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ENS 201: Introduction to Environmental and Sustainability Studies OER Curation

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ENS 201: Introduction to Environmental and Sustainability Studies OER Curation

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Overview

Scope Notes

ENS 201 is an interdisciplinary exploration of the ways human society influences, and is influenced by, its natural environment. Economic, political, scientific, and socio-cultural dimensions of environmental studies are presented through an interdisciplinary approach with an emphasis on the principles of sustainability. The current text is not very engaging, it has no images, and few alternative activities. The instructor would like more engaging materials and not “just words on a page.” OER that includes digital learning objects would be great. The instructor wants to replace current materials and with few or no changes in the adoption process.

Current textbooks and materials

Robertson, M. (2017). *Sustainability: Principles and Practice*. New York: Routledge. 9780367365219. \$53-160.

Search Notes

This search resulted in an abundance of OER related to environmental studies and sustainability. The greatest challenge in this curation was weeding through the number of results to determine quality and applicable OER for this course. We kept this report a reasonable length compared to the results. There are additional OER materials covering these course topics that may be suitable for other environmental science sustainability classes. The search



consulted OER Commons, Open Textbook Library, Pressbooks, ecampus Ontario, OpenOregon, OpenStax, and Merlot.

Gap Analysis

To the non-expert there is not a clear gap for a general sustainability course that heavily values an interdisciplinary approach. There are numerous OER covering these topics, and the only clear gap for improvement would perhaps be the creation of more digital learning objects and interactive components for instructors to adopt.

Promising OER Options

Sustainability: A Comprehensive Foundation

- Tom Theis and Jonathan Tomkin, Sustainability: A Comprehensive Foundation, OpenStax CNX (2015).
- Available from [OpenStax](#)
- Online, PDF
- CC BY
- Comments: This OER was designed as an introduction to first and second year college students to the field of sustainability, including engineering and the applied arts, natural and social sciences, and the humanities. The text also has a modular design, so that individual chapters and sections can be adopted or adapted to best fit the course context.

State and Local Government and Politics

- Christopher Simon, Brent Steel and Nicholas Lovrich, State and Local Government and Politics: Prospects for Sustainability, 2nd ed, Oregon State University (2018).
- Available from [Open Textbook Library](#)
- Online, PDF, ebook
- CC BY-NC-SA
- Comments: This OER approaches sustainability through the lens of state and local government. Chapters cover how sustainability interacts with the law from state constitutions, legislatures, courts, bureaucracy and budgeting. The text has been well reviewed. The inclusion of one or two chapters would fit well into a course that wants to embrace multiple disciplines.

Sustainability, Innovation, and Entrepreneurship

- Andrea Lason, Sustainability, Innovation, and Entrepreneurship, Taylor Foundation (2011).
- Available from [Open Textbook Library](#)

- PDF, online
- CC BY-NC-SA
- Comments: The author designed the book for an Entrepreneurship course. The textbook is well-reviewed with statements that the book is thorough and modular. The text explores how sustainable development has caused companies to adopt policies and practices that reflect what is sometimes called a "sustainable business" or "triple bottom line" approach. Chapters included in the book are on sustainability innovation in business, energy and climate, clean Products and health, and biomaterials. This OER will likely be best used by adapting certain chapters for use as course readings.

Environmental Science

- Sean Whitcomb, Environmental Science, Maricopa Community College.
- Available from [Maricopa Community College](#)
- Online book
- CC BY
- Comments: The author adapted existing OER (Fisher's Environment Biology, Dorsner's Essentials of Environmental Science, OpenStax's Biology and Concepts of Biology. This is an excellent example of adapting existing OER chapters to create the ideal OER for your course. The sections most applicable to this course are liking 2: environmental science and sustainability, 7: water resources, 8: agriculture and sustainability, and 13: the human population. Additionally, the OER has [11 H5P activities](#) that may meet the instructor's desire for digital learning objects to engage students.

Embodying Sustainability

- Clement Loo; Aparna Katre; Beth Mercer-Taylor; Kimberly Byrd; Kristin Osiecki; Jessica Larson; and Peter Levin, Embodying Sustainability: Stories from Our Headwaters
- Subtitle: Stories from Our Headwaters, University of Minnesota Libraries Publishing(2021). 978-1-946135-76-6
- Available from [University of Minnesota](#)
- Online book
- CC BY-NC
- Comments: This is a very unique style of OER that could be an excellent fit for the course. This work comes from the Institute on the Environment (IonE) Educators program that brings together faculty and instructional staff from across the University of Minnesota system to develop innovative ways to teach sustainability. The six stories and essays reflect thoughts about sustainability from garbage and development to places of home. Utilizing this text, either a single chapter or the whole OER, could spark fascinating class conversations or writing prompts.

Environmental Biology

- Matthew Fisher, Environmental Biology, Open Oregon Educational Resources, (2021). 978-1-63635-036-3
- Available from [OpenOregon](#)
- Online book, PDF, epub, MOBI, XHMTL, XML, OpenDocument, Common Cartridge, print copy
- CC BY
- Comments: A rich open textbook covering 11 chapters on environmental biology. This text has been utilized by many other educators as both director adoptions of use as the class textbook, or specific chapters being adapted. Chapter 1: environmental science is probably the most applicable to this course, but later chapters will be useful for interrogating aspects of sustainability and the impact of humans. Chapters to highlight are 4: community and population ecology, 7: water availability and use, 8: food and hunger, and 9: conventional and sustainable agriculture.

Stretch Resource Options

Sustainability Cases

- Cathy Swift, Sustainability Cases, MIT Sloan School of Management (2021).
- Available from [Merlot](#) / [MIT](#)
- PDF
- CC BY-ND-SA
- Comments: This OER is a collection of cases on the subject of sustainability. These resources may not be ideal for the course, but depending on the instructor's goals the case studies may be applicable to the class.

Social Entrepreneurship and Sustainability: Canada

- Matthew Pauley, Social Entrepreneurship and Sustainability: Canada, University of Prince Edward Island (2020). 978-1-988692-59-3
- Available from [Pressbooks](#)
- Online book
- CC BY-NC-SA
- Comments: This OER textbook approaches sustainability through the lenses of social psychology, business, and entrepreneurship. The author and focus of the text is in Canada. The text connects social and environmental issues to current business practices. This may be a useful OER for the course if another business field text is not selected, or if the Canadian perspective is particularly desired.

Environmental ScienceBites

- Brian H. Lower, Travis R. Shaul, Kylienne A. Shaul, and Ella M. Weaver, Environmental ScienceBites Volume 2, The Ohio State University (2020).
- Available from [Ohio State Pressbooks](#)
- Online book, epub, PDF, MOBI
- CC BY-NC
- Comments: Environmental ScienceBites book was authored by 30 undergraduate students enrolled in the course Introduction to Environmental Science at The Ohio State University. The OER highlights both articles and posters describing critical environmental issues. This text is likely to engage students and perhaps is an example the instructor may wish to emulate by embracing open pedagogy and collaborating with their students to create a similar OER. Additionally, this OER includes [15 H5P activities](#) that may meet the instructor's wish for more digital learning objects for the course.

Additional OER materials

The Sustainability Learning Suites

- Linda Vanasupa and Qiong (Jane) Zhang, The Sustainability Learning Suites (2016).
- Available from [OER Commons](#)
- Online activity
- CC BY-NC-SA
- Comments: This OER is educational videos that could be used as resources for students directly, or included in instructor presentations or other materials. The sustainability videos have six themes: systems thinking, sustainable development, population, energy, water and materials. The materials are designed on Fink's Taxonomy of Significant Learning and include: learning objectives, editable slides with notes and embedded classroom activities, activities of 1-3 hours, assessments, and a set of 24 videos. These materials may satisfy the need for course digital learning objects, and can be adapted as long as they are shared under a similar license.

Introduction to Sustainable Development

- Santosh Kumar G, Introduction to Sustainable Development (2019).
- Available from [OER Commons](#)
- Online module
- CC BY-NC-SA
- Comments: This module was designed to discuss the United Nations sustainable development goals. It appears to be an online module that could be a useful digital learning object or tool for students in this course.