Introduction to Sustainability Module

University of Georgia

Fall 2016

Instructor Information for Module Implementation

Table of Contents

I. Instructions for Use of This Module.........................................................p.2
II. Module Learning Objectives.................................................................p.3
III. Instructor Background Readings.........................................................p.4
IV. Pre and Post Module Assessments.......................................................p.5
V. Example Outline for 50 Minute Class......................................................p.6
VI. Example Outline for 50 Minute Flipped Class........................................p.7
VII. Service Learning Opportunities..........................................................p.8
Instructor Directions

Thank you for choosing to implement the Introduction to Sustainability Module into your course! Below is information to help you work through this module with your students:

1. You can use as much or as little of this module as you would like. We pieced together readings, objectives, and activities that made sense to us, but you may build your own class period to suit your needs. See pages 6 and 7 of this document for example of class plans.

2. The overall structure of the module is as follows:
   
a. **Pre-Module Assessment** – This quiz should take students about 5 minutes to complete. Instructions for distribution of this quiz can be found on page 5 of this document. This can be a non-graded activity.

   b. **Introduction to Sustainability Narrated PowerPoint** – This is the lecture content of the module; narration is also embedded in the notes on each page.
      i. For a flipped classroom style of teaching, we recommend assigning the *Introduction to Sustainability* narrated PowerPoint to your students as homework before class. In the event you show the PowerPoint during class, feel free to interrupt it at any time to encourage discussion on various points that might be particularly relevant to your class.

   c. **Supplemental Activities** – These activities are meant to motivate discussion on key components and promote service-learning opportunities, as well as research and service ideas that students can engage in as a class or individually. Each activity has an approximate time frame for completion to help you manage your time.

   d. **Post-Module Assessment** – This quiz should take students about 5 minutes to complete. Instructions for distribution of this quiz can be found on page 5 of this document. This can be a non-graded activity.

3. We have identified several learning objectives for this module. These objectives can be found on page 3 of this document.

4. We have provided background readings and resources for faculty on page 4 of this document.
Module Learning Objectives

1. Students will be able to define sustainability.

2. Students will be able to provide examples of how social, economic, and ecological systems interact and influence sustainability challenges and solutions.

3. Students will be able to explain how sustainability relates to their everyday lives, providing examples of how their actions impact issues of sustainability.

4. Students will be able to describe ways in which sustainability occurs in their local and global community.

5. Students will be able to define key sustainability terms: ecosystem services, environmental justice, and cradle to cradle.
Instructor Background Readings and Resources

UGA’s Office of Sustainability, Sustainability Across the Curriculum Readings: http://sustainability.uga.edu/academics/faculty/classroom-tools/

U.S. Environmental Protection Agency-Sustainability: https://www.epa.gov/sustainability

Learn about watersheds on UGA’s campus: https://www.watershed.uga.edu/

Sustainability resources hub: https://hub.aashe.org/


Access to Module Content and Pre/Post Assessments in ELC

- Before completing any of the module, please have your students complete the Pre-Module Assessment.
- After students complete the module, please have them take the Post-Module Assessment, designed to see what they have learned from the module.

1. Students can complete the **Pre-Module Assessment** by clicking → [Introduction to Sustainability Module: Pre-Assessment](#).

   Additionally, if you want to know whether students completed the Pre-Assessment, there is a code students will receive after taking the survey. They will be asked to write down the code they receive. The correct code is `sustain2016OoSItsM99`.

2. Students can complete the **Post-Module Assessment** by clicking → [Introduction to Sustainability Module: Post-Assessment](#).

   Additionally, if you want to know whether students completed the Post-Assessment, there is a code students will receive after taking the survey. They will be asked to write down the code they receive. The correct code is `sustain2016PAwjsuW188`.

Thank you for your help! Please contact us with any questions by emailing Tyra Byers at tyrab@uga.edu.
Example Outline for 50 Minute Class Lesson Plan

Module Learning Objectives
Students will be able to…
- Define sustainability and key terms related to sustainability
- Provide examples of how social, economic, and ecological systems interact and influence sustainability challenges and solutions
- Explain how sustainability relates to their everyday lives, providing examples of how their actions impact issues of sustainability both in the present and for future generations
- Explain why ethics and values are necessary to consider when discussing sustainability and give a suggestion as to how to measure societal well-being
- Describe ways in which sustainability occurs in their local and global community

Lesson Plan
1. Students will complete the Pre-Module Assessment (5 minutes)

2. Students will watch the Introduction to Sustainability Narrated PowerPoint (15 minutes)
   i. Definitions of sustainability
   ii. Key components of sustainability
   iii. International and local examples of sustainability

3. What is Your Carbon Footprint Activity (10-15 minutes)
   i. Students will calculate their footprint: [http://www.nature.org/greenliving/carboncalculator/](http://www.nature.org/greenliving/carboncalculator/)
   ii. As students are finishing, the instructor will go around the room to record the carbon footprint number from each student, or students can say their numbers out loud to the class.
   iii. The responses can be entered into excel or something similar to display the distribution of scores. The class average can be compared to U.S. average of 27.
   iv. Students will answer the following questions:
      1. What is your total carbon footprint score? Do you think it is accurate?
      2. What is one thing you can change in your life that could reduce your footprint?
      3. What are other areas that were not included in the carbon calculator that could tell more about someone’s carbon footprint?

4. People & Resources Activity (15-20 minutes)
   i. A cooler full of all the natural resources in the world, represented by beans, sits in the middle of the room. Divide the students into families, with about 3 to 5 students per group.
   ii. Each family is randomly given a different utensil to use to gather the resources.
   iv. After two rounds, students will answer some questions after the activity. Then, students will start a class discussion, sharing their opinions.
      *For the complete activity, see Activities Document, pg. 9.*

5. Students will complete the Post-Module Assessment (5 minutes)
Module Learning Objectives
Students will be able to…
- Define sustainability and key terms related to sustainability
- Provide examples of how social, economic, and ecological systems interact and influence sustainability challenges and solutions
- Explain how sustainability relates to their everyday lives, providing examples of how their actions impact issues of sustainability both in the present and for future generations
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To be Completed Day/s Before the Classroom Lesson Plan:
1. Students will complete the Pre-Module Assessment (5 minutes)
2. Students will watch the Introduction to Sustainability Narrated PowerPoint (15 minutes)
3. Using an online portal (e.g., ELC) have students respond to the following questions. This will provide useful discussions and will show whether or not students watched the ppt (15 minutes).
   i. Why is it important to examine the world through a sustainability lens? Explain and provide at least two examples.
   ii. What is your reaction to the information you just learned? Did anything specific surprise you, and if so, what was it?

In the Classroom Lesson Plan:
1. Class Discussion (5-10 minutes)
   i. Ask students to summarize what they learned from the Introduction to Sustainability Narrated PowerPoint and to share their reactions to the information.

2. What is Your Carbon Footprint Activity (10-15 minutes)
   i. Students will calculate their footprint: http://www.nature.org/greenliving/carboncalculator/
   ii. As students are finishing, the instructor will go around the room to record the carbon footprint number from each student, or students can say their numbers out loud to the class.
   iii. The responses can be entered into excel or something similar to display the distribution of scores. The class average can be compared to U.S. average of 27.
   iv. Students will answer the following questions:
      1. What is your total carbon footprint score? Do you think it is accurate?
      2. What is one thing you can change in your life that could reduce your footprint?
      3. What are other areas that were not included in the carbon calculator that could tell more about someone’s carbon footprint?

3. Is it Sustainable? Activity (see pgs. 4-7 for activity; 30 minutes)

4. Students will complete the Post-Module Assessment (5 minutes)
Service Learning Opportunities

Many of the topics in Sustainability described in this module lend themselves to service-based responses. Instructors can build upon the ideas from the module, as well as students’ recommendations for appropriate responses to these issues.

Some organizations on campus that students could complete a service-learning project with:

- UGArden
- Campus Kitchens
- Chew Crew
- Bulldog Bikes

For more information about sustainability initiatives going on at UGA, go to http://sustainability.uga.edu/

If you are interested in pursuing any of these or would like to talk more about other service-learning or service opportunities for students in your course, please contact the Office of Service-Learning, osl@uga.edu, the Office of Sustainability, sustain@uga.edu, or Watershed UGA, watershed@uga.edu. One of us will get back to you shortly!