

**CSUS 824**  
**Sustainable Development: Measuring Socioeconomic Well-Being**

Spring 2015  
Monday, 3:00 – 5:50pm  
306 Natural Resources Building

**DAYS AND TIMES**  
**LOCATION**

Monday, 3:00 – 5:50pm  
306 Natural Resources

**INSTRUCTOR**  
**E-MAIL ADDRESS**  
**COURSE RESOURCES**  
**TELEPHONE**

Dr. Robert Richardson  
[rbr@msu.edu](mailto:rbr@msu.edu)  
<http://d21.msu.edu>  
Office: 355-9533 (or extension 5-9533)  
Department: 353-5190  
Fax: 353-8994

**OFFICE**  
**OFFICE HOURS**

305 Natural Resources  
Tuesdays 10:00am – 12:00pm (or by appointment)

**COURSE DESCRIPTION**

The study of sustainable development reveals a tension between a concern for human needs and for the scale of the impacts of human demands on nature. This graduate course explores the challenges of environmental sustainability and social justice in the context of global economic development. We will review the principles of sustainable development in both theory and practice, with a focus on the measurement of social and economic welfare at national and local scales. The course will examine the extensive literature and policy frameworks associated with conventional notions of sustainable development along with divergent concepts and models that challenge mainstream thinking. Using theories of development, sustainability science, and economic growth, we will examine traditional and alternative indicators of sustainable development, including the social, economic, and environmental dimensions of human well-being. Students will apply their understanding of sustainability indicators in a specific developmental and environmental context related to their interests. The course will include theoretical and empirical readings, reflective discussions and essays, and planning for data sourcing and analysis for the calculation of sustainability indicators.

**COURSE OBJECTIVES**

Students will understand the challenges of environmental sustainability in the context of social and economic development, and be able to describe the role of natural resources and the environment in human welfare. Specifically, students in this course will:

- Understand the origins of thinking about sustainability and sustainable development;
- Distinguish between ideas associated with mainstream sustainable development and alternative ideologies that challenge conventional thinking and commonly-held assumptions about progress;
- Examine the range of commonly-used social welfare indicators, and understand the shortcomings of consumption and economic growth as measures of socioeconomic well-being;
- Examine alternative indicators of well-being that consider the effects of social capital, natural capital, and the equitable distribution of income, and be able to describe their advantages and the challenges in their implementation; and
- Apply their knowledge about sustainable development in a sustainability assessment of some system that depicts the reality of social, environmental, and economic conditions in some geographic context of their interests (such as a rural or urban area, a region, or a country). Students interested in international development may choose to develop an analysis of socioeconomic welfare in a developing country context.

**REQUIRED TEXTS**

Adams, W. M. 2009. *Green Development: Environment and Sustainability in a Developing World*, 3<sup>rd</sup> edition. New York: Routledge.

**OTHER READINGS**

Additional reading assignments will be placed on the course website on Desire2Learn, which can be accessed at <http://d2l.msu.edu>.

**RESOURCES***Global development indicators:*

Millennium Development Goals Indicators Dashboard: <http://esl.jrc.ec.europa.eu/>  
 Millennium Ecosystem Assessment: <http://www.millenniumassessment.org/>  
 Human Development Report: <http://hdr.undp.org>  
 International Institute for Sustainable Development: <https://www.iisd.org/>  
 Standardized World Income Inequality Database: <http://myweb.uiowa.edu/fsolt/swiid/swiid.html>  
 Sustainable Society Foundation: <http://www.ssindex.com>  
 UN Sustainable Development Knowledge Platform: <http://sustainabledevelopment.un.org/>  
 UN Sustainable Development Solutions Network: <http://unsdsn.org/>  
 World Development Indicators (World Bank): <http://data.worldbank.org/indicator>

*Environmental sustainability:*

Environmental Sustainability Index: <http://sedac.ciesin.columbia.edu/data/collection/esi/>  
 Happy Planet Index: <http://www.happyplanetindex.org/>  
 Living Planet Index: [http://wwf.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report](http://wwf.panda.org/about_our_earth/all_publications/living_planet_report)  
 The Economics of Ecosystems and Biodiversity (TEEB): <http://www.teebweb.org/>

*Ecological Footprint resources:*

Center for Sustainable Economy – Ecological Footprint: <http://myfootprint.org/>  
 Earth Day Network Footprint Calculator: <http://www.earthday.org/footprint-calculator>  
 Global Footprint Network: <http://www.footprintnetwork.org/>

*Government resources:*

Australia – Sustainable Communities: <http://www.environment.gov.au/sustainable-communities>  
 Canadian Environmental Sustainability Indicators: <http://www.ec.gc.ca/indicateurs-indicators/>  
 Michigan Dashboard: <https://midashboard.michigan.gov/>  
 U.K. Indicators: <https://www.gov.uk/government/collections/sustainable-development-indicators>  
 U.S. Environmental Protection Agency – Sustainability: <http://www.epa.gov/sustainability/>

*Index of Sustainable Economic Welfare and Genuine Progress Indicator resources:*

Genuine Progress Indicator: <http://genuineprogress.net/>  
 Maryland Genuine Progress Indicator: <http://www.green.maryland.gov/mdgpi/>  
 Vermont Genuine Progress Indicator: <http://www.vtgpi.org/>

*Business, institutions, and sustainable development:*

AASHE Sustainability Tracking, Assessment & Rating System <https://stars.aashe.org/>  
 Dow Jones Sustainability Indices: <http://www.sustainability-indices.com/>  
 The Natural Step: <http://www.naturalstep.org>  
 World Business Council for Sustainable Development (WBCSD): <http://www.wbcSD.org>  
 Reporting Matters – WBCSD Report: <http://www.wbcSD.org/reportingmatters.aspx>

**ACADEMIC INTEGRITY**

Academic integrity is a fundamental value of higher education at any institution of higher education; therefore, acts of cheating, plagiarism, falsification or attempts to cheat, plagiarize or falsify will not be tolerated. Please see MSU Regulations, Ordinances and Policies Regarding Academic Honesty and Integrity at: <https://www.msu.edu/unit/ombud/academic-integrity/>. The University policy on plagiarism is available at: <https://www.msu.edu/unit/ombud/academic-integrity/plagiarism-policy.html>. The Graduate

School has assembled a guide to resources for responsible conduct of research, scholarship, and creative activities, which is available at: <http://grad.msu.edu/researchintegrity/>. The University policy on academic dishonesty is provided in the Spartan Life Student Handbook and Resource Guide, which can be downloaded from: <http://www.vps.msu.edu/SpLife/>. Graduate student rights and responsibilities are summarized in the Student Handbook: <http://splife.studentlife.msu.edu/graduate-student-rights-and-responsibilities>.

**Article 2.III.B.2** of *Student Rights and Responsibilities* states: “The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards.” In addition, the Department of Community Sustainability adheres to the policies on academic honesty specified in General Student Regulation 1.0, *Protection of Scholarship and Grades*; the all-University Policy on *Integrity of Scholarship and Grades*; and *Ordinance 17.00*, Examinations. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Students who violate MSU regulations on Protection of Scholarship and Grades will receive a failing grade in the course or on the assignment.

## ASSESSMENT AND EVALUATION

### Course Preparation and Participation

The framework of the course is based on the assumption that learning takes place best in an interactive and critical atmosphere. Accordingly, the course relies heavily on reflection, critical thinking, discussion, and active student participation. The format emphasizes structured opportunities for students to share and reflect upon their individual experiences. All students are expected to regularly attend class, arrive on time, complete the assigned readings prior to each class meeting, and actively participate in class discussions. Assessment of student participation will be based on the quality of contributions to class discussions and the quality of interactions with each other.

### Topical Presentation (1)

Each student will give a brief topical presentation on key issues related to a particular week’s readings and course topic. The subject matter of the presentation can draw upon the student’s own research interests, but should be related to the week’s course topic. Presentations should be no more than five (5) minutes in length, allowing 2-3 minutes for questions and discussion. Good presentations will introduce questions or arguments that stimulate discussion. Presentations should be well organized, and discussion points should be clearly presented.

### Weekly Reflections (8)

In preparation for weekly in-class discussions and exercises, each student is expected to prepare a thoughtful and critically reflective statement related to the week’s reading assignments (at least eight (8) weekly reflections over the course of the semester). Statements will be posted on the course web page at Desire2Learn (<https://d2l.msu.edu>). All students are expected to read the statements from classmates prior to class, and respond with your own observations or comments on what you find interesting, controversial or useful in the readings and in other reflections. These statements should be used to help stimulate questions and issues, and to set the agenda for in-class discussions.

### Reaction Papers (2)

Students will write two essays with their own reflections about particular course topics, as directed in the (forthcoming) assignments. Papers should be analytical and reflective, drawing upon relevant theory and course concepts as appropriate, and addressing the topic from multiple perspectives. Remember that a reflective essay is a form of writing that examines and observes the progress of the writer’s individual experience. Reflective essays are based upon your own experiences, so it is expected that you write about yourself, your ideas, reactions, and opinions. You might consider providing examples of quotations from the article (or other sources) that demonstrate a point, such a comparison with another written argument or commonly-held notion, or to highlight points with which you may agree or disagree. These papers must follow an accepted academic writing style, with all ideas from the literature cited properly. The papers should be free of spelling and grammatical mistakes.

### **Sustainability Assessment**

Each student will prepare a sustainability assessment of some problem or issue in your domain that is of interest to you and which will likely confront you as a scholar-practitioner. This assignment is structured to help guide a process of inquiry and action for applying the concept of sustainability to complex resource problems in a region. The assessment will involve the definition and characterization of the system and its drivers, the identification of key stakeholders, and an understanding of the scale at which governance processes are manifested. A full description of the assignment is provided on D2L.

### **ASSESSMENT**

Course preparation and participation	10%
Topical presentation (1)	10%
Weekly reflections (at least 8)	25%
Reaction papers (2)	30%
Sustainability assessment	25%

Final course grades will be assessed according to the following scale:

<i>Grade</i>	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.0
<i>Average</i>	94-100%	88-93%	83-87%	78-82%	73-77%	68-72%	60-67%	< 60%

## COURSE SCHEDULE AND TOPICS

### **Week 1            January 12, 2014            Course introduction**

Schumacher, E. F. (1973). *Small Is Beautiful: Economics as if People Mattered*. London: Blond & Briggs Ltd. Chapters 3 ("The Role of Economics") and 4 ("Buddhist Economics").

*Recommended:*

Olopade, Dayo. (2014). The end of the 'Developing World'. *National Public Radio* (www.npr.org), February 28, 2014

Silver, Marc. (2015). If you shouldn't call it the Third World, what should you call it? *National Public Radio* (www.npr.org), January 04, 2015.

### **Week 2            January 19, 2014            University holiday**

Holiday            \* no class session \*

### **Week 3            January 26, 2014            Sustainability**

Adams, W. M. (2009). *Green Development*, Ch. 1: The dilemma of sustainability

Adams, W. M. (2009). *Green Development*, Ch. 2: The origins of sustainable development

Costanza, Robert & Bernard C. Patten. (1995). Defining and predicting sustainability. *Ecological Economics* 15: 193-196.

Daly, H. E. (1990). Toward some operational principles of sustainable development. *Ecological Economics* 2: 1-6.

*Recommended:*

Orr, David W. (2002.) Four challenges of sustainability. *Conservation Biology* 16(6): 1457-1460.

### **Week 4            February 2, 2014            Sustainable development**

Adams, W. M. (2009). *Green Development*, Ch. 3: The development of sustainable development

Adams, W. M. (2009). *Green Development*, Ch. 4: Sustainable development: Making the mainstream

Heal, Geoffrey. (2012). Reflections—Defining and measuring sustainability. *Review of Environmental Economics and Policy* 6(1): 147-163.

Knight, Kyle W. & Eugene A. Rosa. (2011). The environmental efficiency of well-being: A cross-national analysis. *Social Science Research* 40: 931–949.

Lawn, Philip A. (2003). A theoretical foundation to support the Index of Sustainable Economic Welfare (ISEW), Genuine Progress Indicator (GPI), and other related indexes. *Ecological Economics* 44: 105-118.

*Recommended:*

Parris, Thomas W. and Robert W. Kates. (2003). Characterizing and measuring sustainable development. *Annual Review of Environment and Resources* 28: 559-586.

Stiglitz, Joseph, Amartya Sen, & Jean-Paul Fitoussi. (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress. Executive Summary and Chapter 1 ("Classical GDP issues"), pp. 7-40.

**Week 5                      February 9, 2014                      Mainstream sustainable development**  
**Note: Reaction Paper 1 due today**

Adams, W. M. (2009). *Green Development*, Ch. 5: Mainstream sustainable development  
 Arrow et al., (1995). Economic growth, carrying capacity, and the environment. *Science* 268(5210): 520-521.  
 Rockström, Johan et al. (2009). A safe operating space for humanity. *Nature* 461: 472-475.  
 Stern, David I. (2004). The rise and fall of the Environmental Kuznets Curve. *World Development* 32(8): 1419–1439.

*Recommended:*

Munasinghe, Mohan. (1999). Is environmental degradation an inevitable consequence of economic growth: Tunneling through the Environmental Kuznets Curve. *Ecological Economics* 29: 89–109.  
 Pearce, David, Kirk Hamilton, and Giles Atkinson. (1996). Measuring sustainable development: Progress on indicators. *Environment and Development Economics* 1: 85-101.

**Week 6                      February 16, 2014                      Sustainability and natural capital**

Adams, W. M. (2009). *Green Development*, Ch. 6: Delivering mainstream sustainable development  
 Ayres, Robert, Jeroen van den Berrgh, & John Gowdy. (2001). Strong versus weak sustainability: Economics, natural sciences, and consilience. *Environmental Ethics* 23(2): 155-168.  
 Costanza, Robert, Rudolf de Groot, Paul Sutton, Sander van der Ploeg, Sharolyn J. Anderson, Ida Kubiszewski, Stephen Farber, & R. Kerry Turner. (2014). Changes in the global value of ecosystem services. *Global Environmental Change* 26: 152–158.  
 Fisher, Brendan, R. Kerry Turner, & Paul Morling. (2009). Defining and classifying ecosystem services for decision making. *Ecological Economics* 68(3): 643–653.

*Recommended:*

Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC. Preface and Summary for Decision Makers (pp. v – 24).  
 Pearce, David W. & Giles D. Atkinson. (1993). Capital theory and the measurement of sustainable development: an indicator of “weak” sustainability. *Ecological Economics* 8(2): 103–108.

**Week 7                      February 23, 2014                      Sustainable development and its discontents**

Adams, W. M. (2009). *Green Development*, Ch. 7: Countercurrents in sustainable development  
 Dietz, Thomas, Eugene A. Rosa, & Richard York. (2007). Driving the human ecological footprint. *Frontiers in Ecology and the Environment* 5: 13–18.  
 Fiala, Nathan. (2008). Measuring sustainability: Why the ecological footprint is bad economics and bad environmental science. *Ecological Economics* 67(4): 519-525.  
 Hiss, Tony. (2014). Can the world really set aside half of the planet for wildlife? *Smithsonian Magazine*, September 2014. <http://www.smithsonianmag.com/science-nature/can-world-really-set-aside-half-planet-wildlife-180952379F>  
 Robinson, John. (2004). Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics* 48: 369-384.

*Recommended:*

Beckerman, W. (1994). Sustainable development: Is it a useful concept? *Environmental Values* 3: 191-209.

**Week 8                      March 2, 2014                      Theoretical perspectives on well-being**

**Guest: Dr. Matthew Ferkany, Departments of  
Teacher Education and Philosophy**

- Brown, Kirk Warren & Tim Kasser. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research* 74: 349-368.
- Parfit, Derek. (1984). What makes someone's life go best. *Reasons and Persons*, pp.493–502. Oxford: Clarendon.
- Scanlon, Thomas M. (1996). The status of well-being. The Tanner Lectures on Human Values, delivered at University of Michigan, October 25, 1996. *Michigan Quarterly Review* XXXVI(2), Spring 1997.

*Recommended:*

- Costanza, Robert et al. (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics* 61: 267-276.
- Diener, Ed. (2006). Guidelines for national indicators of subjective well-being and ill-being. *Applied Research in Quality of Life* 1:151–157.

**Week 9                      March 9, 2014                      Spring break**

Holiday                      \* no class session \*

**Week 10                      March 16, 2014                      Happiness and subjective well-being**

- Di Tella, Rafael & Robert MacCulloch. (2008). Gross national happiness as an answer to the Easterlin Paradox? *Journal of Development Economics* 86: 22-42.
- Easterlin, Richard A., Laura Angelescu McVey, Malgorzata Switek, Onnicha Sawangfa, and Jacqueline Smith Zweig. (2010). The happiness–income paradox revisited. *Proceedings of the National Academy of Sciences* 107(52): 22463–22468.
- Max-Neef, Manfred. (1995). Economic growth and quality of life: a threshold hypothesis. *Ecological Economics* 15: 115-118.

*Recommended:*

- Frey, Bruno S. & Alois Stutzer. (2002). What can economists learn from happiness research? *Journal of Economic Literature* 40(2): 402-435.
- Kelly, Annie. "Gross national happiness in Bhutan: the big idea from a tiny state that could change the world." *The Guardian*, December 1, 2012.
- Kristof, Nicholas D. "The happiest people." *The New York Times*, January 7, 2010.
- Revdin, Andrew C. "A new measure of well-being from a happy little kingdom." *The New York Times*, October 4, 2005.

**Week 11                      March 23, 2014                      Sustainability, distribution, and inequality  
Note: Reaction Paper 2 due today**

- Steffen, Will & Mark Stafford Smith. (2013). Planetary boundaries, equity and global sustainability: why wealthy countries could benefit from more equity. *Current Opinion in Environmental Sustainability* 5(3–4): 403–408.
- UNDP. (2011). Why sustainability and equity? Chapter 1 from *Sustainability and Equity: A Better Future for All*, Human Development Report 2011, pp. 13–21. New York: United Nations Development Programme.
- Wilkinson, Richard G. & Kate E. Pickett. (2009). Income inequality and social dysfunction. *Annual Review of Sociology* 35:493–511.

*Recommended:*

- Bourguignon, François & Christian Morrisson. (2002). Inequality among world citizens: 1820-1992. *The American Economic Review* 92(4): 727-744.
- Pasquali, Valentina. (2012). Wealth distribution and income inequality by country. *Global Finance Magazine*: <http://www.gfmag.com/tools/global-database/economic-data/11944-wealth-distribution-income-inequality.html>

**Week 12            March 30, 2014                            Sustainability and intergenerational equity**

- Anand, Sudhir & Amartya Sen. (2000). Human development and economic sustainability. *World Development* 28(12): 2029–2049.
- Arrow, K., M. Cropper, C. Gollier, B. Groom, G. Heal, R. Newell, W. Nordhaus, R. Pindyck, W. Pizer, P. Portney, T. Sterner, R. S. J. Tol, and M. Weitzman. (2013.) Determining benefits and costs for future generations. *Science* 26 July 2013: 349-350.
- Broome, John. (2008). The ethics of climate change. *Scientific American* 298(6): 96-102.

*Recommended:*

- Barry, Brian. (1997). Sustainability and intergenerational justice. *Theoria* (1997): 43-64.
- Stiglitz, Joseph, Amartya Sen, & Jean-Paul Fitoussi. (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress. Chapter 2 (“Quality of life”), pp. 41-59 and Chapter 3 (“Sustainable development and environment”), pp. 61-82.

**Week 13            April 6, 2014    Sustainability and resilience**

- Berkes, Fikret & Helen Ross. (2013). Community resilience: Toward an integrated approach, *Society & Natural Resources* 26(1): 5-20.
- Folke, Carl. (2006). Resilience: The emergence of a perspective for social–ecological systems analyses. *Global Environmental Change* 16 (2006) 253–267.
- Ness, Barry, Evelin Urbel-Piirsalua, Stefan Anderberg, & Lennart Olsson. (2007). Categorising tools for sustainability assessment. *Ecological Economics* 60(3): 498–508.
- Reed, Mark S., Evan D.G. Fraser, & Andrew J. Dougill. (2006). An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological Economics* 59: 406-418.

*Recommended:*

- Adger, W. Neil. (2000). Social and ecological resilience: are they related? *Progress in Human Geography* 24(3): 347–364.
- Van de Kerk, Geurt & Arthur R. Manuel. (2008). A comprehensive index for a sustainable society: The SSI — the Sustainable Society Index. *Ecological Economics* 66: 228–242.

**Week 14            April 13, 2014    Food security and well-being**

- Carletto, Calogero, Alberto Zezza, & Raka Banerjee. (2013). Towards better measurement of household food security: Harmonizing indicators and the role of household surveys. *Global Food Security* 2(1): 30–40.
- Loos, Jacqueline, David J. Abson, M. Jahi Chappell, Jan Hanspach, Friederike Mikulcak, Muriel Tichit, & Joern Fischer. (2014). Putting meaning back into “sustainable intensification”. *Frontiers in Ecology and the Environment* 12(6): 356–361.
- Pothukuchi, Kameshwari. (2004). Community food assessment : A first step in planning for community food security. *Journal of Planning Education and Research* 2004 23: 356.



*Recommended:*

Richardson, R. B. (2010). Ecosystem services and food security: Economic perspectives on environmental sustainability. *Sustainability* 2(11): 3520-3548.

**Week 15            April 20, 2014                            Biodiversity conservation and well-being**

Adams, W. M. (2009). *Green Development*, Ch. 9: Sustainable forests?  
 Gibson, Luke, Tien Ming Lee, Lian Pin Koh, Barry W. Brook, Toby A. Gardner, Jos Barlow, Carlos A. Peres, Corey J. A. Bradshaw, William F. Laurance, Thomas E. Lovejoy & Navjot S. Sodhi. (2011). Primary forests are irreplaceable for sustaining tropical biodiversity. *Nature* 478: 378–381.  
 Guha, Ramachandra. (1989). Radical American environmentalism and wilderness preservation: A third world critique. *Environmental Ethics* 11(1): 71-83.  
 Pimentel, David, Michael McNair, Louise Buck, Marcia Pimentel, & Jeremy Kamil. (2009). The value of forests to world food security. *Human Ecology* 25(1): 91-120.

*Recommended:*

Adams, W. M. (2009). *Green Development*, Ch. 10: The politics of preservation  
 Arnold, J. E. Michael, Gunnar Köhlin, & Reidar Persson. (2006). Woodfuels, livelihoods, and policy interventions: Changing perspectives. *World Development* 34(3): 596–611.  
 Zulu, L. & R. B. Richardson. (2013). Charcoal, livelihoods, and poverty reduction: Evidence from sub-Saharan Africa. *Energy for Sustainable Development* 17(2): 127-137.

**Week 16            April 27, 2014                            Consumption and sustainability**

Adams, W. M. (2009). *Green Development*, Ch. 13: Green development: reformism or radicalism?  
 Arrow, Kenneth, Partha Dasgupta, Lawrence Boulder, Gretchen Daily, Paul Ehrlich, Geoffrey Heal, Simon Levin, Karl-Göran Mäler, Stephen Schneider, David Starrett, & Brian Walker. (2004). Are we consuming too much? *Journal of Economic Perspectives* 18(3): 147-172.  
 Martínez-Alier, Joan, Unai Pascual, Franck-Dominique Vivien, & Edwin Zaccai. (2010). Sustainable degrowth: Mapping the context, criticisms and future prospects of an emergent paradigm. *Ecological Economics* 69(9): 1741–1747.  
 O'Neill, Daniel W. (2011). Measuring progress in the degrowth transition to a steady state economy. *Ecological Economics* 84: 221-231.  
 van den Bergh, Jeroen C.J.M. (2011). Environment versus growth—A criticism of “degrowth” and a plea for “a-growth”. *Ecological Economics* 70: 881-890.

*Recommended:*

Solnick, Sara J. & David Hemenway. (1998). Is more always better?: A survey on positional concerns. *Journal of Economic Behavior & Organization* 37: 373–383.

**Week 17            May 6, 2014                            Final exam period, 3:00 – 5:00pm  
 Discussion of sustainability assessments**

**NOTES:**

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