

LB 325B(001): Science and the Environment: Social Sciences
Fall 2017 M/W 3:00-4:50 E-26A Holmes

Instructor: Dr. Aaron M. McCright
E-184 Holmes Hall

Office Hours: 10:00-12:00 T and by appointment
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Course Description: Scholarship in the biophysical sciences, social sciences, and humanities within the last sixty years has examined various dimensions of human-environment interaction. This course provides broad coverage of foundational and recent scholarship in environmental history, philosophy, and sociology (with an emphasis on the latter). Students will sharpen their reading, writing, public speaking, analytical reasoning, problem-solving, and critical thinking skills through course activities.

Learning Objectives: After completing our course activities, students will be able to do the following.

1. create and implement activities to facilitate peer learning
(assessed via class discussion leading assignment)
 - collaborate effectively with a partner to identify key concepts, theories, and/or compelling questions in course material
 - design interesting discussion questions and/or activities to help peers learn course material and/or improve skills
 - execute lesson plan effectively, by managing time and engaging peers well
2. explain the ecological embeddedness of society and how it has changed over time
(assessed via quizzes and Take-Home Essay Exam One)
3. analyze theoretical arguments and empirical evidence for human drivers of environmental impacts
(assessed via quizzes, model creation assignment, and Take-Home Essay Exam Two)
 - interpret theoretical arguments about potential drivers
 - evaluate evidence for potential predictors
 - create an analytical model explaining the main human drivers of environmental impacts
4. evaluate political, social, and technological solutions to environmental problems
(assessed via quizzes and Take-Home Essay Exam Three)
5. create a feasible and financially lucrative solution to an important environmental problem
(assessed via Natural Capitalism Project)
 - design a new product or service, identify the intended market niche, and produce a comprehensive marketing strategy
 - deliver a pitch of this product or service to a venture capital investor
6. examine the dynamics of climate change views and behaviors
(assessed via quizzes and Take-Home Essay Exam Three)
 - identify the most consistent predictors of climate change views
 - propose an effective communication strategy to increase public understanding of climate change

If a nation wishes to be ignorant and free, it wishes for what never was and what never will be.
Thomas Jefferson in a personal letter to Colonel Charles Yancey
of Albemarle County, VA (dated January 6, 1816)

Course Policies

Required Materials: All course readings and handouts are PDF files that are available electronically on our D2L website. You must bring your syllabus, selected handouts, and the day's assigned reading(s) to each class meeting.

<u>Course Requirements:</u>	<u>Graded Components</u>	<u>Points</u>
	Class Engagement and Participation	120
	Class Discussion Leader	30
	Natural Capitalism Project	50
	Three Take-Home Essay Exams	300
	Total	500

Class Engagement and Participation: To succeed in life, you must take action. To succeed in our class, you must arrive to class on time prepared to actively participate in class discussions and activities. Some of these activities will be quizzes.

Class Discussion Leader: Once during the semester, you will collaborate with one other colleague to lead class discussion during a class. Information on leading class discussion is included later in this syllabus.

Natural Capitalism Project: In the last third of the semester, you will collaborate with a few classmates to design a new product or service that will solve an environmental problem. Your team will develop a proposal to pitch to a venture capitalist.

Three Take-Home Essay Exams: Three times this semester, you will complete a take-home essay exam. You will receive each exam about 10 days before it is due.

<u>Grading Scale:</u>	<u>Number Grade</u>	<u>Percentile</u>	<u>Point Total</u>
	4.0	92.5-100	463-500
	3.5	87.5-92.4	438-462
	3.0	82.5-87.4	413-437
	2.5	77.5-82.4	388-412
	2.0	72.5-77.4	363-387
	1.5	67.5-72.4	338-362
	1.0	62.5-67.4	313-337
	0.0	<62.5	<313

Class Engagement and Participation is both encouraged and expected. You must cover the assigned readings and complete the assigned exercises **before** class meetings in order to get the most from our class discussions. The success of our class depends upon all of us studying, not simply skimming, the assigned readings and being prepared to discuss them in depth. Engagement and participation will be evaluated daily using the class engagement and participation rubric. You start with 0 points; you end with what you *earn*. We will have a brief quiz on class material each Wednesday between September 13th and November 29th. Since we are all adults, we will all behave responsibly in class. Please see me if you have questions about this.

Intellectual Integrity is the foundation of the scientific community. To be a good citizen in a scientific community, you must respect the integrity of the academic enterprise. In all instances, you must do your own work so that credit may be given where credit is due. There is no excuse for cheating or plagiarism—submitting another’s work, ideas, or wording, as your own. **If you plagiarize, or otherwise cheat (or assist someone else in cheating) in any way, on any assignment, you may receive a “0” for the course.**

The Spartan Code of Honor was adopted by ASMSU on March 3, 2016. It was later endorsed by Academic Governance on March 22, 2016, and then recognized by the Provost, President, and Board of Trustees on April 15, 2016. The Spartan Code of Honor academic pledge focuses on valuing academic integrity and honest work ethics at MSU. You can learn more about the Spartan Code of Honor at <http://honorcode.msu.edu>. The pledge reads as follows:

“As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.”

The Briggs Honor Code was created by members of the LBC Student Advisory Council. The Briggs Honor Code reads as following:

“As a member of the Lyman Briggs College community, I vow to hold myself and my peers to the highest measures of academic virtue. I will neither give nor receive any unauthorized assistance in completing my work (through any resource, electronic or printed), which includes, but is not limited to: papers, essays, laboratory reports, group-work, and exams. I understand that this benchmark is set forth to uphold the intrinsic values of academic honesty and integrity.”

d21.msu.edu contains our class website. If you are on the Registrar’s official class roster, then your access to this website is automatic. You should check this website regularly. You may access all relevant course files within several subdirectories in the “Content” directory. The “General Class Handouts” subdirectory contains the syllabus and all in-class and out-of-class handouts. The “Assigned PDF Readings” subdirectory contains all the short assigned readings. The “Graded Written Assignments” subdirectory contains the directions for each of the graded written assignments throughout the semester. Finally, other subdirectories will be created as needed throughout the semester to archive additional materials.

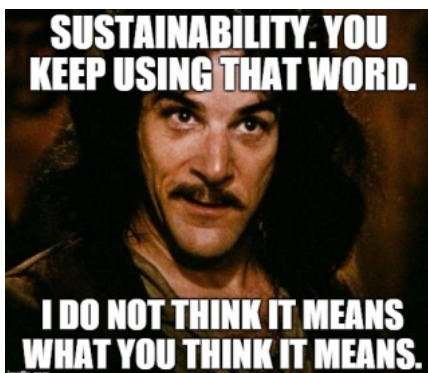
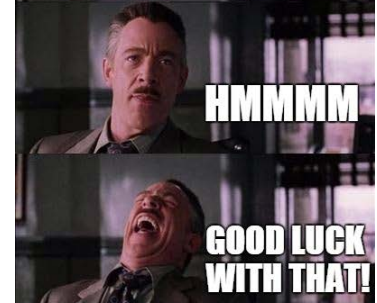
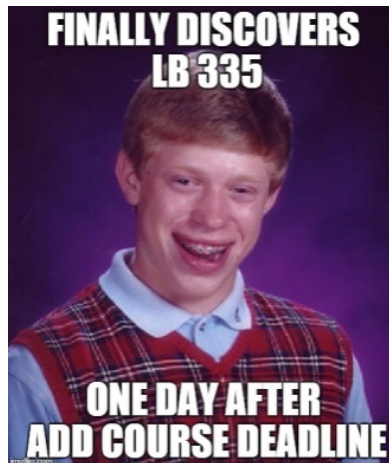
Accommodations: If you have a University-documented learning difficulty or require other accommodations, please provide me with your VISA as soon as possible and speak with me about how I can be of assistance. If you do not have a VISA but have been documented with a learning difficulty or other problems in the past for which you may still require accommodation, please contact MSU’s Resource Center for Persons with Disabilities (RCPD) in order to attain current documentation.

Help! I cannot overemphasize the importance of seeking assistance when you are having difficulties with our course materials and activities. I am quite prepared to help you with any course-related problems you have (and with those non-course-related problems that affect your ability to do your best in this course). Please do not hesitate to meet with me.

Limits to Confidentiality: One-on-one meetings, essays, and other materials submitted for this class are generally considered confidential in accordance with the MSU's student record policies. However, I want you to be aware that MSU employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues. As your instructor, I must report the following information to other MSU offices if you share it with me:

- suspected child abuse/neglect, even if this maltreatment happened when you were a child,
- allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff, and
- credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. *In almost all cases, it will be your decision whether you wish to speak with that individual.* If you would like to talk about these events in a more confidential setting, I encourage you to make an appointment with the MSU Counseling Center (<http://counseling.msu.edu>).



Guidelines and Expectations for Class Discussion Leaders

Once this semester, you and a classmate will collaborate to lead class discussion for approximately fifty minutes on an assigned reading. This page provides you with suggestions for effectively leading discussion on your reading and identifies those criteria according to which you will be evaluated—using the class discussion leader rubric.

In the days or hours (NOT minutes!) before you lead class discussion, you **MUST** inform me (in person or by e-mail) about what you plan to do. This will give you a chance to clear up any confusion or ask any questions you may have about the reading. I will also be able to give you guidance about the most important aspects of the reading and feedback on the time management and feasibility of your activities.

Suggestions for Effectively Leading Discussion

#1 suggestion: BE CREATIVE! (This is your course, so take ownership of it!)

be enthusiastic, energetic, and engaging and have a positive attitude

lead your classmates in a discussion of the reading's main points

briefly offer a critical analysis of the author's argument and ask the class to respond

(e.g., evaluate the logic, organization, clarity, strength, and effectiveness of the author's argument)

help your classmates critically evaluate the author's writing quality and effectiveness

create and ask discussion questions stemming directly from the reading

create and ask discussion questions that relate the reading to prior readings

(e.g., you may especially want to address recurring themes in the course)

create and ask discussion questions that relate the reading to current events

or, better yet, help your classmates create such questions and guide them in discussing them

utilize audio/visual aids to facilitate discussion and enhance your classmates' participation

(e.g., PowerPoint slide shows, chalkboard drawings, musical selections, video selections)

utilize handouts to quickly convey important information or stimulate class discussion

plan simulations or activities to facilitate class participation

Evaluation Criteria

Points Possible

1. discussion of the substantive content of the reading	10
identification of main points; breadth and depth of analysis	
2. overall organization of class discussion	8
efficient organization of topics, questions, and activities; time management	
3. ingenuity	3
effective use of audio/visual aids; creation of informative handouts;	
use of innovative simulations and group activities	
4. collaboration with discussion co-leader(s)	3
ability to work well together and coordinate ideas, questions, and activities	
5. engagement with classmates	3
maintenance of a reasonable level of productive engagement with classmates	
6. attitude	3
ample display of enthusiasm and energy	

A Few Words of Advice

Job titles matter. Class discussion leaders are expected to lead class discussion. Your goal as a class discussion leader should be to talk less and engage your classmates to talk more. For instance, rather than tell your classmates what the reading is about (not good), you can ask them questions so they can tell you what the reading is about (better), or you can design an activity through which they ask and answer their own astute questions about the reading (mo' better). Keep in mind that the word "presentation" does not appear above, and that is no coincidence.

Schedule of Shenanigans

<u>Date</u>	<u>Description of Reading/Writing Assignment</u>
August 30	<i>Course Introduction and Organization</i>
September 4	Labor Day—No Class
September 6	<i>A Call To Arms</i> Diamond, Jared. 1995. "Easter's End." <i>Discover</i> 16(8):62-69.
September 11	<i>Re-Dialing . . . I</i> Catton, Jr. William R. 1980. <i>Overshoot: The Ecological Basis of Revolutionary Change</i> . Urbana, IL: University of Illinois Press. 17-35.
September 13	<i>Re-Dialing . . . II</i> Catton, Jr. William R. 1980. <i>Overshoot: The Ecological Basis of Revolutionary Change</i> . Urbana, IL: University of Illinois Press. 36-57.
September 18	<i>Our Current Predicament: The State of the World</i> Millennium Ecosystem Assessment. 2005. <i>Ecosystems and Human Well-Being: Synthesis</i> . Washington, D.C.: Island Press. V-IX; 1-24.
September 20	<i>A "Natural" Disaster?</i> Fischetti, Mark. 2001. "Drowning New Orleans." <i>Scientific American</i> 285(4):76-89. Davis, Mark, and Mark Hobson. 2006. <i>Hurricane Katrina: The Storm That Drowned a City</i> . Boston: WBGH Studios. (Link to Video on YouTube) Take-Home Essay Exam One Assigned
September 25	<i>An Introduction to Environmental Social Science</i> Dunlap, Riley E. 1993. "From Environmental to Ecological Problems." Pp. 707-738 in <i>Social Problems</i> , edited by Craig Calhoun and George Ritzer. New York: McGraw-Hill.
September 27	<i>Modeling the Main Human Drivers of Environmental Impact I</i>
October 2	<i>Population Growth I</i> Ehrlich, Paul R., and John Holdren. 1971. "Impact of Population Growth." <i>Science</i> 171:1212-1217. Take-Home Essay Exam One Due
October 4	<i>Technological Development</i> Commoner, Barry, Michael Corr, and Paul J. Stamler. 1971. "The Causes of Pollution." <i>Environment</i> 13(3):2-19.

<u>Date</u>	<u>Description of Reading/Writing Assignment</u>
October 9	<i>Population Growth II</i> Holdren, John P., and Paul R. Ehrlich. 1974. "Human Population and the Global Environment." <i>American Scientist</i> 62:282-292.
October 11	<i>Judeo-Christianity and Exploitation</i> White, Lynn. 1967. "The Historical Roots of Our Ecological Crises." <i>Science</i> 155:1203-1207.
October 16	<i>Individual Self-Interest</i> Hardin, Garrett. 1968. "The Tragedy of the Commons." <i>Science</i> 162:1243-1248.
October 18	<i>Capitalism and the Treadmill of Production</i> O'Connor, James. 1994. "Is Sustainable Capitalism Possible?" Pp. 152-175 in <i>Is Capitalism Sustainable: Political Economy and the Politics of Ecology</i> , edited by Martin O'Connor. New York: Guilford Press.
	Mid-Semester Feedback
October 23	<i>Ecologically Unequal Exchange in the World System</i> Shandra, John M., Christopher Leckband, and Bruce London. 2009. "Ecologically Unequal Exchange and Deforestation: A Cross-National Analysis of Forestry Export Flows." <i>Organization & Environment</i> 22:293-310.
October 25	<i>Modeling the Main Human Drivers of Environmental Impact II</i> Take-Home Essay Exam Two Assigned
October 30	<i>Bringing It All Back Home</i> York, Richard, Eugene A. Rosa, and Thomas Dietz. 2003. "Footprints on the Earth: The Environmental Consequences of Modernity." <i>American Sociological Review</i> 68:279-300.
November 1	<i>Environmental Social Science Potpourri</i> (ONE of the following) Weigert, Andrew J. 1994. "Lawns of Weeds: Status in the Opposition to Life." <i>The American Sociologist</i> 25:80-96. Grant II, Don Sherman, Andrew W. Jones, and Albert J. Bergesen. 2002. "Organizational Size and Pollution: The Case of the U. S. Chemical Industry." <i>American Sociological Review</i> 67:389-407. Freudenburg, William R., Lisa J. Wilson, and Daniel J. O'Leary. 1998. "Forty Years of Spotted Owls? A Longitudinal Analysis of Logging Industry Job Losses." <i>Sociological Perspectives</i> 41:1-26.
November 6	<i>Sustainability: Keep Your Feet on the Ground and Keep Reaching for the Stars</i> World Commission on Environment and Development. 1987. <i>Our Common Future</i> . New York: Oxford University Press. 1-23.
November 8	<i>A Covenant for a Sustainable World</i> Earth Charter Commission. 2000. <i>The Earth Charter</i> . The Hague: Earth Charter Initiative. Take-Home Essay Exam Two Due

<u>Date</u>	<u>Description of Reading/Writing Assignment</u>
November 13	<i>Having Our Cake and Eating It Too</i> Hawken, Paul, Amory Lovins, and L. Hunter Lovins. 1999. <i>Natural Capitalism: Creating the Next Industrial Revolution</i> . New York: Back Bay Books. 1-21.
November 15	<i>They're Doing What?!</i> Despommier, Dickson. 2009. "The Rise of Vertical Farms." <i>Scientific American</i> 301(5): 80-87. Huber, George W., and Bruce E. Dale. 2009. "Grassoline at the Pump." <i>Scientific American</i> 301(1): 52-59.
November 20	<i>That Whole "Scientific Consensus" Thing</i> Cook, John, Dana Nuccitelli, Sarah A. Green, Mark Richardson, Bärbel Winkler, Rob Painting, Robert Way, Peter Jacobs, and Andrew Skuce. 2013. "Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature." <i>Environmental Research Letters</i> 8:024024.
November 22	<i>Key Predictors of Climate Change Views</i> McCright, Aaron M., Sandra T. Marquart-Pyatt, Rachael L. Shwom, Steven R. Brechin, and Summer Allen. 2016. "Ideology, Capitalism, and Climate: Explaining Public Views about Climate Change in the United States." <i>Energy Research and Social Science</i> 21:180-189.
November 27	<i>Changing Climate Change Views</i> Moser, Susanne C., and Lisa Dilling. 2004. "Making Climate Hot: Communicating the Urgency and Challenge of Global Climate Change." <i>Environment</i> 46(10): 32-46.
	Take-Home Essay Exam Three Assigned
November 29	<i>Changing Climate Change Behaviors</i> Gardner, Gerald T., and Paul C. Stern. 2008. "The Short List: The Most Effective Actions U.S. Households Can Take to Curb Climate Change." <i>Environment</i> 50(5): 12-24.
December 4	In-Class Work on Natural Capitalism Projects Course Evaluation: Student Assessment of Learning Gains (SALG)
December 6	<i>Natural Capitalism Project Presentations</i>
December 11	Take-Home Essay Exam Three Due by 5:00 PM in my office in E-184 Holmes or in my mailbox in E-34 Holmes