

## GC 269: INTRODUCTION TO SUSTAINABILITY

Northern Michigan University, Fall 2015, Tuesdays & Thursdays, 3-4:40pm

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**Course Description:** How can we meet the needs of our current global population—in terms of energy, food, water, and other resources—without sacrificing the needs of future generations? How can we achieve economic vitality without sacrificing environmental health and social equality? These are some of the most pressing questions facing our society today. In this course, we will examine these questions through readings, discussion, activities, lecture, and field experiences. We will explore how environmental and cultural changes in the twentieth century have affected current ecosystems and human communities, and then we will consider how the past might help to inform future decisions. We will use our community, the Northern Michigan University campus and the surrounding Marquette area, as a laboratory to think about—and to address—global sustainability issues on a local level.

The training that you receive in this class will help prepare you to evaluate sustainability issues from multiple perspectives, and will offer an opportunity to work with your peers, university administrators, and others to help promote sustainability on campus. As part of this course, you will engage in an applied research and service project to assess the state of sustainability at Northern Michigan University. What strengths can we continue to build upon? Where might there be some room for tangible improvement? This final service-learning project will help you apply your understanding of sustainability in a meaningful way, and may be used to inform future decisions at Northern Michigan University.

**Learning Objectives:** Students will be able to:

- Demonstrate understanding of different theoretical approaches to sustainability with particular attention to relationships between economic, environmental, and cultural systems
- Explain changes in how humans have used energy, food, water, and other resources over time, and articulate how those changes have affected the status of resources today
- Critically evaluate the history of the sustainability movement, and apply their own understanding of sustainability through a service-learning project and reflective activities based on that project
- Hone their ability to think critically about sustainability issues, and to use multiple perspectives to assess the state of sustainability at Northern Michigan University
- Work collectively with peers and community partners to craft a report of their findings, and a make a professional public presentation of their recommendation to University administrators and other interested parties

### Required Materials

Richard Heinberg and Daniel Lerch, eds., *The Post Carbon Reader: Managing the 21<sup>st</sup> Century's Sustainability Crisis*, Post Carbon Institute, 2010.

J.R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World*. W. Norton & Company, 2001.

All other readings will be made available to you through EduCat. You will need a durable notebook for the field and for class. Any handwritten notes from readings, lecture, discussion, or field trips that you put in your notebook can be used on the exams. I will collect your notebooks at exam time.

## ASSIGNMENTS

*Attendance:* We only learn when we are present—mentally and physically. Attendance is required for all classes, and you need to come to class prepared to engage in conversation with your peers. If you have a medical or family emergency, it is your responsibility to notify me as soon as possible, and to make up any work you miss.

*Participation:* Community-building is a primary theme in this course—not only in terms of content, but in the classroom dynamics that I believe are important to facilitate deep learning. Therefore, participation in class discussion constitutes a significant portion of your grade. We all have different strengths as communicators—some of us feel more comfortable speaking in front of others, some people are better listeners. My aim is to help students develop effective communication skills both as listeners and talkers throughout the semester.

*Response Papers:* Students will submit eleven response papers throughout the semester. These papers should be about 500 words or about 2 double-spaced pages. These essays will demonstrate to me that you have read the assigned readings and have a deep understanding of course material. Some of the response papers ask you to make connections between ideas from the readings and our experiences in the field. Please see the handout “Response Paper Prompts” for detailed explanation of what you should write about for each paper. The response papers are due in class on the day written in the syllabus. Throughout the semester, you will get one free-be response paper. This means that you can miss one paper and I will substitute the highest grade from your other papers to count for the missed assignment. Please save all Response Papers as YourLastName\_RP#. For example, for Response Paper 1, I would save the file as Mittlefehldt\_RP1.

*Exams:* Students will take two exams in this course: a midterm and a final. The midterm exam will assess students’ mastery of material covered in Part I: What is Sustainability? and Part II: Climate Change, Energy & Natural Resources. The final exam will have two parts. The first part of the final will focus primarily on Part III: Food & Farms and Part IV: Waste & Consumption. The second part will be a take-home essay that asks you to integrate information from throughout the semester and to reflect on your experience with the service-learning project. The final exam will be held on Tuesday, Dec. 8<sup>th</sup>, 2015 from 2:00-3:50 p.m. The exams will ask you to synthesize concepts covered in class, and to apply theories to different scenarios. Students are encouraged to form study groups throughout the semester to help prepare for exams. Any information from this class—from field trips, lectures, discussions, etc.—is fair game for exam questions. **YOU MAY USE YOUR NOTEBOOK ON EXAMS, BUT NO PRINTED MATERIAL OR LABTOPS.** The purpose of this policy is to incentivize note-taking in all parts of the course.

*Sustainability @NMU:* Students will have an opportunity to put their knowledge into action through a service-learning project that aims to help tell the story of sustainability at Northern Michigan University. We will work with university administrators and organizations on campus to assess the status of sustainability on campus. Students will work in small groups to perform research and present recommendations to the University on sustainability-related issues. These issues may include finding effective locations for recycling pods on campus, surveying traffic at water fountains in Jamrich Hall, or researching the pros and cons of having President Erickson sign the American College & University Presidents’ Climate Commitment. We will discuss the details of this project in class, and I will solicit more research ideas from all of you. To inform this project, students are strongly encouraged to join me in traveling to the annual meeting of the Association of Advancement of Sustainability in Higher Education (AASHE). This year’s meetings will be held at the Convention Center in Minneapolis, MN from Oct. 24<sup>th</sup>-27<sup>th</sup>. Again, we will spend more time in class discussing both the class project and the trip to this national conference.

## GRADE BREAKDOWN

Participation & Discussion	10%
Formal Response Papers (11, but only top 10 will be counted)	30%
Exams Midterm (on Part I&II): 10% Final Part 1 (on Part III&IV): 10% Final Part 2 (Reflective Essay): 10%	30%
Research Project (Sustainability@NMU) 1) Group Presentation—10% 2) Final Group Report—20%	30%
<b>Total: 100%</b>	

## COURSE POLICIES

1. I expect that all homework intended for evaluation will be professionally presented. Any work done outside the class period should be typed and free from spelling and grammar errors. All written assignments must be double-spaced with 12-point font. Always proofread and spellcheck your documents. As with all college writing, you will be assessed on the strength and clarity of your writing, the organization of your analysis, and the basic mechanics of your prose. Students should use the MLA or Chicago Manual of Style for formatting and grammar.
2. Assignments are due at 3pm on the day they are listed in the syllabus. For each day that an assignment is turned in late (emailed to me after 3pm), I will automatically deduct a letter grade. It is in your best interest to turn things in on time, as work will build up if you neglect it. If you encounter extraordinary circumstances such as a death in the family, contact me as soon as they arise and we will work out a solution.
3. Portable music players are prohibited in class at all times. Also, silence your cell phones prior to class, and be sure to use the restroom before exams so you don't have to get up in the middle of class. If you are texting in class, I will most likely ask you to leave. This will affect your participation grade. If the use of laptops becomes problematic, I may ask you to leave your computers at home.
4. Plagiarism is an unfortunately common form of academic dishonesty and will not be tolerated in this course. Please see the university catalog for a detailed explanation of plagiarism, and penalties for academic dishonesty at Northern Michigan University. If you didn't say it or think it, cite the source of the idea. Any student who submits plagiarized work or is caught cheating on exams will receive an "F" for the entire class.
5. If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700 or [disserv@nmu.edu](mailto:disserv@nmu.edu)). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.
6. If you have a nut or soy allergy, please let me know before our field trip to the Marquette Food Co-Op. Otherwise, if you play your cards right, there may be tasty vittles there to sample.

	Topic	Reading	Due
<b>PART I: What is Sustainability?</b>			
Tues 8.25	Introductions	1) Oliver, "Summer Day"	
Thur 8.27	What is Sustainability?	1) Meadows, <i>Limits to Growth</i> , Intro & Commentary 2) Heiberg, "Beyond Limits to Growth" 3) Heiberg, "What is Sustainability," PCR, pp. 3-24	RRP 1
<b>PART II: Climate Change, Energy &amp; Natural Resources</b>			
Tues 9.1	Climate Change & Sustainability	1) McKibben, "A New World," PCR, pp.43-52 2) Douthwaite, "International Response to Climate Change," PCR, pp.53-62 3) Gore, Kyoto Speech	RRP 2
Thur 9.3	Human Health & Global Environmental Change	1) Parker & Schwartz, "Human Health & Well-Being in an Era of Energy Scarcity & Climate Change," PCR, pp.385-405 2) McMichael, "Globalization, Climate Change, and Human Health"	RRP 3
Tues 9.8	The Making & Remaking of our Fossil Fuel Economy	1) McNeill, "Fuels, Tools, & Economics" 2) Whipple, "Peak Oil and the Great Recession," PCR, pp.245-255	RRP 4
Thur 9.10	<i>Field trip: Ripley Biomass Plant, Kathy Richards, Associate VP Engineering/Planning Facilities, NMU</i>	1) Fridley, "Nine Challenges of Alternative Energy," PCR, pp.227-246 2) Tenenbaum, "Harvesting the Potential of Biomass" 3) Pimentel, "Environmental and Social Costs of Biomass Energy"	
Tues 9.15	Energy & Environmental Justice	1) Shrader-Frechette, "Renewable Technologies and Environmental Injustice" 2) Mittlefehldt, "EJ & Biomass Energy in Vermont"	FRRP 5
Thur 9.17	<i>Field trip: Wind-Powered Home, Sam Simonetta, Lean Clean Energy (tentative)</i>	1) Lu, "Global Potential for Wind-Generated Electricity" 2) Centre for Sustainable Energy, "Common Concerns about Wind"	
Tues 9.22	Michigan's Energy Past, Present, & Future <i>Guest: Michael Larson, Michigan Energy Options</i>	1) Union of Concerned Scientists, "Charting Michigan's Renewable Energy Future"	
Thur 9.24	<i>Field trip: Hydropower Plant, Erik Booth, Marquette Board of Light &amp; Power</i>	1) Christensen, "Hydropower: A Step Toward Energy Independence" 2) Johansen, "Is Hydropower an Endangered Species?"	FRRP 6
Tues 9.29	The Paradox of Local Power & the Challenges of Renewables	1) Berlik, "The Illusion of Preservation"	FRRP 7
Thur 10.1	<b>Exam on Parts I &amp; II</b>		
<b>PART III: Food &amp; Farms</b>			
Tues 10.6	Eating Energy: The Rise of Fossil Fuel-based Agriculture	1) McNeill, "Land Use and Agriculture" 2) Jackson, "Tackling the Oldest Environmental Problem," PCR, pp. 128-139	
Thur 10.8	Exploring Local Food Systems	1) USDA, "Local Food Systems," 1-34	
Tues 10.13	Field trip: Seeds and Spores Farm	1) USDA, "Local Food Systems," 35-52	FRRP 8
Thur 10.15	<i>Field trip: Marquette Food Co-op with Abbey Palmer</i>	1) Allen, "Growing Community Food Systems," PCR, pp.140-150 2) Bomford, "Getting Fossil Fuels off the Plate," PCR, pp.119-127	
Tues 10.20	Politics on our Plates: From Organic Ag to Food Insecurity	1) Gottlieb, "The Politics of Food"	
Thur 10.22	<i>Field trip: Hoop House w/ Abbey Palmer</i>	1) Cohen, "Don't Mono-crop the Movement"	FRRP 9

<b>Tues 10.27</b>	<b>**Highly Recommended** Field Trip to AASHE, Minneapolis, MN (alternative assignment TBA)</b>		
<b>PART IV: Waste &amp; Consumption</b>			
Thur 10.29	A Social History of Trash	1) Sheehan and Spiegelman, "Climate Change, Peak Oil, and the End of Waste," PCR, pp. 363-381 2) Strasser, "A Social History of Trash"	
Tues 11.3	<i>Field trip: Mgt County Landfill, Josh Wales, Mgt. County Solid Waste Management Authority</i>	1) Strasser, "Trash & Reuse Transformed"	FRRP 10
Thur 11.5	Consumed by Consumption <i>Guest: Brandon Sager, NMU Sustainability Coordinator</i>	1) Durning, "The Consumer Society" & "The Dubious Rewards of Consumption," "A Culture of Permanence"	RRP 11
<b>PART V: Local Solutions to Global Sustainability Issues: What is the State of Sustainability at NMU?</b>			
Tues 11.10	Education & Sustainability: Putting Knowledge into Action	1) Stone and Barlow, "Smart by Nature," PCR, pp.409-418 2) Martenson, "Personal Preparation," PCR, 249-441	
Thur 11.12	Work on Sustainability Projects	TBD	
Tues 11.17	Work on Sustainability Projects	TBD	
Thur 11.19	Work on Sustainability Projects	TBD	
Tues 11.24	NO CLASS—Happy Thanksgiving!		
Thur 11.26	NO CLASS—Happy Thanksgiving!		
Tues 12.1	Work on Sustainability Projects	TBD	
Thu 12.3	Presentation to University Administration	<b>Due: Sustainability@NMU Reports &amp; Presentations</b>	
<b>Final Exam Part 1:</b> Tuesday, Dec. 8, 2015, 2 p.m.-3:50 p.m. <b>Final Exam Part 2:</b> Reflective Essay Due at 2pm			