



UNIVERSITY OF MASSACHUSETTS Dartmouth

SUS 211 (MGT 492): Principles in Sustainability

Course Outline Spring 2010

Course Prescription

Sustainability is the study and application of knowledge about how, individuals, and/or institutions direct the course of an organization or community in ways that restore and enhance; human, natural, manufactured, and financial capital to generate stakeholder value and contribute to the well-being of current and future generations.

Students in this course will review the concept of Sustainability, Climate Change and Environmental Challenges, systems Thinking/Systems Analysis, "Natural" Systems and Function, Human Interactions with Natural Systems, Ethics, and Values.

Goals of the Course

In order to create sustainable communities and enterprises leaders need to understand the concepts, principles, and practices associated with sustainable practices.

Learning Outcomes

1. To critically review the fundamental concepts, principles and practices of Sustainability.
2. To explore the complexities of managing sustainably in a globally integrated economic, social and physical environment.
3. To develop skills related to leadership, team development and conflict resolution.
4. To review and understand the use of problem solving skills in individual, group, and team situations.
5. To further develop skills required to effectively communicate coherent written and oral presentations to important stakeholders.

Competencies

- 1 The student will be introduced to:**
 - a. Diagnostic tools for enhancing awareness of issues relating to sustainability.
 - b. The issues of ethical behavior, leadership and diversity for a modern sustainable economy.
- 2. The student will understand:**
 - a. Why and how sustainable diagnostic tools improve sustainable development.
 - b. The skills and abilities related to power, influence, and leadership and their importance to sustainable development.
- 3. The student will be able to:**
 - a. Undertake a sustainability audit for a community or organization.
 - b. Generate, select and refine options for a community or organizational sustainable management plan.
 - c. Present written and oral sustainable management reports.

Content Schedule

Teaching Session/ week	Subject	Readings/activities	Learning Outcomes
1. 1/25	Introduction	a. <i>critically review:</i> Kates,Parris, and Leiserowitz “What is Sustainable Development?Goals, Indicators, Values and Practice.” b.. Introductions/expectations c. Nature of Sustainability	1,3
2. 2/1	Eco-Economy	<i>critically review:</i> a. Brown, Eco-Economy Chapter 1 b. Senge “Systems thinking primer for Natural Capitalism” <i>reading log 1</i>	2,3,4
3. 2/8	Climate Change	<i>critically review :</i> a. Brown, Eco-Economy Chapter 2 b. Morrison et al “Water Scarcity and Climate Change” <i>reading log 2</i>	2,3,4
4. 2/15	Biological diversity	<i>critically review :</i> a. Brown, Eco-Economy Chapter 3 b. Maffi “Biocultural Diversity and Sustainability” <i>reading log 3</i>	1,2,3,4,5
5. 2/22	Eco-Environmental Revolution	<u>Assignment #1</u> <i>critically review:</i> a. Brown, Eco-Economy Chapter 4 b. Pollin et al “Green Recovery” <i>reading log 4</i>	1,2,3,4,5
6. 3/1	Renewal energy economy	<i>critically review:</i> Brown, Eco-Economy Chapter 5 b. Heal “The Economics of Renewal Energy” <i>reading log 5</i>	1,2,3,4,5
7. 3/8	Material redesign	<i>critically review:</i> a. Brown, Eco-Economy Chapter 6 b. Heine “Sustainable materials and green chemistry” <i>reading log 6</i>	1,2,3,4,5
8. 3/15	Free	Spring Break	
9. 3/15	Eradicating hunger	<i>critically review:</i> a. Brown, Eco-Economy Chapter 7 b. “Feeding the World” <i>reading log 7</i>	1,2,3,4,5
10. 3/22	Resource protection	<i>critically review:</i> a. Brown, Eco-Economy Chapter 8 b. Wildburger “Afforestation and Reforestation for Climate Change Mitigation” <i>reading log 8</i>	1,2,3,4,5
11. 3/29	Urban redesign	<i>critically review:</i> a. Brown, Eco-Economy Chapter 9 b. McGeough et al “Model for Sustainable Urban Design” <i>reading log 9</i>	1,2,3,4,5
12. 4/5	Population challenge	<i>critically review:</i> a. Brown, Eco-Economy Chapter 10 b. O'Neill “Population in Sustainable Development: Analyses, Goals, Actions, Realities” <i>reading log 10</i>	1,2,3,4,5
13. 4/12	Eco-capitalism	<u>Test</u> <i>critically review:</i> a. Brown, Eco-Economy Chapter 11 b. Porter and van der Linde ” Green and Competitive” <i>reading log 11</i>	1,2,3,4,5
14. 4/26	Leadership challenge	<i>critically review:</i> a. Brown, Eco-Economy Chapter 12 b. Adams and Jeanrenaud “Transition to Sustainability:Towards a Humane and Diverse World”. <i>reading log 12</i>	1,2,3,4,5
15. 5/3	Group Reports		1,2,3,4,5

Learning and Teaching

As a general foundation course it is intended that teaching will integrate and draw on the core competencies of the interdisciplinary field of sustainability.

The course will commence by introducing students to the framework and challenges of sustainable. Students will then examine how sustainable development is multifaceted and reliant on a holistic approach to challenges. This will be achieved by on line materials, discussion, individual assignments, group report and a test.

Teaching Staff:

Dr Garry Clayton - Course Coordinator

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Course readings:

a. *Recommended Text:*

Lester R. Brown, [Eco-Economy: Building an Economy for the Earth](http://www.earth-policy.org/Books/Eco_contents.htm) (W.W. Norton, 2001; available free (though a donation will be solicited when you commence downloading each chapter you are not required to pay anything) on the web in pdf form at:

http://www.earth-policy.org/Books/Eco_contents.htm

b. *Articles:*

i. Kates, R.W., Parris, T.M. and Leiserowitz, A.A (2005) "What is Sustainable Development? Goals, Indicators, Values and Practice." pages 8–21 available on the web in pdf form at:

http://www.hks.harvard.edu/sustsci/ists/docs/whatisSD_env_kates_0504.pdf

ii. Senge, P. "Systems thinking primer for Natural Capitalism" (Draft) available on the web in pdf form at:

<http://sustainabilityinstitute.org/pubs/NatCapPrimer.pdf>

iii. Morrison, J., Morikawa, M., Murphy, M., Schulte, P. (2009) "Water Scarcity and Climate Change: Growing Risks for Businesses and Investors" available on the web in pdf form at:

<http://www.ceres.org/Document.Doc?id=406>

iv. Maffi, L (2007) "Biocultural Diversity and Sustainability"

available on the web in pdf form at:

<http://www.terralingua.org/publications/Maffi/18-Pretty-Ch18.pdf>

v. Pollin, R., Garrett-Peltier, H., Heintz, J., Scharber, H., Batten, K. and Hendricks, B. (2008) "Green Recovery A Program to Create Good Jobs and Start Building a Low-Carbon Economy"

available on the web in pdf form at:

http://www.americanprogress.org/issues/2008/09/pdf/green_recovery.pdf

vi. Heal, G. (2009) "The Economics of Renewal Energy"

available on the web in pdf form at:

<http://www.nber.org/papers/w15081.pdf>

vii. Heine, L. (2007) "Sustainable materials and green chemistry"

available on the web in pdf form at:

http://mhest.com/spotlight/green/articles/SustainableMaterialsGreenChemistry_Sample.pdf

viii. ----- (2008) "Feeding the World: Sustainable Management of Natural Resources"

available on the web in pdf form at:

<ftp://ftp.fao.org/docrep/fao/010/ai549e/ai549e00.pdf>

ix. Wildburger, C. (2004) "Afforestation and Reforestation for Climate Change Mitigation: Potentials for Pan-European Action"

available on the web in pdf form at:

<http://www.mcpfe.org/system/files/u1/meetings/06/unf/Afforestation.pdf>

x. McGeough, U., Newman, D. and Jay Wrobel (2004) "Model for Sustainable Urban Design" available on the web in pdf form at:

http://www.necsc.us/docs/ORNL_Design_Final.pdf

xi. O'Neill, B. (ed) (2002) "Population in Sustainable Development: Analyses, Goals, Actions, Realities"

available on the web in pdf form at:

<http://www.asiapacificalliance.org/images/downloads/10135.pdf>

xii. Porter, M, van der Linde, C (1995): Green and Competitive: Ending the Stalemate, Harvard Business Review; September/October, pp. 120–134

available on the web in pdf form at:

www.geocities.com/kentlarslundgren/undervisning/artiklar/Porter_Linde.pdf

xiii. Adams, W. M. and Jeanrenaud, S. J. (2008). "Transition to Sustainability: Towards a Humane and Diverse World".

available on the web in pdf form at:

http://assets.panda.org/downloads/transition_to_sustainability_en_pdf_1.pdf

Assessment

Students will be required to complete 10 reading logs worth 10% of the final grade (1% each), an individual assignment worth 30% of the final grade; a group report worth 30% of the final grade; and take a take home test worth 30% of the final grade.

Activity	Type	Learning Outcome	% course mark
Reading logs	Individual	1,2,3,4,5	10%
Assignments:			
1.	Individual (1000 word essay)	1,2,3,5	30%
2.	Group report	1,2,3,4	30%
Test	Individual 2 hours	1,2,3,4,5	30%

Reading logs:

For at least ten of the weekly readings you are required to post a "log" on line. While there is no format for the critically review the following questions will help guide you:

- what is the objective of the author/s?
- how does the author/s propose to achieve their objective?
- what did the author/s actually do?
- what do the author/s say they found out?
- what do these key points mean to me?
- what are the important cross references to other topics and readings in the course?

Assignments:

- In what ways are the notions of "sustainability and sustainable development" different from orthodox economic theory?
- Co-write a sustainability report/audit that critically evaluates the strategic sustainability options for an agreed community or enterprise.

Test:

The test will be a take home, essay style open book expected to take 2 hours.

It will require students to demonstrate in integrated answers a mastery of the learning outcomes set.

Program and Course Advice

Students are required to critically examine sustainable managerial practices within the United States and globally. In particular it is expected that they will become familiar with the policies and practices of organizations and communities recognized for their leadership of the "Sustainability Movement".