

2018

# Food Sustainability Across Disciplines Curriculum

Karleen West  
SUNY-Geneseo, [kwest@geneseo.edu](mailto:kwest@geneseo.edu)

Suann Yang

Follow this and additional works at: <https://knightscholar.geneseo.edu/sustainability-curriculum-materials>



This work is licensed under a [Creative Commons Attribution-Share Alike 4.0 License](https://creativecommons.org/licenses/by-sa/4.0/).

---

## Recommended Citation

West, Karleen and Yang, Suann, "Food Sustainability Across Disciplines Curriculum" (2018). *About the Sustainability Curriculum*. 2.  
<https://knightscholar.geneseo.edu/sustainability-curriculum-materials/2>

This Open Educational Resource is brought to you for free and open access by the Sustainability Curriculum at KnightScholar. It has been accepted for inclusion in About the Sustainability Curriculum by an authorized administrator of KnightScholar. For more information, please contact [KnightScholar@geneseo.edu](mailto:KnightScholar@geneseo.edu).

# Food Sustainability Across Disciplines Curriculum

## About

Copyright 2018

Authors: Karleen West and Suann Yang

The content of this curriculum, including but not limited to contents of the files enclosed are licensed CC BY-SA 4.0. For more information, please visit <https://creativecommons.org/licenses/by-sa/4.0/legalcode>

The curricular materials contained in this course is subject to the following license:

You are free to:

Share – copy and redistribute the material in any medium or format

Adapt – remix, transform, and build upon the material for any purpose, even commercially

The licensor cannot revoke these freedoms as long as you follow the license terms:

Attribution – You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

ShareAlike – If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.

No additional restrictions – You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

The students who have created the student products archived here retain the copyright for their work. You are free to share their work with attribution, but you may not adapt their work without permission. For more information on this CC BY-ND 2.0 license, please visit

<https://creativecommons.org/licenses/by-nd/2.0/legalcode>

The student products are subject to the following license:

You are free to:

Share – copy and redistribute the material in any medium or format

The licensor cannot revoke these freedoms as long as you follow the license terms:

Attribution – You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NoDerivatives – If you remix, transform, or build upon the material, you may not distribute the modified material.

Notices: You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation.

No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material.

## Introduction

This free-standing sustainability curriculum module is created as part of a larger curriculum project to demonstrate the interdisciplinary nature of sustainability while providing a framework for students to construct personal philosophies for sustainable decision-making. This module, as with other modules that we will develop, is designed to be adaptable to multiple courses in diverse disciplines, and does not rely on pre- or co-requisite coursework. Thus, curricular materials are described here in a way that supports adaptations to multiple contexts.

## Learning Outcomes

The Food Sustainability across Disciplines module achieves these sustainability education goals by using common learning outcomes combined with course-specific outcomes (see Table 1, above). The module learning outcomes support the learning outcomes designed for the entire curriculum. Course-specific outcomes to support Project Learning Outcome 3 and Module Learning Outcome 2 have been created for the two courses so far: BIOL 203 - Principles of Ecology (POE) and PLSC 390 - Global Environmental Politics (GEP).

## Formative Activities

Teacher-centered and learner-centered activities can be implemented within the module to achieve the Course, Module and Project Learning Outcomes. These initial formative assignments are the building blocks upon which the summative assessments (elaborated below) are based. We have developed one shared Module Activity, as well as several Course-specific Activities, to facilitate our Learning Outcomes.

### Module Activity

*Notes for instructors:* This activity uses individual brainstorming, followed by small group discussion, and closes with whole-class processing. The purpose of this activity is to introduce students to food sustainability using a set of progressive prompts that begin to expose the myriad reasons why a person might make certain food choices. Prompts may be provided verbally, written on a whiteboard/document projector, or prepared previously in a slide show. Responses from students may be collected on paper, using TopHat (or other personal response system), or verbally.

*Instructions for students:*

1. On a piece of paper, write down all the foods you have eaten over the last 24 hours. (1 minute)
2. Share your list with your neighbors. Discuss the variety of food items generated by your small group. Are some items more common or more rare? (2 minutes)
3. Share with your group the reasons for why you chose the foods that you did over the last day. Compare and contrast your group's reasons for food choices, and be ready to share out with the class. (5 minutes)
4. Class discussion: What reasons do students in our class use to make food choices? (2-3 minutes)

Course-specific Activities

All course-specific outcomes are nested within Module Outcome 2, with some also addressing Module Outcome 3.

**Principles of Ecology (POE)**

*Notes for instructors:* See attached files for details and materials. Each file is labeled according to its targeted course-specific learning outcome.

POE 1: Genetically Modified Organisms (GMOs) group brainstorm and mini-lecture with graphs from Perry et al. (2016).

POE 2: Soil preservation mini-lecture

POE 3: Soil and crop production data analysis assignment

**Global Environmental Politics (GEP)**

*Notes for instructors:* See attached files for details and materials. Each file is labeled according to its targeted course-specific learning outcome.

GEP 1: Corn, Oil, and Food Sustainability in the United States

GEP 2: Soil Not Oil discussion

GEP 3: Food Systems and Climate Change mini-lecture

**Summative Assessments**

Because of the nested structure of the learning outcomes (courses within modules, modules within project), the summative assessments for this module and other modules in the curriculum simultaneously evaluate student progress toward the learning outcomes at multiple levels.

**Disciplinary Knowledge Assessment**

Within Principles of Ecology (POE) and Global Environmental Politics (GEP), students will first generate written reports based on the following similar assignment, and using the conventions of each discipline.

Students will be assigned to evaluate one of the following claims:

- A strictly organic diet is the most sustainable.
- Buying and eating only locally produced food is the most sustainable.

- A vegan diet is the most sustainable.
- A vegetarian diet is the most sustainable.
- Eating unprocessed foods is the most sustainable.
- Living in an industrialized country provides the most sustainable food options.

1. Principles of Ecology (Course-specific Learning Outcome POE4; Module Learning Outcome 2, 3; Project Learning Outcome 3)

*Instructions to students:* Create an infographic flyer that evaluates your claim, focusing on the relevant environmental impacts. Incorporate your knowledge of food webs, trophic structure, and ecosystem energetics. Use quantitative evidence from the primary literature to support your argument. Format your citations and references using the Council of Science Editors (CSE) system. A minimum of one figure or table and 5 sources is required. Keep in mind that your infographic flyer will be used by students in other courses to learn about the insights that ecology can provide to inform dietary choices.

2. Global Environmental Politics (Course-specific Outcomes GEP2-4; Module Learning Outcome 2, 3; Project Learning Outcome 3)

*Instructions to students:* Create an infographic flyer that evaluates your claim, using your knowledge of the politics of food systems. Be sure to include both global and local perspectives and ethical/philosophical dimensions in your argument. In addition, consider how political institutions - such as food regulations and the political influence of the agricultural industry - influence dietary options. You must cite at least five scholarly sources using the conventions of the Chicago-Style (Author Date) citation method. Keep in mind that your infographic flyer will be used by students in other courses to learn about the insights that ecology can provide to inform dietary choices.

*Rubric for both courses:*

Association of American Colleges and Universities. (2009). Scientific reasoning VALUE rubric. Retrieved from [https://www.aacu.org/sites/default/files/files/VALUE/VALUE\\_ScientificReasoningRubric.pdf](https://www.aacu.org/sites/default/files/files/VALUE/VALUE_ScientificReasoningRubric.pdf)

### **Interdisciplinary Knowledge Assessment**

Project Outcomes 4, 5; Module Outcomes 3, 4, 5; assigned in all courses

*Notes for instructors:* Compile the digital products created by students in your course to share with other courses. Be sure that each product has a proper title and that the names of the student author(s) are clearly identified to facilitate the citation of student work.

*Instructions to students:* Revisit your dietary choices that you identified prior to learning about food sustainability in the course. Reflect upon those dietary choices, and evaluate

the extent to which they are sustainable using what you have learned in this course and information provided by students from another discipline. Given what you have learned in this course and from student reports outside this course, do you want to change your diet? To what extent do you feel that you are able to change your diet? If you do want to make different dietary choices now, explain how likely it is that will make those changes. If you refer to the work of others (including other students), please be sure to cite it appropriately using the conventions of our discipline.

*Rubric for reflection essay<sup>1</sup>:*

Level of reflection	Description
Level 1: Descriptive	Demonstrates acquisition of new content from significant learning experiences. Provides evidence of gaining knowledge, making sense of new experiences, or making linkages between old and new information
Level 2: Empathic	Demonstrates thoughts about or challenges to beliefs, values, and attitudes of self and others. Provides examples of self-projection into the experiences of other, sensitivity towards the values and beliefs of others, and/or tolerance for differences
Level 3: Analytic	Demonstrates the application of learning to a broader context of personal and professional life. Provides evidence of student's use of readings, observations, and discussions to examine, appraise, compare, contrast, plan for new actions or response, or propose remedies to use in and outside structured learning experiences
Level 4: Metacognitive	Demonstrates examination of the learning process, showing what learning occurred, how learning occurred, and how newly acquired knowledge or learning altered existing knowledge. Provides examples of evaluation or revision of real and fictitious interactions

---

<sup>1</sup> Adapted from The University of Iowa Division of Student Life and Chabon, S. & Lee-Wilkerson, D. (2006). Use of journal writing in the assessment of CSD students' learning about diversity: A method worthy of reflection. *Communication Disorders Quarterly*, 27(3), 146-158.