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ENS 300: Principles of Sustainability OER Curation

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ENS 300: Principles of Sustainability OER Curation

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Overview

Scope Notes

The course is an exploration of the history and meaning of concepts of sustainability. In the scope of the class, special attention is paid to the challenges of defining the term, and its ethical, political, and descriptive meanings, and the relation of sustainability to concepts of development and growth. The current textbook for the course does a good job of combining policy, history, and the economics of the field of sustainability since 1950. The main drawback of the current text is that it is limited to covering the West. The instructor wants to redesign the course entirely by replacing the textbook and using a series of readings “that highlight the true history of the field, the role of people other than white males in the movement, summarize traditional economic policies along with presenting alternatives, etc.” The instructor currently has good resources regarding indigenous practices and alternative economic models.

Current textbooks and materials

Adams, W.M. (2020). Green Development: Environment and Sustainability in a Developing World, 4 th edition. Routledge Publishers. \$47

Search Notes

This search consulted OER Commons, Merlot, Open Textbook Library, OpenStax, Open Book Publishers, Pressbooks, ecampusOntario, and the United Nations. Initially there are a wealth of high quality OER resources appropriate for a higher-level undergraduate course focused on sustainability. However, there was a challenge in identifying non-Western OER for the course. This curation includes standouts from the general sustainability OER literature, and some stretch resources that may fit the instructor’s desire to expand course texts outside the West.



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Gap Analysis

There are many general resources for environmental sciences and sustainability. However, there is a gap in English language OER that focuses on sustainability and is geared to an undergraduate audience. There are likely English language materials in existence that cover the goals of the instructor, but they may not be readily discoverable as OER and may not be openly licensed.

Promising OER Options

Developing Change Agents

- Kristi L. Kremers, Alexander S. Liepins and Abigail M. York, *Developing Change Agents*
Subtitle: Innovative Practices for Sustainability Leadership
- Available from [Open Textbook Library](#)
- Epub, PDF, Pressbooks XML
- CC BY
- This OER is an invigorating resource that examines the role of academia in creating the next generation of sustainability leaders. The text dives into strategies to transform higher education, this volume empowers universities to develop change agents who can scale solutions to meet the wicked environmental, social, and political challenges of the present and future. This book works to find a transdisciplinary, effective method of tackling the world's issues with reference to emotional intelligence, diversity, community, and reward structures and supports a tailored, reflexive approach based upon each university's diverse and unique students, faculty, programs, and communities. It may be an excellent open resource for this course to inspire students and create a framework on how to advance change for sustainability.

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. Since this is a 300-level class these materials may be too introductory depending on the student prior courses, and may be most beneficial as readings early in the semester.

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. However, the focus on the text is on the United States and does not address the instructor's desire for more non-Western focused materials.

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.

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.

Wading Through the Past

- Wading Through the Past Subtitle: Infrastructure, Indigeneity & the Western Water Archives
- Available from [ecampusOntario](#)
- Online book
- CC BY
- This OER focuses on water, and was created by a grant to make available California water documents from seven participating institutions. That project resulted in the Western Water Archives, an online repository of 19th and 20th century materials documenting the development, management, and exploitation of water in Southern California. The collections contain a rich assortment of blueprints, correspondence, ephemera, ledgers, legal papers, maps, pamphlets, photographs, plans, reports, scrapbooks, and technical documents. The text covers five main chapters and is a stretch resource for this course. However, chapter 3 sustainable water projects is a potentially useful chapter as a supplemental material or adapted into a course specific textbook.

UN Sustainable Development Goals Open Pedagogy Fellowship Subtitle

- Deborah Baker at al, UN Sustainable Development Goals Open Pedagogy Fellowship Subtitle: A toolkit for instructors and institutions
- Available from [Pressbooks](#)
- Epub, PDF, Pressbooks XML, OpenDocument, Common Cartridge
- CC BY-NC
- Comments: The United Nations Sustainable Development Goals Open Pedagogy Fellowship Toolkit is meant as a resource for both instructors and institutions. The resource contains a variety of OER renewable assignments that can be assigned and applied to a variety of subject areas and disciplines. Each assignment speaks directly to at least one UN SDG. This could be an excellent fit for this course as supplemental material for the instructor to take advantage of and hopefully have more globally inclusive resources for the course.

Stretch Resource Options

Conservation Biology in Sub-Saharan Africa

- John Wilson, Conservation Biology in Sub-Saharan Africa, Open Book Publishers (2019).
- Available from [Open Book Publishers](#)
- Online, PDF, ebook, XML, hardcopy

- CC BY
- Comments: This OER explores the challenges and potential solutions to key conservation issues in Sub-Saharan Africa. The text is designed to be easy to read. There are fifteen chapters that cover a full range of conservation topics, including threats to biodiversity, environmental laws, and protected areas management, as well as related topics such as sustainability, poverty, and human-wildlife conflict. This rich resource contains concrete examples of conservation practice in specific African contexts. Sustainability is an element, but not the entire focus on the text, but may be useful for the course to bring in examples outside fo the West.

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. However, this is still a very Western perspective.

Negotiating Climate Change in Crisis

- Steffen Böhm and Slan Sullivan, *Negotiating Climate Change in Crisis* (2021). 9781800642621
- Available from [Open Textbook Library](#)
- PDF, XML, ebook, hardcopy
- CC BY
- OER created from twenty eight essays that cover the OER's seven main themes: paradigms; what counts?; extraction; dispatches from a climate change frontline country; governance; finance; and action(s). The collection has contributors asking how we conceptualise and respond to the climate crisis, providing both 'big picture' perspectives and more focussed case studies. This will be a useful OER for courses that want to discuss climate change and climate crisis, but it may not explicitly address sustainability.

Introduction to the Sustainable Development Goals

- Jocelyn Baker, *Introduction to the Sustainable Development Goals (SDGs) Authors*, Brock University (2020).

- Available from [ecampusOntario](#)
- Online book
- CC BY
- The text provides an introduction to sustainability, sustainable development, and the United Nations sustainable development goals. The OER organizes the information as a twelve week course or reading structure. It is likely the best fit for the course is to pick key readings from this text rather than adopt the entire OER, but would be a good fit for certain sustainable development goals relevant to the instructor's course focus.

Agricultural Innovation in Developing East Asia

- Rajalahti, Riikka, Agricultural Innovation in Developing East Asia: Productivity, Safety, and Sustainability. International Development in Focus;. Washington, DC: World Bank (2021).
- Available from [World Bank](#)
- PDF
- CC BY
- Comments: This OER book covers the critical role that agricultural innovation has played in the economic transformation of developing East Asian countries over the past half century. The Green Revolution—in the form of modern seed varieties, chemical fertilizers, pesticides, and modern machinery—has contributed to increased crop yields and farm incomes, and decreased poverty across the region. However, the environmental sustainability of agricultural production is increasingly under threat. The book explores a new generation of innovation in agriculture has the potential to address the challenges of productivity, sustainability, and food safety to deliver a “triple win.” The book is from the World Bank and is an excellent resource for exploring sustainable agriculture in Easter Asia, however it may not be an easily accessible ready for undergraduate students.