Course number:	ENVIRON 277-1
Instructors:	Madeline Brozen, mbrozen@luskin.ucla.edu and
	Colleen Callahan, ccallahan@luskin.ucla.edu
Time:	Spring quarter, 2016, Thursdays, 5:00 – 7:30 pm
Location:	Luskin School, Room 2343
Website:	https://ccle.ucla.edu/course/view/16S-ENVIRON277-1

Course Objectives

This course aims above all to provide a meeting place for students from across campus who are participating in the Leaders in Sustainability (LiS) program. The course gives students the opportunity to engage in stimulating discussions to facilitate interdisciplinary learning, collaboration, and problem solving to advance sustainability. Learning objectives of the course include:

- 1. Provide the opportunity to interact with, learn from and productively collaborate with students from a range of disciplines and perspectives.
- Strengthen skills important for leaders, including: systems thinking, leveraging your personal leadership style and strengths, collaborating within diverse groups, communicating your message, and project management, which includes setting realistic goals and priorities.
- 1. Provide a knowledge base of core competencies in: sustainability principles and its three main components of environment, economy and equity; different approaches to solving sustainability challenges; key concepts in environmental economics and governance; and lifecycle analysis.
- 2. Gain breadth in sustainability related "hot" topics, in areas such as renewable energy, smart water systems and low carbon transportation, through guest lectures by professors from a variety of disciplines, including management, environmental health science, engineering, law, public policy and urban planning.

Format

The course will be heavily discussion-based. To ensure engaging discussions, students will be given readings and/or other assignments to do prior to each class. **Students are expected to prepare the materials for each session and actively participate in class discussion.** This participation in classroom discussion is included in your overall grade for the course. Sessions will cover various formats. Roughly half of the course will involve group exercises/simulations, presentations, or case discussions. The other half will feature interactive lectures in which students are expected to ask questions and engage with the guest lecturer. The objective is to provide opportunities for you to interact and learn from professors and other students from a wide range of disciplines and backgrounds. Some sessions/classes will be more experiential with a skill building focus, while others will focus more on content and knowledge building.

Course Policies

Attendance Policy

Attending class and arriving on time counts toward your participation grade, which is 25% of your total grade. One absence for good reason is permitted if excused (please notify us before the class day). A second absence will lead to an automatic one-point reduction in participation grade (from A to B, etc.). A third absence will lead to a failing participation grade.

Ethics

All students are expected to abide by the UCLA student code of conduct. Individual assignments should be performed individually (unless stated otherwise); you may only discuss your work with others after submitting it. Always cite your sources carefully. See http://www.library.ucla.edu/bruinsuccess/ for guidelines on how to cite correctly, and see http://www.studentgroups.ucla.edu/dos/students/integrity/ for more information on expectations regarding academic conduct.

Grading

Assignments are due **by 12:00 noon** of the due date, to considered on-time. Late assignments will receive a penalty of one letter grade per day after deadline, until 50% credit. Assignments will not be accepted more than one week late. Several sessions have advance reading assignments. These will usually not be discussed in detail in class, but the discussions will draw from the readings. As such, you are expected to read these prior to the session. Your grade depends partly on your class participation. Not being familiar with the readings will negatively impact your grade.

This is a graduate-level course, but this is, in part, dependent on you as a scholar: we assume that you will bring your graduate-level integrity and insight to class, as well as to the course assignments. Unless otherwise indicated, assignments should adhere to the following criteria to warrant an A grade:

- 1. Turned in on time
- 2. Appropriate length (when length is indicated) and maturity
- 3. A framework is set up and then addressed by coherently integrating examples or details with explanations and analysis (clear direction with proper paper structure, i.e. thesis and topic sentences and conclusions)
- 4. Graduate student level of analytical thinking evident
- 5. Appropriate citations using in-text citations and endnotes or footnotes. Citations are to be formatted fully, simply listing an author's name or a website address is not acceptable.
- 6. Your voice is visible- who are you?

ALL ASSIGNMENTS MUST:

- 1. Post to the class CCLE website by 12:00 noon on the due date.
- 2. Be named (file name) Your name_Assignment name
- 3. Include your name, department, and expected graduation year
- 4. Title of the assignment
- 5. Be single spaced

Course Overview

All sessions will be facilitated by Madeline Brozen and/or Colleen Callahan, jointly with the instructor listed below.

	Date	Facilitator/Lecturer	Theme/Activity	Assignment Due
1	March 31	Madeline Brozen and Colleen Callahan	Introduction to the course; Sustainability principles and core concepts; Blog group work	Readings
2	April 7	Colleen Callahan	Windfarm Negotiation Exercise	Windfarm Negotiation readings and one-page write-up Submit Strength Deployment Inventory
3	April 14	Sara Tucker, Anderson School of Management	Leveraging your Leadership Style: Strength Deployment Inventory Exercise	Readings
4	April 21	Dick Jackson, Department of Environmental Health Sciences	Stories from the Frontlines Advancing Environmental Health + Communication and Messaging Workshop	Submit your leadership proposal; Prepare your leadership project elevator pitch Readings
5	April 28	Greg Pierce, Department of Urban Planning Colleen Callahan Madeline Brozen	Social and Environmental Justice: Examples from Water Systems and Transportation Planning	Readings Reading Notes #1 (due by this week or before)

6	May 5	J.R. DeShazo, Dept of Public Policy, Dept. of Civil and Enviro. Engineering	Clean Technology, Policy, and Environmental Economics	Personal Ecological Footprint Readings
7	May 12	Magali Delmas and Charles Corbett, Anderson School of Management	Business and the Environment: What Drives Sustainable Consumer and Business Decisions?	Lifecycle exercise Readings
8	May 19	Rich Ambrose, Dept. of Enviro Health Sciences	Science in Action: Sustaining Coastal Communities in the Face of Climate Change	Readings
9	May 26	Ted Parsons	Climate Engineering	Readings Reading Notes #2 (due by this week or before)
10	June 2	Madeline Brozen and Colleen Callahan	Blog presentations, wrap up discussion and alumni panel	Final reflective essay Prepare blog presentation

Topic Description and Readings

1. INTRODUCTION TO SUSTAINABILITY

The class will begin with an overview to the course including goals and assignments. Within this course, we aim to begin building a framework for sustainability, as well as to recognize each of our individual places within it. The class will also cover key concepts in ecological, social, and economic sustainability as well as environmental economics and governance.

Required Readings and Short Videos:

- Morelli, John. Environmental Sustainability: A Definition for Environmental Professionals. Journal of Environmental Sustainability. <u>http://scholarworks.rit.edu/cgi/viewcontent.cgi?article=1007&context=jes</u>
- IPCC (Intergovernmental Panel on Climate Change, 2015). Summary for Policymakers.
 **Read pages 4 -9 for this week.
 https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policym_akers.pdf
- Market Failures: <u>https://youtu.be/rJixtB0GluQ</u>
- Externalities: <u>https://youtu.be/yC5R9WPId0s</u>

• Public Goods: <u>https://youtu.be/mYtW1Ug7L_s</u>

Supplemental Reading - Recommended because they are influential and foundational articles:

- Goodland, Robert (1995). The Concept of Environmental Sustainability. Annual Review of Ecology and Systematics, 26, 1-24. http://www.jstor.org/stable/2097196?seg=4#page_scan_tab_contents
- Hardin, Garrett (1968). The Tragedy of the Commons¹. *Science, 162,* 1243-1248. http://science.sciencemag.org/content/162/3859/1243.full

2. OFFSHORE WIND FARM NEGOTIATION

In class, each of you will be assigned to the role of one of the eight stakeholders in this exercise, and you will receive short instructions specifically for that stakeholder. You must read the general instructions listed below ahead of time, there will not be enough time in class to do so.

Shellfish Wind Associates has submitted a proposal to develop offshore wind farms in Dakota Shoal, and the Federal Permitting Agency (FPA) is reviewing the controversial proposal. A group of relevant stakeholders has been meeting to discuss the recently submitted draft Environmental Impact Statement (EIS) (if you are not familiar with EISs, <u>read this overview</u>). This is the third meeting convened by the FPA. Stakeholders are seeking consensus regarding the following issues:

- How much agreement is there around the developer's EIS?
- What additional environmental, economic, and/or aesthetic considerations should be addressed in the permitting decision?
- What is preventing stakeholders from reaching agreement?
- What mode of participation should be used to ensure stakeholders an appropriate role in the final permitting decision?

The stakeholders are:

- Federal Permitting Agency (FPA)
- Shellfish Wind Associates (SWA)
- Residents' Association (RA)
- State Department of Environmental Protection (SDEP)
- Fishermen's Association (FA)
- Resource Economist

¹ If you are unfamiliar with this topic, then this is a required reading.

- University of Commonwealth Marine Biologist
- National Association for Green Energy (NAGE)

Process themes include techniques for creating value in spite of differences, joint fact-finding in the face of disputed scientific information, and dealing with scientific and technical uncertainty through an adaptive management approach.

Readings:

- Offshore Wind Farm Negotiation: General Instructions
- Offshore Wind Energy Generation Project: Draft Environmental Impact Statement, Shellfish Wind Associates, LLC, Prepared for: Federal Permitting Agency
- State Department Of Environmental Protection, Energy Bureau, Economic Impact Assessment: Dakota Shoals Wind Farm Proposal

These are copyrighted materials, so please do not share them with others.

3. LEADERSHIP AND SUSTAINABILITY

Instructor: Sara Tucker, UCLA Anderson of Management Director, Coaching & Team Skills

A key component of leadership is self-awareness and knowledge of how we impact others. When we can identify our own value to a team, we are better able to appreciate the strengths and contributions to a team of others different from us. In this session, Sara will review the theory behind the Strength Deployment Inventory (SDI) and through various experiential activities, help students gain an understanding of how their results on the SDI play out in a group setting and the implications of this for future multidisciplinary teams.

Assignment:. Look out for an email from Sara Tucker with a personalized link to complete your SDI. Results will be distributed in class.

Readings:

- Donella Meadows (2008). *Thinking in Systems: A Primer*. **You can buy this book for about \$10 new or used. Read the Introduction and Chapter 1 (at a minimum).
- Robert Hogan and Robert B. Kaiser (2005). What We Know About Leadership. *Review of General Psychology*. Vol. 9, No. 2, 169-180.
- Van Vugt, Hogan and Kaiser (2008). Leadership, Followership and Evolution: Some Lessons from the Past. *American Psychologist.* Vol. 63, 2, 182-196.

4. HEALTH AND SUSTAINABILITY + COMMUNICATIONS WORKSHOP

Instructor: Professor Richard Jackson; Professor and Chair of Environmental Health Sciences, UCLA School of Public Health

This session will explore how sustainability is intrinsically linked to public health from the perspective of Professor Dick Jackson. Dr. Jackson, a pediatrician by training, built a national reputation for pushing for the public health field to consider effects from the built environment. Dr. Jackson will provide highlights from his career, with a focus on lessons learned about message communication that can benefit other leaders.

Required Readings and Videos:

- Dorfman, L, and I.D Krasnow (2014) Public Health and Media Advocacy. *Annual Review of Public Health* 2014. *35*: 293-306
- Jackson, R. (March, 2007). Environment Meets Health, Again. Editorial in *Science*. 315 (9) p. 1337. <u>http://www.sciencemag.org/cgi/content/short/315/5817/1337</u> DOI: 10.1126/science.1141968
- Noah Goldstein (2009), "Scientifically Proven Ways to Be Persuasive" video. <u>https://www.youtube.com/watch?v=CeeF8fhF_Hs</u>

Recommended:

 Rosenberg, Tina (2016) "Ideas Help No One on a Shelf. Take Them to the World" New York Times Opinionator. <u>http://opinionator.blogs.nytimes.com/2016/02/29/dont-just-solve-a-problem-go-tell-the-wo</u> <u>rld/?_r=0</u>

5. SOCIAL AND ENVIRONMENTAL JUSTICE: EXAMPLES FROM WATER SYSTEMS AND TRANSPORTATION PLANNING

Instructor: Greg Pierce, Instructor, UCLA Department of Urban Planning; and Senior Researcher, UCLA Luskin Center for Innovation

This session will address social and environmental justice. The first half of the class will focus on issues of (in)equitable access to clean and affordable water at international, domestic, and local levels. Specifically, we will visually explore water supply vulnerabilities across LA County and how to increase resiliency through planning and policy strategies. For the second half of class we will take your current home--the LA region--as a case study when exploring transportation equity issues. We will also visually explore LA County's distribution of "disadvantaged communities" that disproportionately face high levels of pollution and poverty.

The session will end with positive stories of change as the LA region moves toward more active, healthy, and sustainable transportation.

Required Readings:

- Cushing, Lara et al (2015). The Haves, the Have-Nots, and the Health of Everyone: The Relationship Between Social Inequality and Environmental Quality. Annual Review of Public Health. Vol. 36: 193-209. DOI: 10.1146/annurev-publhealth-031914-122646.
- Pierce, Gregory; McCann, Henry (2016). Los Angeles County Community Water Systems: Atlas and Policy Guide. UCLA Luskin Center for Innovation. Read/view the text and maps on pages 1-26.

http://innovation.luskin.ucla.edu/sites/default/files/Water_Atlas_0.pdf

 Altshuler, Alan (2013) "Equity as a Factor in Surface Transportation Politics" Access Magazine <u>http://www.accessmagazine.org/articles/spring-2013/equity-factor-surface-transportation-politics</u>

Recommended:

- Hricko, Andrea (2008). Global Trade Comes Home: Community Impacts of Goods Movement. *Environ Health Perspect*. 116(2): A78–A81. <u>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2235209/</u>
- Halsey, Ashley (2016)<u>"A crusade to defeat the legacy of highways rammed through poor</u> <u>neighborhoods</u>" *Washington Post* March 29, 2016.

6. TECHNOLOGY, POLICY, AND ENVIRONMENTAL ECONOMICS

Instructor: J.R. DeShazo, Professor, Department of Public Policy and Department. of Civil and Enviro. Engineering; and Director, UCLA Luskin Center for Innovation

J.R. DeShazo exemplifies a cross-disciplinary leader, working at the intersection of environmental economics, policy, and technology. This session will highlight how economic evaluation informs environmental policy, the different environmental policy instruments, and how policy spurs clean technology advancements and adoption.

- Stavins, Robert (1998). Market-based Environmental Policies. Resources for the Future. ***Read Chapter 1, pages 1-6.
- Jaffe, Adam et al (2002). Environmental Policy and Technology Change. *Environmental and Resource Economics*, 22: 41–69. ***Read Section 2.

7. BUSINESS AND THE ENVIRONMENT

Instructors: Magali Delmas, Professor, UCLA Institute of the Environment and Sustainability and the Anderson School of Management; Director, UCLA Center for Corporate Environmental

Performance and Charles Corbett, Professor of Operations Management and Sustainability, UCLA Anderson School of Management

This session will be led by the original co-directors of the LiS Program, Charles Corbett and Magali Delmas. They will address issues of business and the environment, on both the consumer (demand) and company (supply) side. What factors drive consumers to purchase more sustainable products and services? What type of information (private and/or public) motivates residential consumers of electricity to reduce their energy consumption? How can Life Cycle Analysis (LCA) be used to shed light on the environmental implications of the consumption and behavioral choices we make on a daily basis? How can LCA be used by businesses to become more sustainable? What drives businesses to care about their environmental footprint, and take action to reduce it? This session will also involve an in-class LCA exercise.

Required Readings:

 Delmas, M. & Lessem, N. (2014). Saving Power to Conserve your Reputation? The Effectiveness of Private versus Public Information. Journal of Environmental Economics and Management.

http://www.environment.ucla.edu/perch/resources/2014-delmas-lessem-jeem.pdf

 Chinn, Mari. Life Cycle Assessment: Description and Methodology.Published by North Carolina State University, Cooperative Extension Service. http://content.ces.ncsu.edu/life-cycle-assessment-description-and-methodology

Supplemental Readings:

- Delmas, M., Kahn, M., Locke, S. (2014). Accidental Environmentalists? Californian Demand for Teslas and Solar Panels. Nat. Bureau of Economic Research, Working Paper No. 20754. <u>http://www.nber.org/papers/w20754</u>
- Chester, M. and A. Cano (2016) Time-based life-cycle assessment for environmental policymaking: Greenhouse gas reduction goals and public transit. *Transportation Research Part D.* 2016: 43 49-58

8. SUSTAINING COASTAL COMMUNITIES IN THE FACE OF CLIMATE CHANGE

Instructor: Professor Rich Ambrose, UCLA Department of Environmental Health Sciences

This session will cover the basics of climate change effects on coasts and possible adaptation strategies. Nationwide, this is an important issue as almost 40% of the U.S population lives in counties along coastal shorelines, which represent less than ten percent of total U.S land area. Scientists have predicted that population densities are expected to increase at a faster rate than

the U.S in the near-term. Los Angeles County is one of the most densely populated coastal counties, and as such, the effects of climate change on coastal environments presents a real pressing concern for the region. This session includes an exercise simulating a California Coastal Commission (CCC) meeting proposal for a seawall to protect coastal homes. Students will represent the stakeholders involved including homeowners, municipalities, environmental groups and CCC staff who ultimately make the final decision. This session seeks to elucidate the tension between immediate property protections versus other sustainable adaptation strategies.

Required Readings:

- California Coastal Commission (2015) Sea level rise policy guidance: Interpretative guidelines for addressing sea level rise in local coastal programs and coastal development permits. Adopted August 12, 2015. READ: Executive summary pages 13-22
 http://documents.coastal.ca.gov/assets/slr/guidance/August2015/0_Full_Adopted_Sea_L
- evel_Rise_Policy_Guidance.pdf
 Grad, Shelby (2016). Political Drama is Nothing New to the California Coastal Commission. Los Angeles Times. <u>http://www.latimes.com/local/lanow/la-me-california-coastal-commission-political-drama-20160211-story.html</u>

Supplemental Readings:

- USC Sea Grant Program. Sea Level Rise Vulnerability Study for the City of Los Angeles. <u>http://www.usc.edu/org/seagrant/research/sea_level_rise_vulnerability.html</u>
- Kudler, A.G. Rich Malibuites Nervous About Malibu Beach Access App. Mary 29, 2013. <u>http://la.curbed.com/archives/2013/05/rich_malibuites_getting_nervous_about_malibu_b</u> <u>each_access_app.php</u>

9. CLIMATE ENGINEERING

Instructor (Invited): Professor Edward A. (Ted) Parson, Dan and Rae Emmett Professor of Environmental Law and Faculty Co-Director, Emmett Institute on Climate Change at UCLA

Climate change may be the most significant environmental sustainability threat our modern world has ever faced. Much of the discussion at local, state, federal and international levels is of mitigation (reducing greenhouse gas emissions) and adaptation (reducing the risk of some degree of inevitable changes). Less well researched is climate engineering (CE) or geoengineering. CE may reduce climate change risks faster than any other response. Yet the idea of deliberately manipulating Earth's energy balance to offset human-driven climate change strikes many as dangerous hubris; could have negative environmental consequences; and

poses major, disruptive challenges to international policy and governance. The potential of unilateral deployment of CE strategies poses environmental and geopolitical risks that can be managed best by developing widely shared knowledge, risk assessment and norms of governance wherein CE may enhance mitigation incentives, not weaken them as commonly assumed. This class will explore international governance issues associated with CE.

Required Readings:

- Parson, E. (August, 2013). Climate Engineering in Global Climate Governance: Implications for Participation and Linkage. *Transnational Environmental Law*, 2013, Forthcoming. <u>http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2339238</u>
- Parson, E., Keith, D. (March, 2013). End the Deadlock on Governance of Geoengineering Research, *Science*, Vol 339, pp 1278-79. March 15, 2013. <u>http://www.sciencemag.org/content/339/6125/1278</u>

10. ALUMNI PANEL, BLOG PRESENTATIONS, AND CLASS REFLECTION AND FEEDBACK

Instructors: Madeline Brozen and Colleen Callahan

Assignments and Grading

The course will be four units, with letter grading. To earn a passing grade, regular attendance will be needed, active participation in the discussions, and completion of the assignments. The course grade will be based on two main components class participation (25%) and homework assignments (75%)

Class participation25%Offshore Windfarm Negotiation one-pager, complete your SDI, plus attendance and
in-class discussion participationReading notes20%Each one worth 10%Blog posts and responses20%Blog post 10%, responses 5%, presentation 5%Leadership project proposal15%Lifecycle exercise10%Final reflective essay10%

Assignment Descriptions

Reading Notes

Due: First response due between weeks 1 - 5 (week 2 not applicable) and the other response due between weeks 6 - 9

Grade: Each one worth 10% of your grade

Every student should write two "reading notes" over the course of the quarter. Each should respond to a reading/s from any current or previous weeks. Please post the note to the CCLE page of the week for which the reading is assigned.

Reading notes should be your reactions to one of the week's readings. The note can take the form of an analysis, comment, opinion, protest, reflection or any combination of these, as long as it is no more than one page. In whatever form your note takes, you should cite at least one informative quote from the reading that demonstrates you understand the content of the reading. Your reading notes should be direct, simple, brief, vigorous, lucid, and, if appropriate, amusing. No pressure there!

Offshore Wind Farm Negotiation

Due: April 7 Grade: Pass or Fail (part of your participation grade)

Read the materials for the Offshore Wind Farm Negotiation Exercise. Prepare a short (1 page or less) summary of the negotiation situation in which you describe: who are the players and what is the issue? Include at least one or two comments about your own thoughts, predictions, or assumptions. This must be submitted before the beginning of the class session. Evidence of analysis must be present in the paper for a passing grade.

Strength Deployment Inventory

Due: Complete SDI by April 7. Results will be distributed in class April 14. Grade: Pass or Fail (part of your participation grade)

Complete the Strength Deployment Inventory (SDI) by April 7. Look out for an email from Sara Tucker with a personalized link to complete your SDI online.

LiS Course Portfolio and Leadership Project Proposal

Due: April 21 Grade: 10% written portion, 5% oral perspective

By session 4, all students should submit a written proposal that contains: 1) the portfolio of courses you plan to count towards your Leaders in Sustainability certificate requirements and 2) your leadership project. In addition, you will turn your leadership project proposal into a two-minute perspective that you will give either live in class or post as a pre-recorded audio file. See below for details about both the written proposal and oral perspective.

Written Proposal using this **<u>TEMPLATE</u>** document

Part 1, Coursework: List the course you have already taken or plan to take for the LiS certificate. (We do not need to see the other courses you are taking for your own studies outside of LiS). Even if you are not yet sure which courses you plan to take or which courses are available to meet the LiS course requirements, you should have a plan for meeting the course requirements for the LiS certificate. For anyone that still has a year or more of grad school left, what classes you ultimately take can differ from your course portfolio proposal/plan but this assignment is designed to help you plan, prepare, and get on the right track to complete your LiS requirements. This part of the proposal should be no more than one-page, and should include a short explanation of why you want to take that particular set of courses, and how the courses will help advance your career goals.

Part 2, Leadership Project: Explain how you intend to meet the leadership requirement of the LiS program (no more than 4 pages). Describe what you plan to do, the reason why you chose this particular effort, and how you plan on accomplishing it. Include what partnerships you will need to achieve your goals. More advice for what to include in your write-up can be found in the template (link above and on the CCLE website for week 4). Project guidelines for the leadership requirement will be discussed in the first class session and are also posted to CCLE.

Oral Perspective

Every student is expected to prepare a two-minute (~117 second) oral "perspective" piece on their proposed leadership project. The student will either read the perspective aloud or post before 12 noon an edited recording. If there is time in class we will hear the recorded perspective after the in-class readings. This is your opportunity to receive feedback from your peers that could lead to helpful connections and ideas to further the success of your leadership project. The perspective should summarize your leadership project but only very briefly and first should introduce in a compelling way the issue/problem that your project seeks to address. The perspective should work on a personal, emotional (versus intellectual) level, and should not use jargon or technical language. Humans have learned from storytelling for thousands of years; this method of communication is an important tool for influencing policy change. For examples of perspectives go to: http://www.kqed.org/radio/programs/perspectives/

Personal Ecological Footprint

Due: May 5 The assignment itself is not graded but you will be expected to discuss your thoughts on it as part of your overall class participation grade Complete this exercise honestly: http://www.footprintnetwork.org/en/index.php/GFN/page/personal_footprint/

nilp.//www.roolprintnelwork.org/en/index.prip/GFN/page/personal_roolprint/

Life Cycle Quantitative Exercise OR Life Cycle Design Exercise

Due: May 12 by 12 noon

Each student, working in pairs, are to complete <u>either</u> the quantitative exercise or the design exercise.

1) Qualitative Exercise

Complete the <u>hand drying</u> analysis as described HERE. Specifically, answer the three questions at the front of the assignment (you can ignore exercise 1b in the doc).

OR

2) Design Exercise

Choose an item at home. Learn as much as you can through observation and Internet research about the life cycle of the product-materials used, where they are from, processes, etc. Design a one page infographic that illustrates the life cycle and impacts of the product. You can use http://www.lcacalculator.com to estimate impacts or find information from the company on http://www.goodguide.com. Examples of info-graphics can be found at Daily Info Graphic http://dailyinfographic.com and Flowing Data (awesome blog) http://flowingdata.com/. Submit your one-page infographic as a JPG or PDF. You can create it in a program of your choosing, or use http://piktochart.com

Reflective Final Essay

Due: June 2, 2016

Submit a short (2-4 page) reflective paper describing what you learned from the course. How did your perspective on sustainability evolve and specifically, how did the interaction with students from so many backgrounds affect your outlook on sustainability? What do you now see as the key debates in the field of sustainability? How do you plan to become a leader in sustainability during the rest of your time at UCLA and afterwards? These papers will not be shared with the other students in the class; however, the final session will include an open discussion of these questions.

Blog posts and responses

Sign up for due date in Session 1 (March 31, 2016) Grade: 15%, (10% for your group blog and 5% for your individual blog comments)

Students will be pre-assigned to groups and each group will have the chance to select their assigned week during the first course session. The purpose of the blog is to examine your topic and write about something specific that can be viewed from different perspectives. This could be a current issue, current event, new technology, proposed sustainability solution, or an article related to something we learned in class. What will be most compelling is how you view it from

your different vantage points, and how you consider the various stakeholders in a given issue. The posts should encourage feedback from other class members; controversial topics and viewpoints that challenge conventional wisdom are encouraged.

The blog post should be concise (1-2 single pages; approximately 800 – 1000 words) and should express your opinions on a subject related to sustainability and more specifically, the theme/topic listed in the table below. Other students in the class will be able to comment on the blog and these comments will be used for class participation. You should focus on writing a blog that reflects an opinion. The idea is to provide informed perspective and evoke responses from your fellow classmates.

Students are required to provide individual comments on 2 different blog posts: once before Week 6 (for a blog post due Weeks 3,4,5) and one time during Week 6 to Week 10 (for a blog post due Week 6,7,8 or 9). Your comments will be posted as responses on the sustainability blog discussion forum. Your comments should be thoughtful, analytical and add other perspectives to the discussion. Your comments will count toward 5 % of your grade.

Select a specific issue that relates to the topic/theme of your respective week in the course syllabus. The bolded portion is the topic which you are required to write about; the questions below that bolded topic are examples of possible, specific subjects/directions that your blog could take. You do not have to select one of the example questions but make sure that the example you do address presents your view on a subject for which there could be a variety of different perspectives. We very much welcome questions that challenge conventional wisdom with new information and informed perspectives. A good blog will pull from your own research/knowledge, going beyond the required reading list for this course.

Week Due	Theme/Topic
3	Externalities of renewable energy generation How should competing needs be balanced or prioritized between renewable energy generation and habitat conservation? For example, how should regulators respond to proposals to cite a large solar plant within threatened desert tortoise habitat?
	Is there a "downside" to solar and how can the pros and cons be balanced? (E.g. are workers who manufacture solar panels exposed to toxins?)

4	Health and environment Should environmentalists be promoting a plant-based diet?
	Is local food always more sustainable?
5	Social equity in the face of environmental disasters How do government responses to ecological disasters consider social equity?
	Does the government respond to pollution prevention and clean-up in different ways depending on the impacted community?
6	The policy and clean technology interaction Are you optimistic that the private sector can develop energy and energy storage technology to achieve a carbon free world by 2050? What is the role of governments in spurring this innovation?
7	Business and the environment Look at sustainability reports and practices promoted by a couple companies, for example Fiji Water and Virgin Atlantic. How comprehensive are their efforts? Are they failing to acknowledge anything?
8	Balancing ecosystem protections and human development How do you think the recent change of leadership at the California Coastal Commission was handled? How does the structure of the CCC affect how science informs policy making?
9	Climate engineering Should the U.S. government invest in climate engineering research, experimentation, and application?

Grading Rubric for Blog Posts

A Exceptional. The post is focused and coherently integrates examples with explanations or analysis. The post demonstrates awareness of its own limitations or implications, and it considers multiple perspectives when appropriate. The post reflects in-depth engagement with the topic.

B Satisfactory. The blog post is reasonably focused, and explanations or analysis are mostly based on examples or other evidence. Fewer connections are made between ideas, and though

new insights are offered, they are not fully developed. The post reflects moderate engagement with the topic.

C Underdeveloped. The blog post is mostly description or summary, without consideration of alternative perspectives, and few connections are made between ideas. The post reflects passing engagement with the topic.

D Limited. The blog post is unfocused, or simply rehashes previous comments, and displays no evidence of student engagement with the topic.

F No Credit. The blog post is missing or consists of one or two disconnected sentences.

Group Blog Presentation Due: June 2, 2016 Grade: 5%, pass/fail

During the final class session, students will reflect on the course via discussion of their reflective essay (Assignment #9) and by reviewing the subject matter topics and themes associated with each week of the course. The latter will be accomplished by group presentations on their blog, related to a class topic/theme from earlier in the course. Each group presentation should be not more than 5 minutes long. Your presentation should be clearly organized, with a short and compelling introduction, a clear description of the different perspectives on the subject matter, your opinion, and supporting details. You may have one person in your group present or split the time amongst group members. Each blog presentation will be followed by a small number of audience questions and/or discussion.