

Developing a Sustainability Communications Laboratory with and for STEM Graduate Students

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Overview

- Motivations for graduate curriculum with sustainability themes
- Intersections between writing studies and sustainability concepts, potentially for undergraduate and graduate levels
- Concepts and desired outcomes of this graduate communication laboratory design

System-wide Context

- UC Office of the President initiated the Carbon Neutrality project
<http://www.ucop.edu/initiatives/carbon-neutrality-initiative.html>
- Project includes the Climate and Sustainability Resource Library with learning materials related to climate change and sustainability.
<http://cserl.ucop.edu/>

Start with the Beginning

Academic Planning Activities

- Cross-disciplinary retreat
- Mission statement
- Sustainability learning outcomes

Themes and cross-disciplinary imagination can drive inclusive, comprehensive academic planning



Shared Concepts

What is sustainability (in campus teaching and research)?

- *education*
- *social justice*
- *culture*
- *efficiency*
- *resource management*
- *closed loops*
- *dynamic system*
- *action*

Sustainability involves informed action, reflecting, and contributing toward dynamic systems.

This collaborative process for developing criteria is based on Bob Broad's *Organic Writing Assessment: Dynamic Criteria in Action* (2009). The open access copy is at http://digitalcommons.usu.edu/usupress_pubs/165/

What should our students know and be able to do?

1. Know where food, water, and energy come from, and where waste goes.
2. Understand waste streams and means of repurposing or reducing them.
3. Elaborate the cultural and historical dimensions within dynamic (eco)systems.
4. Apply appropriate quantitative and qualitative reasoning to the analysis of complex systems.
5. Engage in research, learning, and service experiences involving sustainable practices.
6. Contribute to creative expression and civic engagement about sustainability (and its limits).
7. Describe drivers, consequences and solutions regarding environmental change from local to global scales.
8. Take ethical action as responsible world citizens.

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Intersections: A Writing Studies Perspective

Sustainability could be viewed as available formats and conventions for expression, with flexibility and constraints¹

- High-impact rhetoric is a social activity, with both contemporary and historical resonances
- Genres are neither bedrock nor sand

For example Risa Applegarth's "Rhetorical Scarcity: Spacial and Economic Inflections on Genre Change" from *College Composition and Communication*. 63.3: Feb 2012.

Curriculum Development



Modules include:

- Proposing and Marketing Scientific Projects: *How are scientific concepts accepted?*
- Sustainability Research Stories: *Identify sustainability themes in our current research*
- Project(s) development: *Create a short genre project suited for social context and topic*

Next Steps

- Campus presentations, across disciplines
- Climate and Sustainability Resource Library
- Outreach to environmental systems faculty on proposed curriculum, as a one-unit blend with current seminars