partnerships. This course will serve as a foundation for that effort and for a broader curriculum that can be delivered across cultures. Ball State University's Clustered Minors in Environmentally Sustainable Practices utilizes three courses to address the social, environmental, and economic aspects of sustainability: environmental ethics; ecology; and environmental economics. The intention is to compose a course comprising elements from all three dimensions. The course will include Internet content and assignments and will exploit the emerging ability for Internet-based teleconferencing for real-time interactions among students and faculty at diverse international sites.

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Ball State University (BSU) is reaching out through its Land Design Institute to collaborate with an international constituency in the development and delivery of a sustainability curriculum. This effort is being pursued through the Institute's international network of Sustainability Consortia and is exemplified by on-going cooperation with the Department of Architecture at ITESM, Campus Monterrey, Mexico.

The need for international collaboration is reflected by the United Nations 2002 resolution designating 2005–2014 as the Decade of Education for Sustainable Development [34]. International collaboration serves multiple purposes. It promotes intercultural understanding and harmony, fosters the exchange

of information regarding local solutions to sustainability problems that may be transferable, and provides insight into limitations of parochial world views that overlook broader sustainability issues and solutions.

In developing their collaborative partnership, faculty of BSU and ITESM have recognized that a sustainability curriculum will be well served by a strong foundation course that introduces the principles and primary issues of sustainability, demonstrates their inter-relatedness, and provides a framework for the integration of information in follow-on courses that treat these principles and issues in more depth.

This perspective is also supported in UNESCO's draft Framework for an International Implementation Scheme for the Decade of Education for Sustainable Development. They suggest changes in educational orientation to include:

“Rethinking and revising education from nursery school through university to include a clear focus on the

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development of the knowledge, skills, perspectives and values related to sustainability is important to current and future societies. This implies a review of existing curricula in terms of their objectives and content to develop transdisciplinary understandings of social, economic and environmental sustainability” ([33], pp. 4–5).

This course will serve as a foundation for that effort and for a broader curriculum that can be delivered across cultures. This paper provides an outline of a course that can meet these and other needs. A sample syllabus is provided in [Appendix A](#).

### 1. Needs to be met by an introductory course

In an introductory course for sustainability, there should be a balance between breadth and depth of coverage. There is a need for breadth that provides an understanding of the complexity and system’s nature of sustainability tempered by the realization that a full understanding of each of the issues that is a part of that complexity cannot be developed in one course. Full treatment of specific issues must be remanded to later courses in the curriculum.

Since the course is intended to play a role in an international network of Sustainability Consortia, the issues must be global in nature. Examples cannot focus solely on one country or region. Multinational examples will reflect localized diversity and commonalities across regions in sustainability challenges and solutions. The course should also draw upon materials that are broadly available (focusing on Internet materials) in multiple languages whenever possible.

At Ball State University, the grounding in sustainability principles for students enrolling in any of the Clustered Minors in Environmentally Sustainable Practices is provided by a trio of courses: Environmental Ethics; Environmental Economics; and Ecology. While this set of courses covers the three major dimensions of sustainability, there are problems associated with this approach that can be overcome by integrating the three dimensions within one course. This will allow students to examine the interdependencies among social, economic, and environmental systems and the manner in which they collectively provide the necessities for human survival and to examine sustainability from a holistic system’s framework. With three pre-existing courses that have been developed independently and without a focus on sustainability, the interrelationships are not addressed in a holistic, systematic way. In addition, while a system’s approach is inherent in ecology courses, system’s theory is not stressed nor are its principles taught in the other two courses. A final difficulty is that both environmental economics and ecology have prerequisites that have been waived for the Clustered Minors program. This has not been altogether satisfactory for the students or for the faculty in these courses. Having an introduction to sustainability course can address all of these issues. The benefits of the one-course approach can be summarized as:

- Course designed with a specific focus on sustainability;
- Multiple aspects of sustainability integrated throughout the course;
- No need for cross-departmental coordination of section offerings;
- Introduction is handled efficiently with one course rather than three;
- No prerequisites.

### 2. A working definition of sustainability

Before a discussion of sustainability can proceed, it is necessary that a definition of sustainability be established. For this paper sustainability is viewed as Humans Surviving Indefinitely into the Future with an Acceptable Quality of Life. The issues to be covered in the introductory course, then, are those factors that affect the viability of human survival and the quality of that survival. Addressing these issues requires a framework within which the factors may be examined.

### 3. A framework for sustainability

The framework that is proposed for the course is the same that has emerged internationally; embracing environmental, economic and social issues. It has become evident through discussions with those in various countries that the focus in North America is on the economy first, followed by an emerging awareness of the importance of the environment, with little attention to the social dimension of sustainability. On the other hand, in Brazil, Mexico, and South Africa, the focus is on the social dimension first. This course must reflect factors comprised by all three dimensions. Ongoing discussions with partners in Mexico and Brazil are aiding in the development of this multidimensional perspective.

#### 3.1. A system’s perspective

Within the global system, elements of all three subsystems (environmental, economic, and social) interact with each other to exchange information, energy, and materials, while at the same time, elements within each subsystem are interacting with each other. Because human survival and quality of life depend on the functioning of these systems, a system’s perspective adds three other criteria for the assessment of the potential for sustainability. Survival depends on intact, functioning systems; available energy to run the systems; and the material resources used in system’s processes for the generation of outputs (which in turn are exchanged with other system’s elements). Since system’s functioning is essential in generating the outcomes necessary for survival, an introductory course in sustainability must begin with grounding in system’s thinking. This will allow students to better understand the complexity of systems on which survival depends. In addition, it will provide them with a more comprehensive perspective on the human role in system’s viability and preservation

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