

BUA 600: Managing Sustainability: Purpose, Principles, and Practice

Whitman School of Management

Spring 2009

M/W 12:45-2:05 pm

There is broad agreement that human activities are changing the global climate and that future consequences are potentially disastrous. In addition, over-consumption of resources and benefits supplied by natural ecosystems has impaired the foundation of human activity. Institutions, organizations, and individuals have prescribed “sustainability” to cure these ills. Sustainability is typically said to represent the synergy of economic, environmental, and societal goals, but this definition is deceptively straightforward. Consensus in favor of continued human existence on our planet is simple to achieve. Recognizing, understanding, and affecting the complex and interdependent systems that will make this possible is much more challenging, thought-provoking, and fascinating.

Learning Outcomes

A student who has completed this course will:

1. Appreciate the complexity, interconnectedness, interdependence, multi-dimensionality, and dynamics of economic, social, and environmental systems;
2. Recognize local, national, regional, and international implications for sustainability;
3. Perceive the relevance of technology, ethics, law, and policy to sustainability;
4. Understand the concepts of ecological and environmental economics and appreciate the critical relevance of other disciplines in addressing sustainability challenges;
5. Be familiar with approaches to sustainable management of natural, societal, and human resources, as well as tools and indicators to assess sustainability;
6. Be prepared to evaluate the effectiveness of a range of frameworks designed to analyze sustainability and to conduct systemic sustainability analysis, including opportunities, constraints, and trade-offs;
7. Be prepared to work collaboratively in multidisciplinary teams to explore sustainability challenges and opportunities.

Student Eligibility and Prerequisites

This course is open to all matriculated graduate students at Syracuse University and SUNY-ESF. There are no prerequisites.

Core Faculty and Communication

Professor Elet Callahan (Whitman) is the instructor of record for this course. Other core faculty are Professors Lisa Cleckner (Syracuse CoE), David Newman (SUNY-ESF), Minet Schindehutte (Whitman), and Richard Smardon (SUNY-ESF).

Blackboard, which is available at <http://blackboard.syr.edu/>, will be used to post course information and materials. Please refer to Blackboard regularly. If you have questions about or problems with Blackboard, please contact the Whitman IT help line at 443-2342.

Core faculty vitae, contact information, and office hours are provided on Blackboard under "About This Course." We are all open to your questions, suggestions, and concerns. For general questions and administrative matters, please contact Professor Callahan. She can be reached by e-mail (escallah@syr.edu) and telephone (443-3673). Her office is in Whitman 540; office hours will be held on XX and by appointment.

Course Materials

A variety of materials from a number of sources will be utilized in this course. Copyrighted course materials are available at Study.Net. Directions for accessing Study.Net are posted on Blackboard under "About This Course." Citations for materials available without charge on the Internet are given in the course schedule. Additional materials may be assigned and/or distributed.

Course Requirements

Class participation, including preparation for and contributions to class discussion (25% of course grade); opinion papers (25%); discussion leadership (20%); interdisciplinary team research project (40%).

1. Class Participation (25%; individual evaluation)

Classes will focus on discussion and analysis of the assigned material and will depend heavily on your participation. Students who excel in participation advance their peers' understanding of the course material and its practical applications. It should be emphasized that your class participation evaluation will be based on quality, not quantity. Of course, you must speak in class frequently enough to provide a basis for evaluation, but frequency of participation will not necessarily correlate with high evaluation. Most high quality participation will involve identification and evaluation of issues and development and logical presentation of arguments and analysis. You will receive a class participation progress grade at midsemester; feel free to request feedback on your participation evaluation at any time.

2. Opinion Papers (25%) and Discussion Leadership (10%, both individual evaluation)

The course is organized in five modules. At the end of each module, you will be required to submit a short (2-3 page) response to a specific issue. The issues are listed on the course

schedule. Analysis supported by factual information from reliable, appropriately-cited sources is encouraged; unsubstantiated arguments and opinions are inappropriate. Opinion papers are due by midnight on the night before the issue will be discussed in class. Please use the following file naming protocol: studentname_opinion#.doc.

At the end of modules II-V, student discussion leaders will be appointed to moderate the in-class discussion. Discussion leaders, who should be prepared to present multiple perspectives on the issue, will help us to synthesize the module's material, clarify remaining questions, and integrate the material into the overall course framework. All students are expected to make a meaningful contribution to these discussions. Contributions might consist of counterarguments to points made by others or new insights based on additional sources. Perspectives offered through the lens of the contributor's discipline may be particularly helpful.

3. Research Project (40%; 3-4 person teams)

Working in interdisciplinary, three- to four-person teams, you will research a sustainability issue with economic, social, and environmental implications in order to produce a critical review of the literature on the issue from a transdisciplinary perspective. This research project will focus on current dilemmas, such as renewable energy, transport, agriculture, fisheries, brownfield development, and water resources, and will address one of the seven core questions of sustainability science (Kates et al., 2001). Groups and topics will be assigned by the core faculty.

The research project will be submitted in written form and also presented to the class. Teams and specific topics will be assigned on 3/16. A first draft in bullet point outline format is due on 3/30, after which each group will be assigned to a core faculty member for further consultation. Fifteen-minute presentations, followed by fifteen minutes of Q&A, will be given on 4/23 and 4/28. All students are expected to attend and participate in both presentation sessions. The final written project will be due at noon on 5/4. Please use the following file naming protocol: teamname_project.doc. The written and oral portions of the project constitute 25% and 15%, respectively, of the 40% contribution toward the course grade represented by the research project.

Course Policies

Academic Integrity

Syracuse University has adopted an academic policy emphasizing that honesty, integrity, and respect for others are fundamental expectations in our University. The Whitman School of Management requires all students who take Whitman courses to certify in writing that they have read, understand, and agree to comply with the University's Academic Integrity Policy. **Whitman students should have already completed a certification statement. All other students enrolled in this course are also required to complete a certification statement** available in the Masters Programs Office (Suite 315). Completed statements will be kept on file in that office.

Academic dishonesty will not be tolerated in this class. Instances of academic dishonesty will be addressed according to Syracuse University's Academic Integrity Policies and Procedures. Serious consequences may result from academically dishonest conduct.

Use of Student Work

Copies of student written work may be used for pedagogical purposes, and for teaching evaluation and assessment. Any student work so used will be rendered anonymous through the removal of the name and other identifiers. It is understood that registration for and continued enrollment in this course constitutes permission by the student to use his or her works for these purposes.

Academic Accommodations

Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 304 University Avenue, Room 309, 315-443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to Professor Callahan and review those accommodations with her. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary. For further information, see the ODS website, <http://provost.syr.edu/provost/Units/academicprograms/DISABILITYSERVICES/index.aspx>

Submission of Assignments

Electronic copies of written work will be submitted via the Blackboard drop box. Please use the file naming protocol given for each assignment above. No late submissions will be accepted for grading.

Course Topics and Schedule

This font is used for class preparation assignments

I. Challenges and Concepts of Sustainable Development and Sustainability

1/12 Introduction and Course Overview

1/14 History and Evolution of Sustainable Development

- Introduction
- Time line of major events and historic context of sustainability
- Key players, institutions, and events
- World Commission on Environment and Development, *Our Common Future*
- National Research Council, Board on Sustainable Development, *Exploring the Future*

1/19 Martin Luther King, Jr., Day, no class

1/21 What is Sustainable Development *Really*?

- Pillars of Sustainability
- Different approaches to economic, social, environmental, and ecological sustainability
- Kates, et al., *What is Sustainable Development? Goals, Indicators, Values and Practice*
- Pezzoli, *Sustainable Development: A Transdisciplinary Overview of the Literature*

1/26 Climate Change: The Ultimate Challenge?

- Global warming: Environmental and anti-environmental rhetoric
- *Opinion paper #1: Where do you stand on climate change? Why?*
- Intergovernmental Panel on Climate Change, *Fourth Assessment Report: Summary for Policymakers*
- Wilbanks & Kates, *Global Change in Local Places: How Scale Matters*

II. The Science of Sustainability

1/28 The Science of Sustainability

- What is sustainability science?
- What is ecological economics?
- Gowdy & Erickson, *The Approach of Ecological Economics*
- Clark & Dickson, *Sustainability Science: The Emerging Research Program*
- Kates, et al., *Sustainability Science*

2/2 Introduction to Systems Thinking

- Complex adaptive systems
- Muljei, et al., *Informal Systems Thinking or Systems Theory*
- Schellnhuber, *Earth Systems Analysis and the Second Copernican Revolution*
- Tilman & Downing, *Biodiversity & Stability in Grasslands*

2/4 Social-ecological Systems and Principles

- Carrying capacity, critical loads, irreversibility and thresholds
- Vulnerability, resilience, adaptability and transformability
- Peterson, Allen & Holling, *Ecological Resilience, Biodiversity, and Scale*
- Clark, *Scales of Climate Impacts*

2/9 Sustainability Perspectives on Natural Environment Issues

- The science and technology of sustainability
- The response of forest watersheds to changes in acidic deposition
- The evolution of science linkage to policy for acid rain mitigation

- Readings: 18-19

2/11 Integration & Synthesis (Faculty Panel; Participant Debate)

- *Opinion paper #2: Technological advances can overcome resource scarcity problems as well as replace ecosystem services. Thus, technology is not a leading culprit in biodiversity loss, but a much-needed solution for environmental problems. Do you agree or disagree? Why?*

III. Sustainability Analysis, Standards, Tools, and Indicators

2/16 Sustainability Analysis: Ways of Evaluating Our Impact

- Frameworks to evaluate impact: the Natural Step, the ecological footprint, and multi-criteria decisions
- Integrated Sustainability Assessment: A Systems Perspective
- Readings: 20-21

2/18 Life Cycle Analysis and Industrial Ecology

- Readings: 22-23

2/23 Sustainability Information Systems, Auditing, and Certification

- Environmental, social, and sustainable auditing
- Environmental management systems
- Reading: 24

2/25 Natural Capitalism

- The natural capital of ecosystem services
- Eco-efficiency
- Design for the environment
- Biomimicry: Learning from nature
- Readings: 25-27

3/2 Sustainability Reporting

- Reading: 31

3/4 Integration & Synthesis (Faculty Panel; Participant Debate)

- *Opinion paper #3: How can you reduce your personal carbon footprint?*

Spring Break

3/16 Research Report Discussion, Group & Topic Assignments

- Introduction to library research resources
- Materials to be provided

IV. Critical Drivers of Global Sustainability

- 3/18 Consumption and “Green” Individual Behaviors
- Environmental ethics
 - Eco-labeling and green marketing
 - Anti- and green consumerism
 - Readings: 30-32
- 3/23 Sustainability in Supply Chain Management
- Reading: 33
- 3/25 Environmental Politics and Public Policy: Global Warming
- Politics, legislation, regulations, and policies
 - Stakeholder engagement, dialogue and management
 - The role of participatory processes
 - Readings: 34-35
- 3/30 Multi-Lateral Trade Agreements and Fair Trade Standards
- Readings: 36-37
- 4/2 Integration & Synthesis (Faculty Panel; Participant Debate)
- *Opinion paper #4: Promoting sustainability requires the successful transformation of institutions (i.e., rules, norms). Do you agree or disagree? Why?*

V. Toward Sustainable Futures

- 4/7 The Impact of Globalization on Developing Countries
- The role of economic growth in specific types of environmental and social problems
 - Re-imagining a sustainable world: the role of entrepreneurship
 - Readings: 38-40
- 4/9 New Technologies, New Materials, New Markets
- Readings: 41-42
- 4/14 Leadership in Energy and Environmental Design (LEED)
- U.S. Green Building Council, <http://www.usgbc.org/>
 - Reading: 43
- 4/16 Eco-Cities
- Reading: 44
- 4/21 Integration & Synthesis (Faculty Panel; Participant Debate)
- *Opinion paper #5: What are the main obstacles to sustainability: individuals,*

organizations, economic principles, governments, globalization, or something else?

VI. New Insights from Course Participants

4/23 Research project presentations

4/27 Research project presentations