

## **EN 103 The Sustainable University**

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**Fall 2009, Monday 2:50-5:50 Location: JC 206**

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**Course Overview:** This course explores both the theory and practice of sustainability and sustainable development by examining the role of the university in promoting a sustainability transition. The role of universities in society involves more than providing formal course instruction for enrolled students; universities are also critical places of discovery and innovation, centers for political discourse, and catalysts for political action and social change. Our focus in this course on the university, a particular type of organization in society, assumes that institutions of higher education have unique potential to contribute to a sustainability transition. In addition, our focus on the university provides a lens for examining how organizations with complex structures make a myriad of decisions with environmental consequences, a context for considering the broad role of education in sustainable development, and a framework and perspective with direct and personal connections for us consider the challenges of promoting sustainability. In addition to reading and writing about the challenges of sustainability and the role of the university in promoting sustainable practices in society, we will engage directly with the challenges associated with promoting sustainable behavior and fostering institutional and social change through team projects right here in the Clark and Worcester communities.

### **Learning goals:**

- (1) understand and experience the complex organizational and individual challenges and opportunities associated with socio-technical change toward sustainability
- (2) explore the concept and application of sustainability and sustainable development
- (3) gain skills, insights, confidence, and capacity to be change agents
- (4) contribute to ongoing sustainability efforts within the Clark and Worcester.
- (5) develop oral and written communication skills and collaboration skills

**Required Readings:** All readings are posted on the course Cicada site. There is no text-book.

### **Course Requirements and Grading Distribution**

Participation, Attendance, and Engagement	25%
Reflection Papers	25%
Team Project	50%
Proposal	5%
Project Log	5%
Mid-term Presentation	5%
Team Engagement (peer assessment)	15%
Final Presentation	10%
Final Paper	10%

**A “Paperless” Course: Note about course resource use.** To enhance awareness of and reduce our own resource use at our own university, this course will strive to be a “paperless” course. To facilitate our collective learning, we will rely heavily on technology including Cicada, email, and a projector in class sessions for presentations and discussions. All written assignments will be submitted electronically, and all feedback on written assignments will be made electronically. All readings will be available electronically on Cicada, and students are encouraged to read the assignments without printing out the readings.

### **Connection with Difficult Dialogues Project**

This course is part of Clark University’s Difficult Dialogues project as this course has been designed to enhance and emphasize the dialogic challenges of promoting social and institutional change related to sustainability. In addition to fostering a dialogic space within the classroom and drawing on a selection of required readings related to dialogue and the role of dialogue in sustainability, students in this course will be engaged in fostering community-wide dialogue about sustainability challenges in multiple ways.

### **Team Projects**

Collaborative team projects where students will be actively contributing to social, technical or organizational change on campus or in the Worcester community are a critical part of this course. These projects will enable students to engage directly with the challenges associated with promoting sustainable behavior and fostering institutional and social change right here in the Clark/Worcester community. The team projects will each involve working directly with a specific organization on campus or within the Worcester community, and the work of the student teams will be used directly by these organizations. Contributing to ongoing sustainability organizations in this way will provide students with practical experience and unique perspective on the challenges, opportunities and complexities of advancing sustainability initiatives.

Working effectively as part of a team involves some specific skills related to cooperation, coordination, collaboration, contribution, communication, and complementarity (the 6 Cs of Team Work). Throughout the semester students will be developing and demonstrating these skills within their team projects. Teams will be formed within the first few weeks of classes. Each team of students will also be partnered with a graduate student from the course MGMT 5505 Greening the Corporation; this graduate student will be an additional member of the team who will contribute to the financial aspects of the project as well as implementation planning and tracking/reporting progress.

Below is a list of this year’s seven team projects – each of which provides a timely opportunity for students to contribute to important current sustainability initiatives at Clark and in the city of Worcester. The first two projects will contribute directly to Clark University’s Climate Action Plan. Clark University has signed the American College and University’s President Climate Commitment which requires Clark to submit and make public a Climate Action Plan by December 15, 2009. Clark University’s Environmental Sustainability Task Force will be finalizing this plan throughout the fall 2009 semester. So the student teams on projects 1-3 will be contributing directly to the Climate Action Plan and its implementation. The other projects involve contributing directly to other organizations at Clark and within Worcester.

## **Team Projects**

### **1. Transportation Planning for Clark**

This team of students will review the current information and data about Clark's transportation impact, which include commuting and air travel. This team will also conduct research on best practices and examples from other universities, explore and propose options for a 5-year transportation plan for the campus, and identify policies and implementation strategies that will reduce the environmental impact of Clark's current transportation system.

**Contact Person: Will O'Brien, Sustainability Task Force, Email: WObrien@clarku.edu**

### **2. Developing Procurement/Purchasing Policies at Clark**

One mechanism for fostering social change toward sustainability is for large organizations to restrict their purchasing and procurement to suppliers who are making efforts to reduce their own emissions and impact. This approach recognizes the complexity of purchasing decisions and the indirect emissions associated with organizations, and it contributes additional social and economic pressure to reduce emissions throughout society. Clark University has a policy for purchasing energy efficient Energy Star appliances, but this team of students will explore the implementation of other potential purchasing policies that might relate to cleaning supplies, office supplies, vehicles, etc.

**Contact Person: Will O'Brien, Sustainability Task Force, Email: WObrien@clarku.edu**

### **3. Recycling and Waste Management**

Clark has an active recycling program, but it has been estimated recently that the university is currently only recycling about 30% of the material that could be recycled. A team of students will explore why this is and develop an implementable plan for increasing the recycling percentage and reducing disposable waste. In addition to infrastructural changes, behavioral change that might be encouraged through training and communication strategies are likely to be critical to this challenge.

**Contact Person: Will O'Brien, Sustainability Task Force, Email: WObrien@clarku.edu**

### **4. Summer of Solutions: Student-Led Worcester Energy Conservation Initiative**

This summer a group of Clark undergraduate students initiated a "Summer of Solutions" program in Worcester. Summer of Solutions 2009: Worcester was a two-month cooperative summer learning experience which focused on community-based solutions to climate change, energy, and environmental justice, addressed at the intersection of environmental, social, and economic issues. Summer of Solutions empowered participants ("solutionaries") to create real change by providing them with the necessary tools and challenging them to apply their skills to hands-on projects. Solutionaries worked on collaborative projects in Weatherization and Home Energy Efficiency, Green Jobs, and Community Gardening. Expanding on the success of the summer 2009 efforts, during the fall 2009 semester a team of students could contribute to institutionalizing and continuing this work in several possible ways including: (a) developing fundraising strategies, (b) creating mechanisms for continued community engagement throughout the academic year, and (c) by planning and recruiting for Summer of Solutions 2010. Contributing to the organization of an "Energy Barn-Raising" on October 24<sup>th</sup> (the International Day of Climate Action) is one potential component of this project.

**Contact People: Ashley Trull, Clark Undergraduate. Email: AsTrull@clarku.edu and Ryanne Niederwerfer. ES&P grad student, Email: rniederwerfer@clarku.edu**

### **5. Contribute to the New Institute for Energy Innovation and Sustainability (IEIS)**

Clark University and Worcester Polytechnic Institute have recently created the Institute for Energy Innovation and Sustainability (IEIS). This institute is a collaboration of educators, public officials, and business people focused on growing the clean energy sector in central Massachusetts. One of the goals of the institute is to establish a resource that offers the suite of tools necessary to attract businesses and developers for the installation and maintenance of renewable energy systems, products and services leading to a cutting edge marketplace for clean energy technologies. An initial task of this institute is to map out the landscape of currently active stakeholders in Worcester and Central Massachusetts who could be networked to strengthen the region's potential in this area. An executive director of the institute is about to be named (interviews occurred in mid-August), and a team of students could contribute valuably to this initiative by initiating the process of identifying and networking different individual and organizational stakeholders in the region.

**Contact Person: Chris Noonan, IEIS intern, ES&P Grad Student. [cnoonan@clarku.edu](mailto:cnoonan@clarku.edu)**

### **6. Analyzing Carbon Off-Setting Options and Appropriateness for Clark**

In most cases, the concept of climate neutrality for an educational institution requires some degree of "off-setting". While Clark's Climate Action Plan currently in development is not likely to include a plan for offsetting, a longer term plan working toward achieving carbon neutrality may include offsetting. This team of students will assess different options for carbon off-setting for Clark University, and develop a guide for the campus community on these topics. Addressing the controversial question of whether buying carbon offsets is an appropriate strategy for Clark and other organizations should also be included in this analysis.

**Contact person: Dave Schmidt, Campus Sustainability Coordinator. [dschmidt@clarku.edu](mailto:dschmidt@clarku.edu)**

### **7. Renewable Energy Media and Education Project with the City of Worcester**

The city of Worcester needs help in two areas (1) a renewable energy media campaign, and (2) the development of a renewable energy curriculum for Worcester Public Schools. A team of four students will work with the city on these media and education initiatives. Part I. The team will be responsible for researching and writing up 6-8 case studies highlighting recent municipal and private renewable energy projects. The case studies will include descriptions of the environmental, financial and other benefits of these local Worcester projects, and each one will include about 2 pages of information. Potential cases to be included are the wind turbine at Holy Name High School, the solar panels at Worcester State, LEED certified buildings at Clark, Worcester's new single stream recycling program, the Energy Efficiency and Conservation Program Block Grant (EECPBC) projects, the results of the Honeywell ESCo Project, and an example of residential application of PV panels in Worcester. These case studies will be prepared so that the information can be presented in multiple potential venues include brochures, websites, public service announcements, radio spots, and cable TV. This work will also involve writing several articles for publication that highlight the benefits of clean renewable energy by highlighting local projects. Part II. For the curriculum component, the team will also help researching, collecting and organizing existing materials into a "Clean Energy Module" to aid its incorporation into the Worcester Public Schools curriculum framework. The curriculum to be developed will be designed to be appropriate for 4<sup>th</sup> grade, the year in which the science curriculum includes a focus on energy. The student will be responsible for exploring existing renewable energy curriculum resources and models; the EPA has some samples, but local materials and examples will need to be incorporated into the curriculum development. The team of students will research and gather the information, and will work directly with a consultant to edit and finalize the final product.

**Contact: John Odell, Manager. City of Worcester Energy Efficiency & Conservation Program**

## Schedule

**Note: This is a tentative schedule – more complete and updated information will be posted on Cicada and updated frequently.**

### **1. August 31 – Introduction to Sustainability in Higher Education**

Introductions, discussion on sustainability and the role of universities in society, review of course goals, structure and expectations, key concepts and themes (sustainability science, socio-technical, cross-disciplinary, and cross-scalar perspectives), introduction to team projects. Visit and introduction from Dave Schmidt, Clark University Campus Sustainability Coordinator.

**Discussion questions:** What does sustainability mean? What are the roles of universities in society? How can the university engage differently to facilitate social change toward sustainability? What are the most pressing sustainability challenges facing society?

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**Reflection Paper #1** 500 words. Must be posted on Cicada by Monday 9/7 at midnight.

Read the following two articles:

- Rowe, D., 2007. Sustainability: Education for a Sustainable Future. *Science*, 317: 323-324.
- Stephens, J. C., M. E. Hernandez, et al. (2008). Higher Education as a Change Agent for Sustainability in Different Cultures and Contexts. *International Journal of Sustainability in Higher Education* 9 (3): 317-338.

Reflecting on Rowe's identification of the limited but growing integration of sustainability in our educational systems, describe your own prior experiences and engagement in advancing sustainability through your educational activities. Were these experiences "add-ons", i.e. an extra thing, or were these a major focus of your education? Looking forward, draw from the four categories of how universities can contribute to advancing sustainability described in Stephens et al 2008 to explain how you hope to engage in advancing sustainability during your remaining time as a member of a university community.

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### **2. September 14 – Climate Change Action: Project Planning and Implementation**

Focus on team projects. Guidance on professional interactions. Introduction to Clark's Climate Action Plan, Summer of Solutions, Institute for Energy Innovation and Sustainability, Worcester's Energy Efficiency and Conservation Program.

**Guest Lecture:** Planning and Implementation by Will O'Brien. Professor of Green Business Management.

#### **Readings to be complete before class session:**

ACUPCC (2009). American College and University Presidents Climate Commitment.

<http://www.presidentsclimatecommitment.org/about/commitment>

Clark University's Climate Action Plan Outline

Worldwatch Institute. 2009. Climate Change Reference Guide.

<http://www.worldwatch.org/files/pdf/CCRG.pdf>

Sacks, A.D. 2009. Fallacy of Climate Activism. Published on Grist Online Magazine

August 23, 2009. <http://www.grist.org/article/2009-08-23-the-fallacy-of-climate-activism>

**Be prepared to discuss:**

Review the 7 team projects described at the top of the syllabus and be prepared by the end of the class session to indicate your top-three preferences.

What do you think of the ACUPCC commitment to “Initiate the development of a comprehensive plan to achieve climate neutrality as soon as possible”? Does climate neutrality make sense for a college campus?

Do you see any potential inconsistencies between Clark’s Action Plan Outline and the stated requirements of the plan described in the ACUPCC commitment?

What parts of the climate reference guide were most surprising or helpful to you?

How might you reconcile Sacks’ criticism of the climate focus in activism with the ACUPCC focus on climate change?

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**Initial Draft Team Proposal:** To be submitted on Cicada by Friday 9/19 by midnight. After all students are notified of their team designation and their co-team members on 9/14, each team should meet for an initial team meeting. Before Friday 9/19, each team needs to develop a preliminary, initial draft of a proposal for their semester-long project. This initial proposal should (1) outline an initial plan of action for the semester and (2) describe the designated roles of the individuals in the team (communication manager, meeting/timing coordinator, and project planner).

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**3. September 21 – Sustainability Design and Learning Space**

**Readings to be complete before class session:**

Orr, David. 2004. *Earth in Mind, On Education, Environment, and the Human Prospect*. Island Press. Chapter on “Architecture as Pedagogy” p. 112-116.

Hoffman, A. J. and R. Henn (2008). "Overcoming the Social and Psychological Barriers to Green Building." *Organization & Environment* 21(4): 390-419.

**Green Design Assignment.** Visit the Lasry Bioscience building and the new library and read about LEED certification.

**Guest Lecture:** Carbon and Energy Neutrality in Buildings: A Practical Proposition? A Case Study of an EcoHouse in Donegal, Ireland Cathal Stephens (architect)

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**Film Viewing:** Wednesday September 23<sup>rd</sup>. *Escape from Suburbia*. @7:30 Dana Commons Second Floor.

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**4. September 28 – Curriculum and Education for Sustainability – Intentional Dialogue**

**Readings to be complete before class session:**

Taylor, M.C. 2009. End the University as we know it. New York Times. April 26, 2009.  
<http://www.nytimes.com/2009/04/27/opinion/27taylor.html>

Orr, David. 2004. Earth in Mind, On Education, Environment, and the Human Prospect.  
Island Press. Four Short Chapters: (1) Chapter 3 “The Problem of Education” p. 26-34, (2) Chapter 13, “Rating Colleges” p. 89-93, (3) Chapter 14, “The Problem of Disciplines and the Discipline of Problems” p. 94-98. and (4) Chapter 19 “Educating a Constituency for the Long Haul” p. 122-127

Regan, K. (2007). A Role for Dialogue in Communication about Climate Change. Creating a Climate for Change, Communicating Climate Change and Facilitating Social Change. S. C. Moser and L. Dilling. Cambridge, Cambridge University Press: 213-222.

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**Film Viewing:** Wednesday September 30<sup>th</sup>. A Farm for the Future @7:30 Dana Commons Second Floor.

**5. October 5 – Campus Energy Systems**

DeCarolis, J.F., Goble, R.L. and Hohenemser, C., 2000. Searching for Energy Efficiency on Campus, Clark University's 30-Year Quest. *Environment*, 42(4): 9-20.

Review Clark Greenhouse Gas Inventory

Sharp, Leith. *Green Campuses: The Road from Little Victories to Systemic Transformation*.

Tour of co-generation facility and campus energy system

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**Film Viewing:** Tuesday October 6. In Transition. @7:30 Dana Commons Second Floor.

**Special Event:** Thursday October 15<sup>th</sup> David Victor. Contemplating a Steady-State Economy @4pm Grace Conference room.

**6. October 19 – Food and Agriculture**

To be Read Before Class:

Corporate/Higher Ed Outlook: Sustainable Dining, Colleges and corporations take a fresh approach to food Sustainability: *The Journal of Record* August 2009, Vol. 2, No. 4: 215-220.

Orr, David. 2004. Earth in Mind, On Education, Environment, and the Human Prospect.  
Island Press. Chapter 18 “Agriculture and the Liberal Arts” p. 117-121, and Chapter 22 “Prices and Life Exchanged: Costs of the U.S. Food System” p. 172-184

Assignment: Artichoke Food Co-op and Urban gardens

Guest Speaker: ES&P graduate student. Main Street’s Farmer’s Market

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Thursday, October 22 – Focus the Nation National Teach-in on Climate Change

Saturday October 24 – International Day of Climate Action  
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**7. October 26 - Water on Campus**

**Readings and assignments to be announced**

**8. November 2 – Mid-Term Team Presentations**

Each student team will make a presentation on their progress, status, challenges, and plans of their project.

**9. November 9 - Sustainable Society and Happiness**

Readings:

Zidanssek, A. (2007). "Sustainable development and happiness in nations." *Energy* **32**(6): 891-897.  
Sustainability Society Index. [http://www.eoearth.org/article/Sustainable\\_Society\\_Index](http://www.eoearth.org/article/Sustainable_Society_Index)

**10. November 16 – Green Jobs**

Readings and assignments to be announced

Hawken, Paul. 2009. "You are brilliant and the earth is hiring" University of Portland  
Commencement Speech to the Class of 2009. June 2009.  
<http://www.charityfocus.org/blog/view.php?id=2077>

Guest Presentation: Calista Perry. Clark Undergraduate, Intern with the Worcester Green Jobs  
Coalition

**Wednesday November 18<sup>th</sup>** – Shaping a Local Green Economy. @ 7pm Tilton Hall.

**11. November 23 - Value and Attitudes**

Discussion on readings:

Leiserowitz, A.A., Kates, R.W. and Parris, T.M., 2006. Sustainability values, attitudes, and  
behaviors: A review of multinational and global trends. *Annual Review of Environment and  
Resources*, 31: 413-444.

**12. November 30 – An International Perspective**

Itoh, M., Makoto Suemoto, Koji Matsuoka, Atsushi Ito, Kiyomitsu Yui, Tsuyoshi Matsuda and  
Masanobu Ishikawa (2008). "Contribution of Kobe University to the Regional Centre of  
Expertise (RCE) on Education for Sustainable Development (ESD) Hyogo-Kobe."  
*International Journal of Sustainability in Higher Education* **9**(4).

**13. December 7 – Team project work session – peer review and integration of final report.**

**14. December 14. FINAL PRESENTATION**