

Resources for Teaching Sustainability:

Teaching with the Future in Mind: How to bring sustainability into the classroom

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Sustainability Council Curriculum Subcommittee

Sponsored by: Center for Teaching Learning & Research,
Sustainability Council

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Potential Faculty Lecturers

Faculty Willing to Contribute Give in-class lectures or seminars on climate change(CC) and/or sustainability (S), and other topics.				
Name	Department /Program	CC	S	Advanced or Specialized Topics
Baptiste, April	ENST, ALST	Y		Climate justice and impacts on small island developing states.
Burnett, Adam	GEOG	Y		The physical science of climate change with emphasis on atmospheric circulation and storm systems.
Cardelús, Catherine	BIOL, ENST	Y	Y	The science of climate change, CC impacts on ecosystems, humans, food, water, etc. What is sustainability.
Fuller, Randy	BIOL, ENST	Y		
Graybill, Jessica	GEOG, REST	Y	Y	Climate change basics; science-society interfaces; policy-science interfaces; regional case studies (Arctic, Russia)
Henke, Chris	SOAN		Y	Food, agriculture, and sustainability (including details about campus and regional food issues); community-based research methods in sustainability; and the politics of sustainability in higher education.
Kawall, Jason	PHIL, ENST			Ethical dimensions of climate change and/or sustainability
Klepeis, Peter	GEOG	Y	Y	Climate and Society, Earth Society and Sustainability, Geography of Happiness
Klotz, Rick	ECON	Y	Y	Economics of climate change (how to view it as a market failure, pros/cons of policy options, how to measure its impact, the social cost of carbon etc), background on US or global climate policy, or climate change and agriculture.
Loranty, Mike	GEOG	Y		Climate change and the Arctic
Pattison, Andy	ENST	Y	Y	A broad range of topics related to environmental policy, sustainability, and climate action planning
Pumilio, John	Office of Sustainability		Y	Sustainability and climate initiatives at the local, organizational (including Colgate), and personal levels.
Tseng, Linda	ENST, PHAS		Y	Water sustainability, geoengineering, common sustainable practices, and water conservation practices. Engineering solutions, soil and water contamination, and water conservation and quality.
Watkins, Eddie	BIOL	Y	Y	Plant Physiology and Carbon Sequestration
Yamamoto, Daisaku	GEOG		Y	Issues of community resilience and sustainable livelihood in the context of developmental states, especially; includes communities that resist policies promoted under the name of sustainability.

Sustainability Bibliography

General Sustainability

Silent Spring. Author: Rachel Carson

Kivalina: A Climate Change Story. Author: Christine Shearer

What is Sustainable Development. Environment: Science and Policy for Sustainable Development, Volume 47, Number 3, pages 8–21. © Robert W. Kates, Thomas M. Parris, and Anthony A. Leiserowitz, 2005.

Economics

Ecological Economics and Sustainable Development, Selected Essays of Herman Daly. Daly, Herman E.; 2007, pp. x, 270, Advances in Ecological Economics series. Cheltenham, U.K. and Northampton, Mass.: Elgar

Some Theoretical Connections among wealth, income, sustainability, and accounting. Martin L. Weitzman. <http://www.nber.org/papers/w22060>

Sustainability: An Economist's Perspective. Robert M. Solow
<http://cda.mrs.umn.edu/~kildegac/Courses/Enviro/3008/Readings/Solow.pdf>

Trade and Environment: A Resource Book. Author: Adil Najam

More Articles: http://www.ase.tufts.edu/gdae/publications/working_papers/index.html

Political Science

The Politics of Global Climate Change. Author: Patrick M. Regan

Toward Sustainable Communities: Transition and Transformations in Environmental Policy. Second Edition. Edited by: Daniel A. Mazmanian and Michael E. Kraft

Toward Sustainable Communities. Fourth Edition. Author: Mark Roseland.

Smart Power. Climate Change, the Smart Grid, and the Future of Electric Utilities. Author: Peter Fox-Penner

Global Warming Gridlock. Creating Effective Strategies for Protecting the Planet. Author: David G. Victor

Justice and Religion

The Environmental Justice Reader: Politics, Poetics, and Pedagogy. Authors: Joni, Adamson, Mei Mei Evans, and Rachel Stein,

“*Preservation by 'Letting Go': Buddhist Impermanence (Anicca) in Ruether's Ecotheology.*” *Ecotheology: Journal of Religion, Nature & the Environment.* Author: Annette Ahern

International Environmental Justice: A North-South Dimension. Aldershot, England: Ashgate, 2004. Author: Ruchi Anand

Yale Forum on Religion & Ecology <http://fore.yale.edu/education/research/bibliography/>

AASHE: The Association for the Advancement of Sustainability in Higher Education

About: The Association for the Advancement of Sustainability in Higher Education (AASHE) is a non-profit 501(c)(3) membership organization that empowers higher education faculty, administrators, staff and students to be effective change agents and drivers of sustainability innovation.

AASHE enables its nearly 1,000 members to translate information into action by offering essential resources and professional development to a diverse, engaged community of sustainability leaders. We work with and for higher education to ensure that our world's future leaders are motivated and equipped to solve sustainability challenges.

AASHE defines sustainability in an inclusive way, encompassing human and ecological health, social justice, secure livelihoods and a better world for all generations.

AASHE is an incredible resource for faculty and Colgate is a member. Faculty simply need to sign-up using their colgate address to get access to all the resources, including:

Syllabi from across disciplines:

<http://www.aashe.org/resources/sustainability-related-syllabi-databases>

Curriculum Resources:

<http://www.aashe.org/resources/curriculum-resources/>

C0-Curricular Education:

<http://www.aashe.org/resources/co-curricular-education-resources/>

Example Resources: Core Communities and Identities

Core Rwanda

*Most direct, to the point sources

a. eco hotspot

1. * Hanson, T., Brooks, T. M., Da Fonseca, G. A. B., Hoffmann, M., Lamoreux, J. F., Machlis, G., Pilgrim, J. D. (2009). Warfare in biodiversity hotspots; guerra en sitios de importancia para la biodiversidad. *Conservation Biology*, 23(3), 578-587.

doi:10.1111/j.1523-1739.2009.01166.x

i. "Conservation efforts are only as sustainable as the social and political context within which they take place. The weakening or collapse of sociopolitical frameworks during wartime can lead to habitat destruction and the erosion of conservation policies, but in some cases, may also confer ecological benefits through altered settlement patterns and reduced resource exploitation."

b. effect of conflict on lives/ environment

1. Thaxton, M. (2009). Integrating population, health, and environment in Rwanda. *Population Reference Bureau*

i. "[C]ontinued improvement in the quality of life of Rwanda's citizens depends in large part on finding innovative and integrated solutions to complex population, health, and environment problems", which are explained in this article.

2. Gard, T. L., Hoover, D. R., Shi, Q., Cohen, M. H., Mutimura, E., Adedimeji, A. A., & Anastos, K. (2013). The impact of HIV status, HIV disease progression, and post-traumatic stress symptoms on the health-related quality of life of Rwandan women genocide survivors. *Quality of Life Research*, 22(8), 2073-2084. doi:10.1007/s11136-012-0328-y

i. "...examined whether established associations between HIV disease and HIV disease progression on worse health-related quality of life (HQOL) were applicable to women with severe trauma histories, in this case Rwandan women genocide survivors, the majority of whom were HIV-infected. Additionally, this study attempted to clarify whether post-traumatic stress symptoms were uniquely associated with HQOL or confounded with depression."

3. * Schimmel, N. (2012). The moral case for restorative justice as a corollary of the responsibility to protect: A Rwandan case study of the insufficiency of impact of retributive justice on the rights and well-being of genocide survivors. *Journal of Human Rights*, 11(2), 161-188. doi:10.1080/14754835.2012.674454

i. "This article analyzes how the current framework of retributive justice pursued by the UN International Criminal Tribunal for Rwanda fails to respect the human rights and to enable the well-being of Rwandan genocide survivors."

4. * Brown, S. E. (2014). Female perpetrators of the Rwandan genocide. *International Feminist Journal of Politics*, 16(3), 448-469. doi:10.1080/14616742.2013.788806

i. "This article explores and analyzes the role of women who exercised agency as perpetrators during the genocide in Rwanda in 1994... This article also addresses the implications of ignoring female perpetrators of genocide. It suggests that such an

oversight may have a detrimental impact on the long-term peace and stability in post-genocide Rwanda.”

c. Overfishing

1. Van der Knaap, M. (2013). May we eat biodiversity? how to solve the impasse of conservation and exploitation of biodiversity and fishery resources. *Aquatic Ecosystem Health & Management*, 16(2), 164-165-171.
 - i. This article focuses on the fauna of the Great African Lakes and questions: “Should this biodiversity be protected in times of sheer poverty of the riparian populations? Should it be exposed to exploitation for food security? What are the values of these endemic species in economic terms? This article reviews the impacts on biodiversity by human-induced factors like exotic fish introductions and the invasive water hyacinth, but also by indirect factors like climate change.”
2. * Documentary- End of the Line- 82 minutes-Directed by Rupert Murray
<http://endoftheline.com/>
 - i. This film focuses on the world fishing culture, pertaining especially to large fisheries and the continuous overfishing, lack of policies and disregard for laws by many of them. Over 80% of the world’s fish stocks are overexploited or recovering from depletion, yet many continue trying to catch as many fish as possible. This film deals with the potential consequences of this, the difficulty of breaking this global culture of overfishing, and the impact the declining fish rates are already having on many countries and fishers.
3. * Ogutu-Ohwayo, R., Hecky, R. E., Cohen, A. S., & Kaufman, L. (1997). Human impacts on the african great lakes. *Environmental Biology of Fishes*, 50(2), 117
 - i. “The catchment areas of some of the lakes are highly populated and user conflicts have increased the demands on the lakes’ resources. There have been drastic reductions in fish stocks in most of the lakes due to overfishing. Introductions of new fish species, though followed by increases in fish catches, have been accompanied by a decline and in some cases extinction of native fish species”
 - ii. “Fish is normally the cheapest source of animal protein and comprises 50% to 70% of the animal protein consumed by the people within the African Great Lakes’ region” (Cohen et al. 1993).
4. Downing, A. S., Van Nes, E. H., Janse, J. H., Witte, F., Cornelissen, I. J., Scheffer, M., & Mooij, W. M. (2012). Collapse and reorganization of a food web of mwanza gulf, lake victoria. *Ecological Applications : A Publication of the Ecological Society of America*, 22(1), 229-239
 - i. “Some 30 years after the introduction of Nile perch (*Lates niloticus*) and Nile tilapia (*Oreochromis niloticus*) in the 1950s, the highly diverse community of native haplochromines collapsed, leaving a system dominated by only four species: the native cyprinid dagaa (*Rastrineobola argentea*) and shrimp (*Caridina nilotica*), as well as the introduced Nile perch and Nile tilapia. More recently, an unexpected resurgence of haplochromines has been reported.”

CORE India

*Most direct, to the point sources

Padma Kaimal- India/All of Asia

a. **Green Revolution**

1. * Das, S. K., & Tripathi, H. (2014). India's green revolution: Fact and fallacy. *International Journal of Bio-Resource & Stress Management*, 5(1), 153-158. doi:10.5958/j.0976-4038.5.1.030
 - i. “This paper throws light on some of the less discussed issues of India's famous green revolution which must be taken into consideration before kick starting a second green revolution or evergreen revolution based on genetically modified crops, nano-technology, biotechnology, system of rice intensification (SRI), or ground water irrigation, and so on.”
2. FUJITA, K. (2013). Growth and stagnation of agriculture in eastern india and bangladesh. *Brown Journal of World Affairs*, 20(1), 179-190.
 - May be too narrow/ specific to be useful in understanding the broader idea. The language is also very agriculture specific and dense so may not be very well understood by students.
 - i. A study was done on three countries: Bangladesh, Bengal and Bihar to determine their rates of agricultural growth, especially pertaining to wheat and rice, after the Green Revolution in the 1980's. Some grew successfully, while others stagnated, and different factors, such as shallow-tube well integration, integration of high yielding variety crops, and land reforms all contributed to the success or failure of each country.
3. * *Vandana shiva: The future of food-part 1,2, and 3*. Cooking Up a Story (Director). (2009, June 23, 2009).[Video/DVD] Cooking Up a Story.
 - <https://www.youtube.com/watch?v=vi1FTCzDSck&feature=related>
 - <https://www.youtube.com/watch?v=TVIJqwf9I8>
 - <https://www.youtube.com/watch?v=PQDqEUd53YQ>
 - i. This 3 part series of interviews is about the future of food and “about the ability of all of us to have a choice of the foods that we eat, and for our farmers to be able to freely use their own seeds, and grow food in the manner that they choose.”
4. Books
 - a. Shiva, V. (2000). In Third World Network (Ed.), *The violence of the green revolution* (4th ed.). New York, NY: Zed Book Ltd.
 - <http://www.amazon.com/The-Violence-Green-Revolution-Agriculture/dp/0862329655>
 - i. “The author looks to the future in an analysis...to apply the latest Gene Revolution technology to India and warns of the further environmental and social damage which will ensue.”

b. Shiva, V. (2002). *Water wars* South End Press.

- i. “While draught and desertification are intensifying around the world, corporations are aggressively converting free-flowing water into bottled profits.” Vandana Shiva “shines a light on activists who are fighting corporate maneuvers to convert this life-sustaining resource into more gold for the elites.”

http://www.goodreads.com/book/show/278193.Water_Wars

b. Deforestation

1. * Abood, S. A., Lee, J. S. H., Burivalova, Z., Garcia-Ulloa, J., & Koh, L. P. (2015). Relative contributions of the logging, fiber, oil palm, and mining industries to forest loss in indonesia. *Conservation Letters*, 8(1), 58-67. doi:10.1111/conl.12103

- i. “Indonesia contributes significantly to deforestation in Southeast Asia. However, much uncertainty remains over the relative contributions of various forest-exploiting sectors to forest losses in the country. Here, we compare the magnitudes of forest and carbon loss, and forest and carbon stocks remaining within oil palm plantation, logging, fiber plantation (pulp and paper), and coal mining concessions in Indonesia.”

2. Elliott, L. (2007). Transnational environmental crime in the asia pacific: An ‘un(der)securitized’ security problem? *The Pacific Review*, 20(4), 499-500-522.

- i. This study emphasizes the lack of attention and scrutiny paid to transnational environmental crimes in Asia Pacific and talks about why, although these crimes fit the security profile applied to other transnational crimes, authorities still pay little attention to them.

c. Overfishing

1. * Documentary- End of the Line- 82 minutes-Directed by Rupert Murray

<http://endoftheline.com/>

- i. This film focuses on the world fishing culture, pertaining especially to large fisheries and the continuous overfishing, lack of policies and disregard for laws by many of them. Over 80% of the world’s fish stocks are overexploited or recovering from depletion, yet many continue trying to catch as many fish as possible. This film deals with the potential consequences of this, the difficulty of breaking this global culture of overfishing, and the impact the declining fish rates are already having on many countries and fishers.

2. Short Documentary- 101 East: Reeling them in- 25 minutes- Directed by Al Jazeera

<https://www.youtube.com/watch?v=IpsS6nmxAeQ>

- May have a hard time understanding what some of the experts interviewed say because some have very thick accents, and there are no subtitles for this film, so you are sometimes left wondering what they said.

- i. Due to overfishing, this film deals with the problems that countries in Asia, like Thailand, now deal with in order to obtain fish. Fish farms are explored, and the question is asked whether or not this is the best new alternative, due to the fact that more and more fish have to be pumped with chemicals due to the breeding ground of diseases that the close quarters of fish farms create. It also touches upon the lack of knowledge on the chemicals used on their own fish in regards to small farmers, and the harm it can do to them and their customers. As said before, this is mostly focused on Thailand.
3. Marine protected areas- http://www.protectplanetocan.org/official_mpa_map

d. Water

1. * Documentary- Starr, S. (Producer), & Salina, I. (Director). (2008, September 12, 2008). *Flow*. [Video/DVD] United States: Oscilloscope Laboratories. --Section on India and Coca-Cola
<http://www.flowthefilm.com/>
- i. “builds a case against the growing privatization of the world's dwindling fresh water...”
“...gives viewers a look at the people and institutions providing practical solutions to the water crisis and those developing new technologies, which are fast becoming blueprints for a successful global and economic turnaround.”
2. Kundu, S., Coumar, M. V., Rajendiran, S., Ajay, & Rao, A. S. (2015). Phosphates from detergents and eutrophication of surface water ecosystem in india. *Current Science (00113891)*, 108(7), 1320-1325.
- i. This article concerns itself on the increased use of Detergents in India and the adverse effects, mainly eutrophication, that their phosphorus loaded formulas are having on the water supplies.
3. * The National Bureau of Asian Research for the Senate India Caucus. (2013). India’s water crisis: Causes and cures. *The National Bureau of Asian Research for the Senate India Caucus*
- i. This article focuses itself on India and the growing problem of scarce and unusable water in the country. This especially is a concern now as the country’s population increases rapidly and is set to be the largest by 2028. This will bring about even larger issues of water for agriculture, drinking and hygiene. A well-renowned expert on this topic, Kirit S. Parikh, proposes a few ideas that he believes could be the solution to this growing water crisis.
4. * Water.org
- i. A website that supports India in its efforts to provide water access to a greater amount of people.
- ii. <http://water.org/solutions/> - Provides some potential solutions to this water crisis.

iii. Statistics/Interactive Graphs

<http://water.org/water-crisis/water-facts/water/>

- Tabs on left side lead to Children, Disease, Economics, Sanitation, Women Statistics, One Billion Affected, and The Women’s Crisis.

e. Show the agency of South Asians in protecting sustainability

1. * United Nations Environment Programme. (2015).

Asia-pacific environment ministers seek solutions to region's sustainable development challenges . Retrieved

from <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=26816&ArticleID=35034&l=en>

- i. This news story is about the first Forum of Ministers and Environment Authorities in Bangkok to discuss the pressing environmental issues in Asia Pacific. Asia Pacific has become a “driver of the global economy, but its rapid growth has come at great expense to the environment. High levels of air, water and soil pollution incur high social and health costs and have detrimental consequences for the region's industrial and economic activity.”

Core 152: Modernity

Example Syllabus: Core 152

Excerpt, entire syllabus available upon request

FSEM 106: CHALLENGES OF MODERNITY

FALL 2015

PROF. DAN BOUK, COLGATE UNIVERSITY

DBOUK@COLGATE.EDU

314 ALUMNI HALL

COURSE MEETINGS: TUESDAYS & THURSDAYS, 8:30-9:45AM IN 4TH FLOOR DRAKE

OFFICE HOURS: MONDAYS 2-3:30PM AND WEDNESDAYS 11:30AM-1PM, OR BY
APPOINTMENT, IN 314 ALUMNI HALL

COURSE STRUCTURE

This course gives us the opportunity, together, to explore the fundamental challenges of our modern world through some of the most extraordinary texts produced in the last two centuries. And it asks us to cultivate habits of mind that can help us face such challenges.

It will challenge you to read difficult texts (including lectures, images, music, and film), to respond to them, and to learn to write with, about, and through them. In this aspect, it strives to help you become the sort of writer who can communicate effectively about ideas and topics that matter.

Our course meetings—every Monday and Wednesday for 75 minutes—will depend upon substantial student participation. Every student will be expected to participate regularly in class. Every student's voice will be heard regularly throughout the semester. Students will engage in discussions mediated by the professor; they will engage one another in small groups; they will read and comment upon one another's work. *Students must come prepared for each and every class*, lest their failure to do so cause them and their classmates to suffer a steady and stifling intellectual malaise—oh, and grades will likely suffer too.

What does it mean to come to class prepared? It means: (1) taking the time to do all of the reading; (2) taking the time to reflect in writing on those readings; (3) reviewing notes from class and readings before course meetings—especially before meetings that will start off with an exam question; and (4) completing all incidental assignments made by the professor in previous course meetings, such as asking some simple questions to friends or writing out a few ideas ahead of class.

We'll assess student development along these lines using exams and papers. First, let's talk about exams. In lieu of a single mid-term examination, students will answer individual exam questions throughout the semester at the beginning of course meetings, as noted on the course schedule below. I'd like you to remember a thing or two from this course and the best education studies we have show that frequent low-stakes testing

works better than one or two big midterms that students cram for. There will also be periodic “exam question response” take-home assignments that ask you to synthesize material from each of our “challenge” sections. Studying regularly for in-term exam questions will also help you prepare for the end of term comprehensive final examination on 17 December 2015 from 3-5pm.

Papers provide an even more useful measure of each student’s mastery of our course skills and deep engagement in our course threads. Students will complete two graded papers, the details of which will be provided at least two weeks in advance of the due dates.

COURSE MEETINGS, READINGS, AND DUE DATES

Required Texts (available at the bookstore):

Rachel Carson, *Silent Spring*, (Houghton Mifflin, 2002) ISBN: 9780618249060

Marjane Satrapi, *Persepolis*, (Pantheon, 2004) ISBN: 9780375714573

Karl Marx and Frederick Engels, *The Communist Manifesto*, (Pathfinder, 2008) ISBN: 9781604880038

Virginia Woolf, *Mrs. Dalloway*, (Harcourt, 1925, 1981) ISBN: 9780156628709

Friedrich Nietzsche, *On the Advantages and Disadvantages of History*, (Hackett, 1980) ISBN: 9780915144945

W.E.B. DuBois, *Souls of Black Folk*, (Bedford, 1997) ISBN: 9780915144945

Samuel Beckett, *Waiting for Godot* (Grove, 2011) ISBN: 9780802144423

Other texts will be available on our course’s Moodle site, found at moodle.colgate.edu

Challenge Two: The Control of Nature

Thursday, September 17: Silent Spring

Read: Carson, *Silent Spring*, 1-36, 103-127. [61 pages]

Submit: Exam Question Response A (Noon on Friday)

WEEK 5

Tuesday, September 22: The Control of Nature?

Read: Carson, *Silent Spring*, 173-297. [125 pages]

Prepare: Exam Question 3

Thursday, September 24: Laudato Si?

Read: Excerpts from Pope Francis’ encyclical

Read: Henry Paulson, “The Coming Climate Crash,” *New York Times* 21 June 2014.

Other Resources

Teaching Sustainability / Teaching Sustainably

by [Kirsten Allen Bartels](#) (Editor), [Kelly A. Parker](#) (Editor) 2011

Over the coming decades, every academic discipline will have to respond to the paradigm of more sustainable life practices because students will be living in a world challenged by competition for resources and climate change, and will demand that every academic discipline demonstrate substantial and corresponding relevance.

This book takes as its point of departure that integrating a component of sustainability into a discipline-specific course arises from an educator asking a simple question: in the coming decades, as humanity faces unprecedented challenges, what can my discipline or area of research contribute toward a better understanding of these issues? The discipline need not be future-oriented: an archaeologist, for instance, could incorporate into a course some aspects of sustainable archaeological practices in areas threatened by rapid climate change, as well as examples of sustainable or unsustainable ways of living practiced by members of the long-gone society under investigation.

This book also argues that courses about sustainability need to cross disciplinary boundaries, both because of the inter-relatedness of the issues, and because students will require the ability to use interdisciplinary approaches to thrive through the multiple careers most of them will face.

The contributions to this book are presented under four sections. “Sustainability as a Core Value in Education” considers the rationale for incorporating sustainability in disciplinary courses. “Teaching Sustainability in the Academic Disciplines” presents eight examples of courses from disciplines as varied as agriculture, composition, engineering, and teacher education. “Education as a Sustainable Practice” reviews how the physical environment of the classroom and the delivery of instruction need themselves to reflect the values being taught. The final section addresses the issues of leadership and long-term institutional change needed to embed sustainable practice as a core value on campus.

Webinar: Sustainability Across the Curriculum

One, 60-minute virtual session - March 2, 2017

Time: 9 am Pacific | 10 am Mountain | 11 am Central | 12 pm Eastern

http://serc.carleton.edu/integrate/workshops/webinars/2016_2017/humanities/index.html

Sustainability is emerging as a central theme for teaching about the environment, whether it is from the perspective of science, economics, politics, or society. Teaching about sustainability creates an opportunity to connect classroom material to society. Camelia Kantor, Claflin University's InTeGrate Implementation Program leader, will discuss the importance of Earth Science content and awareness and how integrated and problem-based learning environments help contextualize the need for sustainability. Rachel Teasdale, CSU–Chico's Implementation Program leader, will discuss the Sustainability

Pathway general education program and how data-rich and societally relevant teaching activities can be used in STEM and non-STEM courses. The webinar will include 30 minutes of presentations and 25 minutes of discussion. Participants are encouraged to both ask questions of the presenters and discuss their own experiences regarding sustainability across the curriculum.