**ENERGY AND SUSTAINABILITY**

UNIV 241, 3 credits  
FALL TERM, 2009

**Course Information:**

In politics and in business we hear a great deal about energy and sustainability these days. How is "sustainability" defined, by whom, and why? How is “energy” defined and how does energy affect sustainability? How does energy relate to the production and consumption of goods and services, and how does energy use itself affect sustainability? How have advances in science and technology contributed to an unprecedented growth in energy usage per capita with respect to urbanization, agricultural production, material usage and building energy consumption? What is “sustainable development"? How do we weigh human needs with environmental costs? What is environmental justice, in the context of energy? This course, co-taught by Eugenia Ellis, Christian Hunold, and Susan Stein will take up these questions--guest speakers will be featured, and small group meetings will facilitate critical thinking and research on the topic.

**Mission:**

The Great Works Symposium is an interdisciplinary course—focused on exploring subjects of the broadest possible interest and greatest societal impact—designed to bring Drexel University students, professors, and visiting expert lecturers into collaboration. The Great Works Symposium strives to avoid the “textbook approach,” with an emphasis on developing in students the active skills of interdisciplinary inquiry: reading, writing, critical thinking, creativity in research, and argument. Through an intense examination of one topic, students are encouraged to see the University as an interconnected enterprise, and to imagine the University as one part of a larger spectrum of scholars in the communities of the city, the nation, and the world.

**Class Meeting Days and Times**

Lectures: Thursdays, 6:00-7:20 p.m., Matheson 109  
Sections: Thursdays, 7:30-8:50 p.m., locations TBA

**Instructors, Contacts, Office Hours**

Eugenia Ellis  
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Tues. 1:00-3:00 p.m., Weds., 1:00-3:00 p.m., Thurs., 1:00-3:00 p.m.

Christian Hunold  
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Hours by appointment

Susan Stein  
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Mon. 1:30-3:30 p.m., Weds., 1:30-3:30 p.m., and by appointment

**Texts**

James E. McWilliams, *Just Food: Where Locavores Get It Wrong and How We Can Truly Eat Responsibly* (2009)

Students will read books, articles, and other selected sources related to course topics. Most assigned readings will be available on the Great Works Symposium website, or will be available on the web. A reading schedule is assigned on the course calendar, and students must keep up with all assignments. The instructors may add supplemental readings as the course progresses. Please keep up with the weekly reading assignment schedule, and make sure you are aware of any reading updates given throughout the term.

**Course Readings:**

* [The 2030 Blueprint: Solving Climate Change Saves Billions](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/2030Blueprint.ashx)
* [Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/Speth.ashx)
* [Changing the Way America Moves: Creating a More Robust Economy, a Smaller Carbon Footprint,And Energy Independence](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/ChangingthewayAmericamoves.ashx)
* [Climate 2030: A National Blueprint for a Clean Energy Economy](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/Climate2030.ashx)
* [The diverging paths of German and United States policies for renewable energy: Sources of difference](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/GermanUnitedStatespolicies.ashx)
* [Ecological modernisation, American style](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/EcologicalModernisation.ashx)
* [Food That Travels Well](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/FoodThatTravelsWell.ashx)
* [The Historical Roots of Our Ecologic Crisis](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/HistoricalRoots_of_EcologicalCrisis.ashx)
* [How to eat like a locavore](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/How%20to%20eat%20like%20a%20locavore.ashx)
* [Human Impact on Ancient Environments](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/AncientEnvironments.ashx)
* [If It's Fresh and Local, Is It Always Greener?](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/If%20Its%20Fresh%20and%20Local%20Is%20It%20Always%20Greener.ashx)
* [Literature Review of Methods and Tools for Quantifying the Indirect Environmental Impacts of Food Procurement](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/Foodprint_Report.ashx)
* [The Metabolism of Cities](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/MetabolismOfCities.ashx)
* [Metabolism of Neighborhoods](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/MetabolismOfNeighborhoods.ashx)
* [Mythologies: Plastic](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/BarthesPlastic.ashx)
* [Power to the People? Deregulation and Environmental Justice Energy Activism](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/Power%20to%20the%20People.ashx)
* [Sol Power: The Evolution of Solar Architecture](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/SolPower.ashx)
* [Two Conceptions of Sustainability](http://www.drexel.edu/~/media/Files/greatworks/pdf_fall09/TwoConceptionsofSustainability.ashx)

**Course Schedule**

**Week 1: Sept. 24: Course Introduction – What are the major issues associated with energy and sustainability—what are the goals of this course?**

1. “Peak Oil Is a Waste of Energy,” Michael Lynch, New York Times, 25 August 2009
2. Greenworks Philadelphia (introductory video and “Greenworks Plan” Executive Summary) [http://www.phila.gov/green/greenworks/index.html](http://www.phila.gov/green/greenworks/index.html" \t "_blank)

**Week 2: October 1: What do we mean when we talk about “Sustainability?”**

**Guest Speakers:** Nathan Taylor, Drexel Sierra Club  
Prineha Narang, Drexel Engineers Without Borders  
Drexel Smart House  
Jameson Detweiler, green.konnect.me  
Laurie Actman, City of Philadelphia, Mayor’s Office of Sustainability  
Mark Alan Hughes, University of Pennsylvania   
  
**Assigned Reading:**

1. Codoban and Kennedy, “Metabolism of Neighborhoods,” Journal of Urban Planning and Development (March 2008), 21-31.
2. Steve Vanderheiden. (2008). Two Conceptions of Sustainability. Political Studies 56, 435-455.
3. James Gustave Speth, “Systems Failure,” from The Bridge at the End of the World (2008)
4. Roland Barthes, “Plastic”

**Week 3: October 8: How are energy sustainability choices framed by political and geographical boundaries?**

**Guest Speaker:** Frank Laird, University of Denver   
  
**Assigned Reading:**

1. Frank N. Laird and Christoph Stefes. (2009). The diverging paths of German and United States policies for renewable energy: Sources of difference. Energy Policy 37, 2619-2629.
2. David Schlosberg and Sara Rinfret. (2008). Ecological modernisation, American-style. Environmental Politics 17, 254-275.

**Week 4: October 15: What are the options in sustainable power generation: a case study in solar energy and energy efficiency?**

**MID-TERM EXAM DISTRIBUTED**   
  
**Guest Speakers:**Ron Celentano, (invited)  
Maureen Mulligan, The Energy Cooperative  
Liz Robinson, Energy Coordinating Agency (invited)  
  
**Assigned Reading:**

1. State of Pennsylvania, Act 129[http://www.puc.state.pa.us/electric/Act\_129\_info.aspx](http://www.puc.state.pa.us/electric/Act_129_info.aspx" \t "_blank)
2. “Climate 2030 Blueprint” (Executive Summary)[http://www.ucsusa.org/global\_warming/solutions/big\_picture\_solutions/clima te-2030-blueprint.html](http://www.ucsusa.org/global_warming/solutions/big_picture_solutions/clima%20%20%0Ate-2030-blueprint.html" \t "_blank)
3. “Renewable Energy for America” http://www.nrdc.org/energy/renewables/default.asp
4. “Power Scorecard” [http://www.powerscorecard.org](http://www.powerscorecard.org/" \t "_blank)
5. National Academy of Sciences, America’s Energy Future: Technology an Transformation, Chapter 2

**OPTIONAL:** October 22, 12:00-1:00 p.m., “From Idea to Implementation”: A Business Plan Workshop with Mark Loschiavo, Executive Director of the Baiada Center for Entrepreneurship at Drexel University  
MacAlister Hall, Room 5051  
*Please RSVP to Scott Knowles (*[*sgk23@drexel.edu*](mailto:sgk23@drexel.edu)*) by October 8.*

**Week 5: October 22: How is energy sustainability shaping building and urban design?**

**MID-TERM EXAM DUE**   
  
**Guest Speakers:**Susan Piedmont-Palladino, National Building Museum / Virginia Tech   
  
**Assigned Reading:**

1. Sophia and Stefan Behling, Sol Power: the Evolution of Solar Architecture (1996), 12-21.
2. Architecture 2030 [http://www.architecture2030.org/](http://www.architecture2030.org/" \t "_blank)
3. The 2030 Challenge
4. 2030 Fact Sheet
5. McDonough and Braungart, Cradle to Cradle (2002) (recommended)

**OPTIONAL CLASS TRIP, OCTOBER 24, NATIONAL BUILDING MUSEUM, WASHINGTON, D.C.** with Professor Ellis to view the “Green Community” Exhibition and meet with curator Susan Piedmont-Palladino  
*The Great Works Symposium will pay entrance fees for student attendees, please RSVP to Scott Knowles (*[*sgk23@drexel.edu*](mailto:sgk23@drexel.edu)*) by October 8.*

**Week 6: October 29: How sustainable is our food system?**

**Guest Speaker:** James E. McWilliams, Texas State University   
  
**Assigned Readings:**

1. James E. McWilliams, Just Food: Where Locavores Get It Wrong and How We Can Truly Eat Responsibly (2009)
2. Pollan, Michael. (2008). Farmer in Chief. The New York Times Magazine, October 9.[http://www.nytimes.com/2008/10/12/magazine/12policy-t.html](http://www.nytimes.com/2008/10/12/magazine/12policy-t.html" \t "_blank)
3. “Locavore article packet” (recommended)
4. Kim, Brent et al. (2008) "Literature Review of Methods and Tools for Quantifying the Indirect Environmental Impacts of Food Procurement. pp. 1 - 65. skim
5. Aramark Press Release - [www.aramark.com/PressRoom/PressReleases/Clean-Air-Cool-Planet.aspx](http://www.aramark.com/PressRoom/PressReleases/Clean-Air-Cool-Planet.aspx" \t "_blank)

**Week 7: November 5: How is the desire for energy sustainability affecting transportation networks?**

**Guest Speaker:**TBA

**Assigned Reading:**American Public Transportation Association. (2009) "Changing the Way America Moves: Creating a More Robust Economy, a Smaller Carbon Footprint, And Energy Independence"

**Week 8: November 12: What is environmental justice, in the context of energy?**

**Guest Speakers:** Ayanna King, ???  
Jerome Shabazz, Overbrook Environmental Education Center   
Susan Stein, Drexel University

**Assigned Reading:**Sze, Julie (2006) Noxious New York: The Radical Politics of Urban Health and Environmental Justice. Chapter 5, "Power to the People? Deregulation and Environmental Justice Energy Activism"

**Week 9: November 19: Research Project Workshops**

Students meet with their project groups and with instructors to prepare for the December 3 research presentations.

**OPTIONAL:** The Baiada Center’s Sustainability Business Plan Concept Competition  
Interested project groups will have the opportunity on this evening as well to present their work as part of this innovative Baiada Center competition.

NO READING ASSIGNED

**Week 10: November 26: THANKSGIVING HOLIDAY**

**Week 11: December 3: Research Presentations"**