

### Sandmeyer – 3. Course Materials – ENS400 Senior Capstone Class: Sustainability in Action

Jump to each section for a brief discussion of those materials.

Page

<b>1. SYLLABUS &amp; DAILY SCHEDULE .....</b>	<b>3</b>
a. ENS400_2018S – syllabus .....	5
b. ENS400_2018S – schedule .....	11
<b>2. PROJECTS .....</b>	<b>16</b>
a. ENS400_2018S – project I – UK SSP (group) .....	18
i. ENS400_2018S – project I – group evaluation rubric .....	21
ii. ENS400_2018S – project I – self & group peer review .....	24
b. ENS400_2018S – project II – public film screening (group) .....	29
<b>3. PAPERS .....</b>	<b>31</b>
a. UK GCCR FAQ .....	33
b. ENS400_2018S – paper I – the meaning of sustainability .....	35
c. ENS400_2018S – paper II – the measure of sustainability .....	38
<b>4. STUDENT WORK .....</b>	<b>41</b>
a. ENS400_2018S – project I presentation .....	43
b. ENS400_2018S – project I rubric (Sandmeyer and Tedder) .....	46
c. ENS400_2018S – paper I (meaning) .....	52
d. ENS400_2018S – paper 2 (measure) .....	64

#### ENS400: STATEMENT OF GENERAL PEDAGOGY

The ENS400 Senior Capstone: Sustainability in Action class was, at once, the most complicated and in some respects most difficult class which I have taught. Shane Tedder, the Sustainability Coordinator at UK who had to that date no curricular experience, and I were tasked to teach the class. We were notified of this duty just 10 days before the first day of the semester. Additionally, the ENS capstone class is **fulfills the University-wide major Graduation Composition and Communication Requirement (GCCR)**. Hence the course design had to accommodate a lot of different tasks, and we had precious little time to think through how to build it.

As the semester proceeded, a further unanticipated complication arose. The ENS degree was rather new at that time. Students in this capstone were the first to have completed the Senate-approved major requirements for the degree by the time they took the capstone. The ENS requirements are five, not including ENS400 and include: ENS201 & ENS202, ENS300, PHI336 Environmental Ethics (my class, see dossier documents), and ENG425. Of these five, only three expressly deal with the concept of sustainability: ENS201, ENS202, and PHI336. We knew that only a few students in the class had completed PHI336 by the time they would complete this capstone class. So, we **presumed that students had an introduction** to concepts fundamental to sustainability from their earlier work in ENS201 & ENS202. However, we later discovered that this presumption was false

In short, ENS400 was not my most successful class. However, it is that class from which I have learned the most. The documents included herein indicate the design of the course as well as the **lessons learned** while teaching it.

*(left blank intentionally)*

	Page
<b>1. SYLLABUS &amp; DAILY SCHEDULE.....</b>	<b>3</b>
a. ENS400_2018S – syllabus .....	5
b. ENS400_2018S – schedule .....	11
<b>2. PROJECTS .....</b>	<b>16</b>
a. ENS400_2018S – project I – UK SSP (group) .....	18
i. ENS400_2018S – project I – group evaluation rubric .....	21
ii. ENS400_2018S – project I – self & group peer review .....	24
b. ENS400_2018S – project II – public film screening (group) .....	29
<b>3. PAPERS .....</b>	<b>31</b>
a. UK GCCR FAQ .....	33
b. ENS400_2018S – paper I – the meaning of sustainability .....	35
c. ENS400_2018S – paper II – the measure of sustainability .....	38
<b>4. STUDENT WORK .....</b>	<b>41</b>
a. ENS400_2018S – project I presentation .....	43
b. ENS400_2018S – project I rubric (Sandmeyer and Tedder) .....	46
c. ENS400_2018S – paper I (meaning) .....	52
d. ENS400_2018S – paper 2 (measure) .....	64

### **ENS400: Syllabus & Daily Schedule**

Looking at the syllabus, one can see that our design of ENS400 was complicated. In fact, it was too complicated. It attempted in a single class for students to complete two service-learning projects, two writing projects including rewrites built into those assignments, and a career assessment and preparation project – all within a single semester. The idea underlying this complexity was motivated the subtitle of the class: Sustainability in Action. Indeed, as designers we were explicitly instructed to structure the class around the concept and practice of sustainability. Further, the class has the responsibility to fulfill the by the Graduation Composition and Communication Requirement (GCCR) set by the University.

The structure of the major in the ENS major was laid out in our original plan, which I helped draft. As I was the Director of Undergraduate Studies for ENS at the time, I understood that the capstone class was to be geared to having students apply what they had learned over their career in the major. 100 & 200-level classes introduce concepts, themes, and methods. The 300-level classes reinforce this learning and introduce new skills. The 400-level capstone class thus tasks students to apply this learning.

I have learned two important lessons from teaching this class. First, the complexity of design imposed a burden on the students. The best class design is, rather, structured around basic outcomes. Since teaching ENS400 I have consequently designed all my classes around achieving three fundamental outcomes: developing good writing skills, good speaking skills, and good reading skills. Second, in interdisciplinary classes having a wide-diversity of students having different disciplinary aptitudes, it is important to assess prior-knowledge of the subject matter at the start of the semester. Class design should emphasize simplicity, and the implementation of that design should account for student aptitudes as they exist in that course.

*(left blank intentionally)*

# Syllabus: ENS Senior Capstone

## Sustainability in Action

ENS 400.001

R 3:00pm – 5:30pm

CB 240

Spring 2018

This course fulfills the UK Graduate Composition and Communication Requirement (GCCR).

Contact Information	Required Texts
<p>Bob Sandmeyer ph. 859-257-7749 <a href="mailto:bob.sandmeyer@uky.edu">bob.sandmeyer@uky.edu</a></p> <p>Shane Tedder Office of Sustainability <a href="mailto:shane.tedder@uky.edu">shane.tedder@uky.edu</a></p> <hr/> <p>Canvas Site: ENS400 <a href="https://uk.instructure.com/">https://uk.instructure.com/</a></p> <p>Sandmeyer's Office: 1429 Patterson Office Tower</p> <p>Office Hours: Mondays: 12:30pm – 1:30pm; 3:15pm-4:15pm Wednesdays: 12:30pm – 1:30pm (or by <a href="#">appointment</a>)</p>	<ol style="list-style-type: none"><li>1. Kopnina, Helen &amp; Shoreman-Ouimet, Eleanor. <i>Sustainability: Key Issues</i>. Routledge, 2015. [ISBN: 9780415529860]</li><li>2. Klein, Naomi. <i>This Changes Everything: Capitalism vs. The Climate</i>. Simon &amp; Schuster, 2015. [ISBN: 9781451697391]</li><li>3. Articles available in Canvas: Files: Library.</li></ol>

### Course Description

As the course name suggests, this class is meant to conclude your academic career as an Environmental & Sustainability Studies major (or minor). The course subtitle, "sustainability in action," expresses the fundamental thrust of the course. Where your earlier coursework in the major introduced you to the core concepts and/or reinforced specific knowledge necessary to analyze arguments and solve problems based on the economic, environmental, and social aspects of sustainability, this class asks you to apply these concepts and this knowledge. Class time will be typically spent in group discussion or working in groups on projects designed to enhance student engagement in sustainability initiatives here at the University of Kentucky. Consequently, sustainability in action signifies the application of concepts and knowledge by you as well as engagement of the broader UK community in sustainability initiatives.

### Learning Outcomes

At the conclusion of this class, students will be able to:

- Explain clearly and coherently the concept of sustainability.
- Discuss proper measure(s) of sustainability and analyze fundamental problems associated with sustainability metrics.
- Appraise and evaluate the current job market for suitable career options.
- Appraise and evaluate graduate school options suitable for ENS majors.
- Demonstrate competency in designing and implementing concrete sustainability initiatives.

## Sustainability in Action Projects

### Long-term Project: UK Strategic Plan

Sustainability has blossomed at the University of Kentucky over the last decade and is now manifest in a broad set of initiatives, programs and guiding documents. A team of students, staff and faculty assisted the UK Office of Sustainability in the creation of a strategic plan to guide the University's efforts relative to sustainability in campus operations for the next five years. Tactic teams, working with input from the campus community, selected operational areas of focus and developed strategies, tactics and action items for each. These are described below. Our class will divide into five groups with each assigned to one of the core areas of the Sustainability Strategic Plan. Each group will be responsible for developing a deliverable which is focused on student engagement and that supports their core area of the plan.

**BUILDINGS AND GROUNDS:** Design, construct, operate and maintain spaces that support the mission of the University while promoting environmental stewardship and the well-being of our community.

**ENERGY:** Reduce the financial, social and environmental impacts of campus energy consumption through conservation, efficiency, production, and system improvements.

**FOOD AND DINING SERVICES:** Implement innovative strategies for a comprehensive and increasingly sustainable campus food system. Enhance existing practices and develop new initiatives in the areas of procurement, operations, and disposal across all dining services.

**MATERIALS MANAGEMENT:** Gain a deeper understanding of the life of materials at UK, engage in education, waste reduction, landfill diversion, and seek to improve the sustainability of material purchased across all areas of the University. Our efforts will include materials from day-to-day operations, public-private partnerships, and new construction.

**TRANSPORTATION:** Promote safety, health, and environmental stewardship by providing incentives and programs designed to increase the number of faculty, staff and students using sustainable transportation options.

The parameters of the project will be announced on February 1<sup>st</sup>. Final presentation of the projects will take place on April 19<sup>th</sup>. Prior to the formal presentation, each group must practice and revise once their presentation via peer review in class. This practice exercise will take place one week before the formal presentation.

### Shorter-term Project: *This Changes Everything*

On March 29<sup>th</sup>, the ENS capstone class will present the film, [\*This Changes Everything\*](#), to the University of Kentucky and the broader public. This film, directed by Avi Lewis, is based on the book by Naomi Klein of the same name. "Throughout the film, Klein builds to her most controversial and exciting idea: that we can seize the existential crisis of climate change to transform our failed economic system into something radically better." More than just a film showing, though, students in the class are to use this event to mobilize the university community around the problem of climate change and sustainability efforts here at the University of Kentucky. This project is, indeed, not unrelated to the long-term project outlined above. Greenhouse gas

emission reductions at the University of Kentucky are the intended product of the integrated sustainability plan discussed above. The primary aim of this class project is to develop and implement an action plan to educate the UK community about the problem of climate change, the steps the University is taking to mitigate greenhouse gas emissions, and to critically analyze these steps for their effectiveness. Students will divide into five groups, and each group will devise a student engagement plan around the showing the film. These disparate events will showcase specific sustainability initiatives at the University of Kentucky. The class as a whole will lead a discussion of the film's message at the viewing.

## **Writing Assignments**

Each student will write two 8-10 page analysis papers. The first of these papers concerns the meaning of sustainability as you believe it should be understood. The second of these papers concerns what you believe the proper measure(s) of sustainability to be as well as the fundamental problems you see to be associated with creating an adequate measuring matrices for sustainability initiatives. Each of these papers are required to engage the readings assigned in the Daily Schedule. But as this is a capstone class, each student is also required to engage source material of their choosing garnered from their studies in the major. That is to say, another basic objective of this assignment is to demonstrate information literacy in the discipline.

Both papers will be revised once via instructor review. Students must earn an average grade of C or better on the papers in order to successfully complete the assignment.

## **Classroom Group Exercises**

The class as a whole will participate in two group exercises. The first group exercise is meant to act as an icebreaker and allow us to get to know one another. Students will form groups based on their primary area of study in the major, i.e., economics, environment, or society. The aim of this exercise is to present to the class what each group considers essential to the meaning of sustainability, how sustainability initiatives ought to be measured, and to identify the most significant courses to the career here at UK. This first exercise is designed to spur work on the writing assignments described above. The second group exercise is meant to familiarize the class as a whole about the current job market and graduate school options for students majoring in ENS.

## **Participation in the ENS Speaker Series**

Each student is required to attend the four lectures organized for the ENS Speaker Series throughout the term. The dates for each event are as follows:

1. Tom Fitzgerald from [Kentucky Resource Council](#)  
Tuesday, January 23<sup>rd</sup> from 5:30-6:30pm in CB 118, Tuesday
2. Sharon Murphy from [Kentuckians for the Commonwealth](#)  
Tuesday, February 20th from 5:30-6:30pm in FB 200
3. Speaker tbd  
Tuesday, March 20th from 5:30-6:30pm in CB 106
4. Speaker tbd  
Wednesday, April 11th from 5:30-6:30pm in JSB 321

Please make a note in your calendar as the timing for these talks are outside of our normal class meeting time. You will need to have at least two questions (printed with your name on them to turn in at the end of the event) to ask the speaker about their work. The goal of this exercise is to help you network in the field in order to find a job after graduation.

## Grading

See the Daily Schedule in Canvas for all assignment dates. Details for each assignment will be placed in Canvas and discussed in class.

### Sustainability in Action Projects:

- Strategic Plan Project..... 35 %
- *This Changes Everything* Project ..... 20 %

### Writing Assignments ..... 30 % (15% per paper)

- 8-10 page paper on the meaning of sustainability
- 8-10 page paper on the proper measure of sustainability

### Group Exercises ..... 10 % (5% per exercise)

- Primary Area Groups on Meaning & Proper Measure of Sustainability
- Career and/or Academic Planning

### Participation Exercises ..... 5 %

Students will be provided with a Midterm Evaluation (by the midterm date) of course performance based on criteria laid out above.

#### **Grading Scale**

A = 100% - 90%

B = 89% - 80%

C = 79% - 70%

D = 69% - 60%

F = ≤59%

## Active Participation

- Student participation is essential to the success of the class. Students should come prepared to answer basic questions about the scheduled reading each class.
- Expectations within the classroom:
  - Students are encouraged and, in point of fact, required to critique the views expressed in the readings, by the professor, or by their peers in class or online. This critique requires, however, respectful engagement. Uncivil and disrespectful discourse or behavior contradicts the very requirement of critique and, as such, will not be tolerated. If after a first warning, any student continues such behavior, expulsion from the class may result.
  - Electronic devices, e.g., cellphones, computers, tablets, are allowed to be used in class. However, these devices may be used for only class related activities. If after a first warning any student continues to use an electronic device for non-classroom activities, the student may be banned from using any such devices in the class.

### Attendance

- Regular attendance is required and a necessary condition to succeed in this class.
- The professor will take roll regularly in class.
  - Students are responsible for keeping track of their own attendance in class.

- *Excused absences will not count against the student unless excessive* (see below).
  - Students need to notify the professor of absences prior to class when possible, or within one week after the absences. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.
    - Either a [Tier 2 or a Tier 3 document](#) provided to the student by [University Health Service](#) is appropriate verification for an excused absence for illness.
  - Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than one week *before* the absence. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).
- Tardiness, especially if repeated, may result in a 5% deduction of the total grade.
- Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (i.e., with excuse) per university policy SR 5.2.4.2.

## Academic Integrity

If the professor determines that a student or group of students has cheated on any exam or has plagiarized any part of any assignment, at a minimum he/she/they will receive a grade of zero for the assignment without the possibility of redoing the assignment. *Typically, though, evidence of cheating results in course failure.* If the case is especially egregious, the issue will be directed to the appropriate University Dean and the student will receive a grade of XE/XF for the course.

Cheating not only robs other students of a fair grade, it also fundamentally threatens the mission of this institution of higher education. Unfortunately, cheating and plagiarism – though not frequent – does exist here at UK. By taking this class, you accept the injunction not to cheat in any way and comport yourself with integrity and honor throughout the semester. You also agree to have all or some of your assignments uploaded and checked by anti-plagiarism or other anti-cheating tools.

Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of Student Rights and Responsibilities (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students

are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is a form of plagiarism. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

### **Accommodations**

If you have a documented disability which requires academic accommodations, please contact the professor as soon as possible. In order to receive accommodations in this course, you must provide the professor with a Letter of Accommodation from the Disability Resource Center. If you have not already done so, please register with the Disability Resource Center (Suite 407 of the Multidisciplinary Science Building, 725 Rose Street, 859-257-2754, [dtbeac1@uky.edu](mailto:dtbeac1@uky.edu)) for coordination of campus disability services available to students with disabilities.

# ENS 400.001 Spring 2018 Schedule

R 3:00 pm - 5:30 pm, [CB 240](#)

Jump to [Assignments Sorted By Deadline](#)

Day	Date	Class	Reading/Homework/Project
1/11	R	(i) <a href="#">Syllabus</a> (ii) Group Exercise I explained (iii) <a href="#">Career Center</a> - Ray Clere	<b>Group Exercise I:</b> Primary Areas - Meaning & Measure of Sustainability
1/18	R	(i) <b>Group Exercise I:</b> <a href="#">Presentations</a> (ii) Group Exercise II explained	<b>Group Exercise II:</b> Career and/or Academic Planning Reading: <i>Sustainability: Key Issues</i> , pp.3-24 Kopnina & Shoreman-Ouimet, "Introduction: emergence and development of sustainability"
1/23	T	<b>ENS Speaker Series:</b> Tom Fitzgerald from <a href="#">Kentucky Resource Council</a> Tuesday, January 23rd from 5:30-6:30pm in CB 118	Participation Exercise
1/25	R	(i) <b>Group Exercise II:</b> <a href="#">Career and/or Academic Planning Presentations</a> (ii) <b>Tedder</b> - The landscape of sustainability on UK's campus	Reading: <i>Sustainability: Key Issues</i> , pp. 88-108 Waas et. al., "Navigating toward sustainability: essential aspects of assessment and indicators" <b>Assignment:</b> Self & Peer Review (due by Jan 28 at 11:59pm - <i>ungraded</i> )
1/30-31	T-W		UK Strategic Plan Survey (1/30 noon - 1/31 noon)
2/1	R	(ii) <b>Tedder</b> : Explanation of Strategic Plan and Deliverables (i) <b>Project I</b> explained * blended groups (5 teams/projects) * Initial project planning	Reading: <i>Sustainability: Key Issues</i> , pp. 40-69 Nemetz, "Reconstructing the sustainability narrative: separating myth from reality" <b>Project I: UKSSP (due 4/19)</b>
2/8	R	(i) Sustainability: its meaning, and its measure ( <i>Key Issues</i> articles) (ii) <b>Writing I</b> explained	Reading: <i>Sustainability: Key Issues</i> , pp. 359-376 Washington, "Is 'sustainability' the same as 'sustainable development'?" <b>Writing I: 8-10 page paper on the meaning of sustainability (due 2/22)</b>
2/15	R	(i) <b>Project II</b> explained (ii) In-Class Group Work	<b>Project II: This Changes Everything (individual &amp; group due 3/29)</b>
2/20	T	<b>ENS Speaker Series:</b> Sharon Murphy and Nikita Perumal from <a href="#">Kentuckians for the Commonwealth</a> Tuesday, February 20th from 5:30-6:30pm in FB 200	Participation Exercise
2/22	R	<a href="#">DOPE 2018</a> no class)	Networking at DOPE 8

			<b>Writing I: 8-10 page paper on the meaning of sustainability (draft)</b>
3/1	R	(i) Career - <a href="#">Spring Job and Internship Fair</a> & DOPE recap (ii) <b>Writing II</b> explained (iii) <b>Tedder</b> * UK Climate Plan: history and current status * STARS & Benchmarking Tutorial	Reading: <i>Sustainability: Key Issues</i> , pp.73-87 Fredericks, "Ethics in sustainability indexes" <b>Writing II: 8-10 page paper on the proper measure of sustainability (due 3/22)</b>
3/8	R	(i) <b>Writing I: In-class meetings</b> (ii) <b>Project I/II planning</b>	
3/15	R	<b>Spring break</b>	Finish reading Klein's <i>This changes everything</i>
3/20	T	<b>ENS Speaker Series:</b> Amy Sohner from <a href="#">Bluegrass Greensource</a> Tuesday, March 20th from 5:30-6:30pm in CB 106	Participation Exercise
3/22	R	<b>Class Project Planning:</b> <i>This Changes Everything</i>	Writing II: 8-10 page paper on the proper measure of sustainability - draft
3/29	R	<b>Project II Film Showing:</b> <a href="#">This Changes Everything</a>	UKAA Auditorium (Library) <b>Project II:</b> <a href="#">This Changes Everything</a> (film showing)
4/04	W		<b>Writing II: 8-10 page paper on the proper measure of sustainability - draft</b>
4/5	R	(i) Film Showing Recap (ii) <b>Writing II: In class meetings</b> (ii) <b>Project II UKSSP planning</b>	<b>Assignments:</b> * TCE - <a href="#">Group Advertising Artifact</a> * TCE - <a href="#">Individual Paper</a>
4/7	Sat		<b>Writing I: 8-10 page paper on the meaning of sustainability - GRADED SUBMISSION</b>
4/11	W	<b>ENS Speaker Series:</b> Ben Gilmer from <a href="#">Refresh Appalachia</a> Wednesday, April 11th from 5:30-6:30pm in JSB 321	<a href="#">Participation Exercise</a>
4/12	R	<b>Project I: Peer review of UKSSP Presentations (draft) - Room CB 234</b>	
4/19	R	<b>Project I: UKSSP Presentations - Room CB 234</b> (Assessors: Sandmeyer and Tedder)	<b>Project I: Presentations</b>
4/22	Sun		<b>Writing II: 8-10 page paper on the measure of sustainability - GRADED SUBMISSION</b>
4/26	R	ENS review, Student plans, and celebration	

## Assignments Sorted by Deadline

Due Date	Assignment
----------	------------

01/18	Group Exercise I
01/23	ENS Speaker I
01/25	Group Exercise II
02/20	ENS Speaker II
02/22	Writing I: Meaning – Draft
03/08	Writing I: Meaning – Meetings
03/20	ENS Speaker III
03/29	Project II: TCE (paper & showing)
04/04	Writing II: Measure – Draft
04/05	Writing II: Measure – Meetings
04/05	TCE - Group Advertising Artifact
04/05	TCE - Individual Paper
04/07	Writing I: Meaning – Final
04/11	ENS Speaker III
04/12	Project I: Peer Review of Presentations
04/19	Project I: UKSSP Presentations
04/22	Writing II: Measure - Final

### Suggested Writing and Project Flow Chart

<b>3/01</b>	<p>Writing</p> <p>Paper I: n/a (under instructor review) Paper II: assignment handed out today</p> <p>Projects</p> <p>Project I</p> <ul style="list-style-type: none"> <li>• Phase 1 complete</li> <li>• Phase 2 (benchmarking) in progress</li> </ul> <p>Project II</p> <ul style="list-style-type: none"> <li>• Group project <ul style="list-style-type: none"> <li>○ phase 1 complete</li> <li>○ List of campus-wide events established</li> </ul> </li> </ul>
<b>3/08</b>	<p>Writing</p> <p>Paper I: class meetings</p> <ul style="list-style-type: none"> <li>• Need to meet with 5-10 outside of class before 3/08</li> </ul> <p>Paper II:</p> <ul style="list-style-type: none"> <li>• complete analysis of <i>Key Issues</i> articles</li> <li>• consider how Project I: Phase 2 results fit into paper</li> </ul> <p>Projects</p> <p>Project I</p> <ul style="list-style-type: none"> <li>• groups have completed benchmarking exercise</li> <li>• Group has finished document: phase 3</li> <li>• Initiate Phase 4</li> </ul> <p>Project II</p> <ul style="list-style-type: none"> <li>• Low impact planned campus-wide events initiated</li> <li>• Plan high impact campus-wide events <ul style="list-style-type: none"> <li>▪ These events may/should be tied to Project I: phase 3 programs identified</li> </ul> </li> </ul>
<b>3/15</b>	<p>Spring Break</p> <ul style="list-style-type: none"> <li>• Papers <ul style="list-style-type: none"> <li>○ I: revise/rework</li> <li>○ II: complete draft version</li> </ul> </li> <li>• Projects <ul style="list-style-type: none"> <li>○ I: n/a</li> <li>○ II: complete final draft of 5-7 page paper (due 3/22)</li> </ul> </li> </ul>
<b>3/22</b>	<p>Writing</p> <p>Paper I: n/a Paper II: finished revised draft for submission today</p> <p>Project</p> <p>Project I</p> <ul style="list-style-type: none"> <li>• Phase 4 complete: consult with Stakeholders</li> <li>• Consider Project I: phase 5 campus wide event in planning</li> </ul> <p>Project II</p>

### Suggested Writing and Project Flow Chart

	<ul style="list-style-type: none"> <li>• Individual 5-7 page paper due</li> <li>• Finalize any last minute advertising events for showing (3/29)</li> <li>• In class: class planning of the showing <ul style="list-style-type: none"> <li>○ Set up</li> <li>○ Film Introduction</li> <li>○ Discussion</li> <li>○ Breakdown</li> </ul> </li> </ul>
<b>3/29</b>	<p>Writing</p> <p>Paper I: one last final revision</p> <ul style="list-style-type: none"> <li>• Submission deadline: 4/1</li> </ul> <p>Paper II: n/a (under instructor review)</p> <p>Projects</p> <p>Project I: Plan campus outreach effort</p> <p>Project II: film showing</p>
<b>4/05</b>	<p>Writing</p> <p>Paper II: class meetings</p> <ul style="list-style-type: none"> <li>• Need to meet with 5-10 outside of class before 4/05.</li> </ul> <p>Projects</p> <p>Project I</p> <ul style="list-style-type: none"> <li>• Implement campus outreach effort</li> <li>• Prepare final presentation</li> </ul>
<b>4/12</b>	<p>Writing</p> <p>Paper II: revise/rework for final submission on 4/22</p> <p>Projects</p> <p>Project I</p> <ul style="list-style-type: none"> <li>• Present project before peers</li> <li>• Critique</li> </ul>
<b>4/19</b>	<p>Writing</p> <p>Paper II: final touches</p> <ul style="list-style-type: none"> <li>• Final submission due 4/22</li> </ul> <p>Projects</p> <p>Project I: FINAL PRESENTATION</p>

## Sandmeyer – Course Materials – ENS400 Senior Capstone Class: Sustainability in Action

	Page
<b>1. SYLLABUS &amp; DAILY SCHEDULE .....</b>	<b>3</b>
a. ENS400_2018S – syllabus .....	5
b. ENS400_2018S – schedule .....	11
<b>2. PROJECTS .....</b>	<b>16</b>
a. ENS400_2018S – project I – UK SSP (group) .....	18
i. ENS400_2018S – project I – group evaluation rubric .....	21
ii. ENS400_2018S – project I – self & group peer review .....	24
b. ENS400_2018S – project II – public film screening (group) .....	29
<b>3. PAPERS .....</b>	<b>31</b>
a. UK GCCR FAQ .....	33
b. ENS400_2018S – paper I – the meaning of sustainability .....	35
c. ENS400_2018S – paper II – the measure of sustainability .....	38
<b>4. STUDENT WORK .....</b>	<b>41</b>
a. ENS400_2018S – project I presentation .....	43
b. ENS400_2018S – project I rubric (Sandmeyer and Tedder) .....	46
c. ENS400_2018S – paper I (meaning) .....	52
d. ENS400_2018S – paper 2 (measure) .....	64

### **ENS400: Projects**

With only 10 days to design the class, Shane Tedder and I decided that we would structure much of the class around the newly developed UK Strategic Sustainability Plan or UKSSP. While this plan had only recently been completed by the Office of Sustainability, it had yet to be approved by the President's Office. Nevertheless, we both agreed that there was no project better fitted to the needs of the class than the UKSSP. Additionally, including the UKSSP into the curricular design would integrate Shane Tedder's work into the class, which was a basic desideratum motivating its design.

ENS400 was my first class that contained a service-learning component in its design. I have since integrated service-learning as a central element of my Food Ethics class. The service-learning projects in ENS400 were designed around needs defined by the Office of Sustainability, particularly the need to implement a public relations campaign around the UKSSP. Having now studied service-learning pedagogy (see my TEACHING statement), I have since altered my view of the structure and importance of service-learning pedagogy. More than providing important service experience in an academic setting, critical service-learning pedagogy defines these sorts of projects as tools for connecting students to the community outside the university and cultivating in them an understanding of the social good and the value of social responsibility.

The SLO projects as I designed them included some of the most sophisticated evaluative rubrics which I have used to date. There is a fundamental problem when assigning and evaluating group work, which is the inequality of effort that typifies the production process within any one group. To address this issue, self and the group evaluation rubrics were designed into the projects from the very start. Students not only evaluated their own work but also the work of each member of the group, and they understood this to be an essential component of the group project. The transparency of this evaluative framework incentivized all students to work at similar levels. While

this evaluative framework did not eradicate the problem of unequal effort, it did succeed at mitigating the problem.

## Background

Sustainability was included as one of the seven core principles in the [Campus Master Plan](#) adopted in 2014 and has been an important component of all the planning documents that have been adopted since, including the [Transportation Master Plan](#), the [Campus Landscape Guidelines](#) and the [Utilities Master Plan](#). In the fall of 2016, the [Sustainability Strategic Plan Steering Committee](#) was given a two-fold charge: (i) to develop a campus [Sustainability Strategic Plan](#) to guide the University's efforts and investment of resources relative to sustainability in campus operations for the next five years; and (ii) to engage the campus community in the development of the plan. This Sustainability in Action ENS Capstone Project is part and parcel of this charge, most particularly the engagement phase of this mission. In a very real sense, by participating in this Senior Capstone Project you will engage the UK Community as student sustainability leaders on campus.

More than 600 students, faculty, staff and community members have already provided input relative to the potential tactics for the plan. This data was obtained in February 2017 through a campus-wide survey. The results of this survey are available in [Canvas: Files: Projects: UK Sustainability Strategic Plan Documents](#). Tactic teams, working with this input, developed strategies, tactics and action items for the following operational areas of focus:

1. BUILDINGS AND GROUNDS, i.e., the design, construction and maintenance of campus structures and green space.
2. ENERGY, i.e., the production, delivery and consumption of the heat and electricity used by the campus.
3. FOOD AND DINING SERVICES, i.e., the sources and processes that provide food and dining options to the campus.
4. MATERIALS MANAGEMENT, i.e., the life cycle of the goods and services that we purchase, including use, reuse/recycling and disposal
5. TRANSPORTATION, i.e., the ways our community moves to, from and around our campus.

## The Project

Each student will be placed in one of five groups or study areas corresponding to the five areas above. Each group will study and evaluate the core area of the UK Sustainability Strategic Plan to which they are assigned. This analysis will engage a myriad of resources, some internal to UK and others external. Further, each group will conduct a comparative analysis of the plan relevant to their area against that of comparable plans inaugurated by [UK "benchmark" institutions](#). (Benchmarking parameters will be defined by the instructors separately.) As a key feature of this project, each group will develop a deliverable focused on student engagement and that supports their core area of the plan. This deliverable will take the form of a concrete campus outreach effort designed by the group.

Study Areas of the UK Strategic Plan				
Buildings and Grounds	Energy	Food & Dining Services	Materials Management	Transportation
Julianna	Lawrencia	Haven	Alexis	Rachel
Parker	David	Abigail	Sarah	Sophia
Riley	Natalie	Landon	Sarah	Michaela
Taylor	Meredith	Ryan	Jonathan	Adrienne
Dominik	Clay	Leigh Ann	Cassie	Adler
Bryan	Jackson		Lauren	

The ENS Capstone Project will consist of the following six phases:

1. Gain a solid working understanding of your focus area
  - Using the documents provided on course Canvas site\* (Files: Projects: UK Sustainability Strategic Plan Documents), each group should develop a clear understanding the following components of their focus area:
    - Strategies: the high level directives focused on sustainability define the mission area of their relevant group and the scope these directives have across multiple operational units
    - Tactics: the specific deliverables identified by each group to complete strategy
    - Action Items: the quantified targets related to fulfilling the tactics cataloged above
    - Measures of Success: the metrics used within the core area to track progress toward completion of the identified action items
      - These documents will be provided by the Office of Sustainability separately.
  - The information from these documents should be supplemented by additional research and the personal experience of group members relative to the connections between their focus area, sustainability and student engagement.
2. Comparative analysis and Benchmarking
  - Groups should use the [STARS website](#) to identify the top TEN highest performing institutions relative to the group focus area. Groups should filter for comparable benchmarks and/or consider the challenges of translating programs from institutions of different sizes or geographic locations
    - Groups will use websites of the top performers to identify the programs and policies that led to their success.
    - Based on a review of the top performing institutions, groups will compose a list (including a summary description) of at least FIVE of the most innovative/effective programs they found. Selection of programs for this list should also consider whether or not UK already has something similar AND if the group thinks the program would be a good fit for our campus.
3. Building from the list of innovative and effective programs identified in phase 2, groups will develop FIVE potential program concepts tailored specifically to the unique conditions at the University of Kentucky that would support the integration of sustainability with their focus area AND promote student engagement.
4. Working with the Shane Tedder, teams will identify key stakeholders from the SSP tactic teams and set up interviews with them to discuss the strengths, weaknesses, opportunity and threats for the FIVE program concepts developed in step 3. Groups will then select ONE potential program from their list for further development and use in items 5 and 6 below.
5. Teams will design and [implement a campus outreach effort](#) which raises campus/student awareness of the UK Sustainability Strategic Plan. The aim of this campus outreach effort is twofold: First, you are to educate UK community of the UK Sustainability Strategic plan generally. Second, you are to engage with your peers and the UK community, generally, in regard to the program you identified in 4.

---

\* Bear in mind that at the time of this assignment the UK Sustainability Strategic Plan remains in draft form. This and many of the documents surrounding this project are, therefore, not for public consumption. If you have any doubts about which documents should be protected from public view, ask Shane Tedder.

6. Finally, you will synthesize the efforts of your group in a presentation of 20-30 minutes detailing the results of each element above

Basic Timeline of Class Activities	
Date	Task
2/1	Strategic Plan Assignment
3/8	Project planning (film &/or UKSSP)
3/22	Project planning (film &/or UKSSP)
3/29	Film showing: This Changes Everything
4/12	Peer Review (in class)
4/19	Formal Presentations (location tbd)

Parameters for the formal presentation will be provided at a later date. Along with these parameters, you will receive at that time the rubric from which you and your group will be graded.

Presenting GroupEvaluator

Group Grade (in percentage)

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.			Excellent	Good	Fair	Weak
1.	UKSSP: Explanation of SSP & Core Area	20% of total				
	A. The UKSSP and Your Core Area					
	<ul style="list-style-type: none"><li>Explain <i>Core Area relative to UKSSP</i> as a whole<ul style="list-style-type: none"><li>Define strategies</li><li>Identify tactics</li><li>Identify action items</li><li>Describe measures of success</li></ul></li></ul>					
	B. Significance of Core Area for Students					
	<ul style="list-style-type: none"><li>Discuss significance of core area emphasizing <b>connections between focus area and students</b></li><li>Summarize <i>personal experiences of group members</i> that came to be applied to project relative.</li></ul>					
2.	Benchmarking & Comparison	20% of total				
	A. Identify the highest performing institutions via Benchmarking					
	<ul style="list-style-type: none"><li>Provide a list of <i>institutions that are leaders in this area</i> of sustainability and describe the methodologies used to generate this list.</li><li>Provide a list of the <i>most innovative/effective programs found</i> at these institutions and describe the methodology used to generate this list.</li></ul>					
	B. Assess most innovative/effective programs found					
	<ul style="list-style-type: none"><li>Explain whether UK already has <b>something similar</b></li><li>Would program be <b>good fit</b> for UK</li></ul>					

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.			Excellent	Good	Fair	Weak
3.	Program Concepts & Campus Outreach Effort	50% of total				
	A. Describe ( <i>up to five</i> ) potential program concepts tailored specifically to the unique conditions at the University of Kentucky					
	<ul style="list-style-type: none"><li>Explain how program concepts are <i>focused on student engagement</i></li><li>Demonstrate how it supports <i>core area</i></li></ul>					
	B. Key stakeholders & Selection of Campus Outreach Effort by group					
	<ul style="list-style-type: none"><li>Identify &amp; explain <i>role of stakeholder(s)</i> from SSP tactic team</li><li>Explain how discussion with stakeholder led to <i>selection of ONE PROGRAM</i> from development</li></ul>					
	C. Design and implementation of group's campus outreach effort					
	<ul style="list-style-type: none"><li>Describe <i>CAMPUS OUTREACH EFFORT</i> selected</li><li>Demonstrate how group project engaged and <i>educated peers about CORE AREA of UKSSP</i></li></ul>					
Presentation Evaluation		10% of total				
	A. Content					
	<ul style="list-style-type: none"><li>Organized &amp; clear explanation</li><li>Accurate</li></ul>					
	B Style					
	<ul style="list-style-type: none"><li>Appropriate volume and eye contact</li><li>Effective use of visual aids</li></ul>					
	C. Stays on Schedule					

## Parameters

Evaluation Notes	
1.	UKSSP: Explanation of SSP & Core Area
2.	Benchmarking & Comparison
3.	Program Concepts & Campus Outreach Effort
	Presentation Evaluation

## ENS 400 – Group Project: Self & Peer Review

Your name: \_\_\_\_\_

Group: \_\_\_\_\_

Please describe the participation and work of yourself and your peers honestly and with sufficient detail for me to develop a composite view both. This is merely an informational exercise. Grades are determined without reference to this data.

### General Assessment Parameters

Excellent	Leadership role in group; kept group on track, made sure all goals met. Ensured effective communication. Came to all meetings prepared. Took up slack, when necessary.
Very Good	Proactive role in group; contributed unique ideas. Ensured effective communication. Came to all meetings prepared. Did your share of work.
Satisfactory	Active role in group. Communicated effectively. Came to all meetings and did your share of work.
Inadequate	Ineffective group member. Communicated ineffectively. Missed meetings. Did not complete your share of work. Negative effect on group success.
Draining	Work level that negatively affected cohesion and end-product. Lack of communication. Missed meetings. Fail to share work. Serious negative effect on group success

### Self-Assessment

For each category below, assess your contribution to and performance in the group to which you were assigned. Use the classification system above as a guide. Be honest and fair. Provide an example or two in order to fill out the picture. Ca. 50-75 words per category.

<b>Contributed good ideas</b>	
<b>Listened to and respected the ideas of others</b>	
<b>Compromised and cooperated</b>	
<b>Took initiative where needed</b>	

## ENS 400 – Group Project: Self & Peer Review

### Self-Assessment

For each category below, assess your contribution to and performance in the group to which you were assigned. Use the classification system above as a guide. Be honest and fair. Provide an example or two in order to fill out the picture. Ca. 50-75 words per category.

**Came to meetings prepared**

**Communicated effectively with teammates**

**Did my share of the work**

**My greatest strengths as a team member are:**

**The group work skills I plan to work to improve are:**

**Optional: Any observations you would like to share about your work in a group?**

## ENS 400 – Group Project: Self & Peer Review

<b>Peer Evaluation Form</b>	
For each category below, assess your contribution to and performance in the group to which you were assigned. Use the classification system above as a guide. Be honest and fair. Provide an example or two in order to fill out the picture. No more than 100 words per category.	
<b>All members attended group meetings regularly and arrived on time.</b>	
<b>All members contributes meaningfully to group discussions.</b>	
<b>All members completed group assignments on time.</b>	
<b>Each member prepared their assigned work in a quality manner.</b>	

## ENS 400 – Group Project: Self & Peer Review

<b>Peer Evaluation Form</b>	
For each category below, assess your contribution to and performance in the group to which you were assigned. Use the classification system above as a guide. Be honest and fair. Provide an example or two in order to fill out the picture. No more than 100 words per category.	
<b>Each member demonstrated a cooperative and supportive attitude.</b>	
<b>Each member contributed significantly to the success of the project.</b>	

### General Feedback on Team Dynamics

<b>How effectively did your group work overall? (no more than 100 words)</b>
<b>What could have been done better by the group? (no more than 100 words)</b>
<b>Were the behaviors of any of your team members particularly valuable or detrimental to the team? Explain. (no more than 150 words)</b>
<b>What did you learn about working in a group that you will carry into your next group experience? (no more than 150 words)</b>

Adapted from a peer evaluation form developed at Johns Hopkins University (October, 2006)

During the announcement of UK's strategic commitment to reduce greenhouse gas emissions, Sustainability Coordinator, Shane Tedder, stated unequivocally "this (commitment) also highlights to our students that climate change is an issue they will be challenged to address regardless of the career path they choose" ([UKnow, Dec. 16, 2016](#)). President Capilouto, himself, has said of sustainability initiatives at UK, "For rich learning to take place, you need expertise. And in an area like sustainability, you need expertise in an array of disciplines... To make recommendations about our own space, that means a lot to the people that call this place home" ([UK President Eli Capilouto Discusses New Sustainability Efforts](#)). This Sustainability in Action campus/student awareness project seeks to combine these two ideas.

### *This Changes Everything*

On Thursday, March 29<sup>th</sup>, the ENS capstone class will present the film, [This Changes Everything](#), to the University of Kentucky and the broader public. UKAA Auditorium (in the UK Library) has been reserved for this purpose from 3:00pm until 5:30pm, and we have purchased public performance rights for the film. This specific ENS Capstone project revolves around this film presentation. Like any outreach project that you may be asked to develop and implement in the business world, here you are asked to implement a unique and effective campus outreach effort. The aim of this project is to raise campus/student awareness of the **UK Sustainability Strategic Plan**, specifically the Greenhouse Gas Emissions Reduction Commitment that is a component part of this Strategic Plan. This project, consequently, has an identical aim to the UKSSP Project (see especially phase 5 of that project), though the specific deliverable is different in this case.

The long-term UKSSP Project centers on the five core areas articulated in the UK Sustainability Strategic Plan, i.e., Building and Grounds, Energy, Food and Dining Services, Materials Management, and Transportation. This second project, i.e., the *This Changes Everything* Project, centers on the sixth core area of this plan, greenhouse gas emissions. As you know from the UK Sustainability Strategic Plan, the university intends to reduce the greenhouse gas emissions of the campus to 25% below 2010 levels by 2025. For more detailed information on the Greenhouse Gas Emissions Reduction Commitment, please visit [www.uky.edu/sustainability/greenhouse-gas-emissions-reduction-commitment](http://www.uky.edu/sustainability/greenhouse-gas-emissions-reduction-commitment). These reductions will be achieved primarily by means of the sustainability actions undertaken within the five core areas outlined in the Sustainability Strategic Plan. You are to use the film showing of *This Changes Everything* to advertise and explain the UK greenhouse gas emission commitment, especially as it is a component part of the broader UK Sustainability Strategic Plan, to the UK community.

This project includes an individual and a group component.

- **Individual Component:** 50% of the grade
  - You are each individually to read Naomi Klein's book, *This Changes Everything* in preparation for the movie presentation.
  - Write a 5-7 page paper in response to the book that addresses the following interrelated questions:
    - What are the most effective steps in your core area that are being taken (or planned) to combat climate change, i.e., that will reduce greenhouse gas emissions, here at UK?
    - Given the basic thesis of the work (state what this is), do you think these steps are sufficient to the threat. Please explain your reasoning behind this assessment.
  - This paper is due March 29<sup>th</sup> at 11:59pm (via this Canvas assignment).
- **Group Component:** 50% of the grade

- This short-term project is meant to supplement your work for the long-term UKSSP Project.
  - The first phase of the UKSSP Project is gain a solid working understanding of your focus area. Use this particular campus outreach project to familiarize yourself with the specific tactics and action plans identified your core area. Working within your group, identify specific plans and tactics that seem (i) most effective toward reducing greenhouse gas emissions, and (ii) easily leveraged in an advertising campaign for the film around campus.
  - Working within your groups, implement events around campus that highlight both the film showing and the action plans and tactics identified above.
    - The notion of "event" can mean anything from hanging signs to public performances. Try to be creative. The aim is to create buzz about the UKSSP and the film showing.
  - As you consult with key stakeholders, discuss specifically those action plans and tactics that you have identified in this project. Discuss with them explicitly how these plans and actions will help to achieve the greenhouse gas emission targets to which UK has committed.
- The class as a whole will [introduce the movie and lead a discussion](#) of the film's message at the viewing.
  - We will spend the entire class on March 22<sup>nd</sup> planning for this event. Essentially you have to decide how you want to introduce the film, and how you want to guide discussion after the film. You should anticipate just a brief introduction and a 20-30 minute discussion after the film. Each group will have to participate in the discussion by highlighting those actions and tactics that appear to them to have the most promise to reduce greenhouse gas emissions within their core area.
- The grade for this element of the project will be based on the success of the event, and most especially on the success of the post-film discussion.
  - Address at least this one central question in the post-screening discussion: what are the steps that we at UK are taking together to combat climate change in our community, and do you think these steps are sufficient to the threat?

## Sandmeyer – Course Materials – ENS400 Senior Capstone Class: Sustainability in Action

	Page
<b>1. SYLLABUS &amp; DAILY SCHEDULE .....</b>	<b>3</b>
a. ENS400_2018S – syllabus .....	5
b. ENS400_2018S – schedule .....	11
<b>2. PROJECTS .....</b>	<b>16</b>
a. ENS400_2018S – project I – UK SSP (group) .....	18
i. ENS400_2018S – project I – group evaluation rubric .....	21
ii. ENS400_2018S – project I – self & group peer review .....	24
b. ENS400_2018S – project II – public film screening (group) .....	29
<b>3. PAPERS .....</b>	<b>31</b>
a. UK GCCR FAQ .....	33
b. ENS400_2018S – paper I – the meaning of sustainability .....	35
c. ENS400_2018S – paper II – the measure of sustainability .....	38
<b>4. STUDENT WORK .....</b>	<b>41</b>
a. ENS400_2018S – project I presentation .....	43
b. ENS400_2018S – project I rubric (Sandmeyer and Tedder) .....	46
c. ENS400_2018S – paper I (meaning) .....	52
d. ENS400_2018S – paper 2 (measure) .....	64

### **ENS400: The GCCR Writing Requirement - Papers**

The two papers in this class were put into the syllabus to meet the Composition and Communication Requirement. An assumption underlying the ENS400 course design was that students had already been introduced to the concept, history, and policies of sustainability. Hence, these writing projects were designed to reinforce and extend their understanding of this concept and of the metrics of assessment. While students in ENS400 gained substantive understanding both of the idea of sustainability and the regime of sustainability assessment in these writing exercises, the lack of prior work studying the concept of sustainability or its history had a profound impact. Remedial education had to be introduced and these extra lessons proved burdensome for many students.

The lessons I learned in this class, particularly regarding the teaching exercises, came to alter my understanding of interdisciplinary pedagogy. I have since integrated knowledge assessments into the earliest stage of a class. I structure these assessments around fundamental concepts and terms which we study over the term. Whenever we turn to a new subject matter in the course, I return to reconsider the assessment questions. Not only does this technique help students identify central concepts and terms, but also it provides a sense of progress and enlightenment as they gain mastery of previously unknown or little understood concepts and terminology.

*(left blank intentionally)*

# Graduation Composition & Communication Requirement (GCCR)

## *Frequently Asked Questions*

---

1. **What is the “GCCR”?**

The GCCR is the new Graduation Composition and Communication Requirement, which replaces the former GWR (Graduation Writing Requirement). It's intended to help students vertically integrate their written, oral, and visual communication skills in a way that is consistent with their disciplines.

2. **When will the GCCR go into effect?**

The GCCR will be implemented university-wide in the fall 2015. Each program has a program learning outcome and course(s) designated to meet the GCCR.

3. **What are the requirements and components of the GCCR?**

The GCCR requirements essentially include a combination of formal writing and a second mode of communication (either formal oral or formal visual communication). To satisfy the GCCR, students must complete:

a. One or more formal written assignments that total at least 4500 words (a significant portion of this assignment or assignments should be revised at least once- either via peer review or instructor review).

AND EITHER

b. An oral assignment in which students must give a formal presentation at least 10 minutes long. This assignment should be practiced and revised at least once (either via peer review or instructor review).

OR

c. A visual assignment, in which students create at least one formal visual/electronic artifact (e.g., a website or video). This assignment should be revised at least once (either via peer review or instructor review).

d. The GCCR must also include an assignment that requires students to demonstrate information literacy in the discipline.

e. Students must earn an average grade of C or better on the GCCR assignments themselves (not the course) in order to satisfy the GCCR requirement.

4. **How will the GCCR be assessed?**

The GCCR outcome will be directly\* assessed at the program level at least once every 3 years, as part of the formal assessment cycle of the programs student learning outcomes for

the major. Each program is responsible for the assessment of their GCCR outcome and will report the evidence of that assessment to the Office of University Assessment in October of each year. This is in alignment with their Annual Student Learning Outcomes Assessment Reports.

*\*Direct evidence shows student achievement through the measurement of their performance of knowledge and skills. Direct evidence can be gathered using tools like papers, projects, and performances using a rubric. A rubric is a focused, documented set of guidelines, usually in matrix form, that faculty can use to evaluate student work and provide feedback. Rubrics provide a clear articulation of how student performance is linked to a specific outcome.*

5. **Where can I go for help teaching GCCR concepts and/or developing rubrics to assess multimodal communication products?**

Feel free to reach out to Tara Rose, Director, Office of University Assessment at [tara.rose@uky.edu](mailto:tara.rose@uky.edu) OR Jami Warren, Assessment Coordinator, Presentation U at [jami.warren@uky.edu](mailto:jami.warren@uky.edu). You can also visit Presentation U @ the Hub anytime which is located in the WT Young library.

For more information visit: <http://www.uky.edu/UGE/writing>

You can also apply to be a Faculty Fellow at: <http://www.uky.edu/UGE/pres-u-apply>

The aim of this 8-10 page paper is to explain the meaning of sustainability as you believe it should be understood. To be clear, this is not an opinion piece. This is a thesis defense paper, most specifically, a conceptual clarification paper. Consequently, your job in this paper is to explicate the concept of sustainability in a clearly and coherently argued manner. Any rational auditor of your paper should find your final thesis regarding the meaning of sustainability, if not convincing then, at least, plausible and well-substantiated.

## Component Elements of Paper

The paper will have three distinct sections. Though you are free to organize your paper how you best see fit. However, these three components must be clearly evident.

### A. Literature Review (Analysis)

Where your earlier coursework in the major introduced you to the core concepts and/or reinforced specific knowledge necessary to analyze arguments and solve problems based on the economic, environmental, and social aspects of sustainability, this class asks you to apply these concepts and this knowledge. Consequently, one of the most significant outcomes of this capstone class is that students demonstrate their information literacy in the discipline. In your literature review, therefore, you are to refer both to readings required in this class and to significant source material for this project which you studied in your coursework here at UK.

1. Readings from this class: *Sustainability: Key Issues* (not every article listed here is directly relevant to this first paper).

- Fredericks, "Ethics in sustainability indexes," pp.73-87
- Kopnina & Shoreman-Ouimet, "Introduction: emergence and development of sustainability," pp. 3-24.
- Nemetz, "Reconstructing the sustainability narrative: separating myth from reality," pp. 40-69.
- Waas et. al., "Navigating toward sustainability: essential aspects of assessment and indicators," pp. 88-108.
- Washington, "Is 'sustainability' the same as 'sustainable development'?", pp. 359-376.

2. Significant readings from your coursework at UK, broadly.

- The choice of which materials to include in this literature review is up to you. It is your job, in other words, to identify the articles or other source materials (e.g., websites, blogs, podcasts, etc.) which are most significant for this conceptual clarification in your mind. This list is not meant to be quantitatively exhaustive but rather qualitatively selected. Select the most important literature relevant to this project, i.e., to the clarification of the meaning of sustainability.
- Documents to which you refer in your literature review should be uploaded to the class-wide library of materials, i.e., the Document Library in the ENS Capstone Sharepoint Group (<https://luky.sharepoint.com/sites/ENSCapstone>), where feasible.
  - I have already placed some important documents into this library. For instance, the full copy of the 1972 Club of Rome "Limits to Growth" report, the 1987 WCED report, "Our Common Future" (aka the Brundtland Commission report), the 2015 papal encyclical "Laudato Si" or "On Care for our Common Home" in this library. I have also placed all the articles on sustainability that I have used in my classes into the library. You are not required to use any one of these documents. But I expect some will be fundamental to your project, so I have made them available for your convenience.
  - File Naming convention (please follow): "AuthorLastName – Title"

- e.g., "Daly – Sustainable Economic Development," Gudmusson et al – Sustainable Development.
- I have also created a group Excel document in which to identify those online resources you use in the ENS Capstone Sharepoint Group. This document (00 Online Resources for Paper 1) is also located in the Document Library.

### B. Synthesis of Material

Whereas in the preceding section, you inspected literature relevant to your project, in this section you are to organize, integrate, and formulate important insights into the concept of sustainability on the basis of this review. More than merely summarizing the results of the preceding review, you are to articulate carefully considered judgments regarding what is essential to the concept of sustainability.

### C. Conclusion – Explicit Thesis Articulation

Finally and in conjunction with the preceding section, you are to advance a clear and explicit thesis regarding the meaning of sustainability. The standard definition of sustainability reaches back to 1987, i.e., the Brundtland Commission report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." You may conclude, for instance, as does Hayden Washington, that the concept of sustainability must be conceptually distinguished from sustainable development. (Notice, however, that this begs the question what sustainability means.) Or you may conclude that the concept of sustainability remains incoherent in the literature and is so because of socio-political forces that seek to keep the concept vague. Whatever conclusion you advance, this must be presented on the basis of evidence you have explicitly brought forward in the paper.

### **Process**

- First Deadline: February 22<sup>nd</sup>
- After initial submission, your paper will be revised once via instructor review. No grade will be assigned at this stage.
- Based upon recommendations from your instructor, you will revise and resubmit this paper for a grade.
- Resubmission deadline: April 1<sup>st</sup>
  - Students must earn an average grade of C or better on the papers in order to successfully complete the assignment.

### **Upload Requirements (to Canvas)**

- Minimum paper length: 2,250 words.
  - Include a word count at the conclusion of the paper, including footnotes but not works cited page.
- Papers must be formatted as Word documents with the extension .docx or .doc.
- Text
  - margins should be 1 inch for top/bottom and left/right.
  - paper should be double-spaced
- Except for the paper title, which should be at the top of the paper, please include the following information at the conclusion of the paper:
  - Student's Name

- Word Count (minus works cited page).
- Number every page

## **Grading Rubric**

An "A" paper (100-90 points) has the following elements:

- Good, clear thesis and complete and consistent discussion of major parts of the topic
- Concise, engaging and comprehensive introductory and closing paragraphs
- All the parts of the paper fit together clearly and elegantly into a single coherent whole
- Accurate, skillful use of argument and evidence
- No significant grammatical, syntactical or stylistic errors

A "B" paper (89-80 points) has the following:

- Weakly stated thesis
- Bland or inadequate introductory and closing paragraphs
- Merely adequate argument and evidence offered but obvious objections not considered
- Transitions tentative or not clearly logical
- Some grammatical, syntactical or stylistic errors but does not affect clarity of central argument

A "C" paper (79-70 points) has:

- Sometimes inconsistent discussion of thesis
- Overly brief introduction or conclusion
- Loosely related arguments or evidence to which objections are obvious
- Missing transitions
- Grammatical, syntactical or stylistic errors that disrupt clarity of overall presentation

A "D" paper (69-60 points):

- Incompetent discussion of thesis or thesis merely implicit, not readily apparent
- Missing either opening or closing paragraphs
- Garbled, inaccurate discussion in which little evidence or argument is presented; abuse of quotations
- Gaps in organization
- Significant grammatical, syntactical or stylistic errors make the paper unreadable in part or in whole

The aim of this 8-10 page paper is to explain how best, if at all, it is possible measure progress toward sustainability. Where the previous paper asked for a conceptual clarification of the idea of sustainability in the abstract, in this paper you are to take as your main example the [University of Kentucky Strategic Sustainability Plan](#) (UKSSP). That is to say, you are to examine the idea of measuring progress using sustainability indicators and assessment tools by reference, specifically, to the UKSSP.

## Component Elements of Paper

The paper will have three distinct sections. Though you are free to organize your paper how you best see fit. However, these three components must be clearly evident.

### A. Analysis

Where you are required in the first paper assignment, i.e., the meaning of sustainability assignment, to apply the concepts and knowledge garnered in your ENS coursework here at UK generally, in this paper you are asked to apply these concepts and this knowledge to a particular question: how, if at all, is the best way to assess progress toward sustainability? For this paper, you are to refer both to readings required in this class, and to the materials you are working through in the UKSSP project.

1. Readings from this class: *Sustainability: Key Issues*, particularly.
  - Fredericks, "Ethics in sustainability indexes," pp.73-87
  - Waas et. al., "Navigating toward sustainability: essential aspects of assessment and indicators," pp. 88-108.
  - Washington, "Is 'sustainability' the same as 'sustainable development'?", pp. 359-376.
2. The University of Kentucky Strategic Sustainability Plan.
  - The UKSSP plan itself (in Canvas: Files: Projects).
  - All the SSP Measures of Success documents: Buildings & Grounds, Energy, Food and Dining, Materials Management, Transportation (in Canvas: Files: Projects: UKSSP Documents).
3. Ideally, you can integrate your comparative research for the UKSSP project into this analysis.

### B. Synthesis

In this section you are to organize, integrate, and formulate important insights into the possibility and difficulties of creating proper sustainability metrics. You are to formulate carefully considered judgments regarding whether progress toward sustainability can be measured, how it ought to be measured, i.e., what criteria determines the most effective measures and what distinguishes these best measures from the least effective measures, and what are the most significant obstacles to establishing effective assessments and indicators of sustainability.

### C. Conclusion

John Elkington has said, "Very often, we will be unable to say whether or not a particular company or industry is 'sustainable' but we will become increasingly sophisticated in terms of our ability to assess whether or not it is moving in the right direction" (Elkington, "Making Capitalism Sustainable," 533). So, finally and in conjunction with the preceding section, you are to advance a clear and explicit thesis whether and how best progress toward sustainability can best be measured.

## Process

- First Deadline: March 22<sup>nd</sup>
- After initial submission, your paper will be revised once via instructor review. No grade will be assigned at this stage.
- Based upon recommendations from your instructor, you will revise and resubmit this paper for a grade.
- Resubmission deadline: April 22<sup>nd</sup>
  - Students must earn an average grade of C or better on the papers in order to successfully complete the assignment.

## Upload Requirements (to Canvas)

- Minimum paper length: 2,250 words.
  - Include a word count at the conclusion of the paper, including footnotes but not works cited page.
- Papers must be formatted as Word documents with the extension .docx or .doc.
- Text
  - margins should be 1 inch for top/bottom and left/right.
  - paper should be double-spaced
- Except for the paper title, which should be at the top of the paper, please include the following information at the conclusion of the paper:
  - Student's Name
  - Word Count (minus works cited page).
- Number every page

## Grading Rubric

### An "A" paper (100-90 points) has the following elements:

- Thesis: good, clear thesis and complete and consistent discussion of major parts of the topic
- Open/Close: concise, engaging and comprehensive introductory and closing paragraphs
- Unity: all the parts of the paper fit together clearly and elegantly into a single coherent whole
- Evidence: accurate, skillful use of argument and evidence
- Grammar/Style: no significant grammatical, syntactical or stylistic errors

### A "B" paper (89-80 points) has the following:

- Thesis: weakly stated thesis
- Open/Close: bland or inadequate introductory and closing paragraphs
- Unity: transitions tentative or not clearly logical
- Evidence: merely adequate argument and evidence offered but obvious objections not considered
- Grammar/Style: some grammatical, syntactical or stylistic errors but does not affect clarity of central argument

### A "C" paper (79-70 points) has:

- Thesis: sometimes inconsistent discussion of thesis
- Open/Close: overly brief introduction or conclusion
- Unity: missing transitions
- Evidence: loosely related arguments or evidence to which objections are obvious
- Grammar/Style: grammatical, syntactical or stylistic errors that disrupt clarity of overall presentation

A "D" paper (69-60 points):

- Thesis: incompetent discussion of thesis or thesis merely implicit, not readily apparent
- Open/Close: missing either opening or closing paragraphs
- Unity: gaps in organization
- Evidence: garbled, inaccurate discussion in which little evidence or argument is presented; abuse of quotations
- Grammar/Style: significant grammatical, syntactical or stylistic errors make the paper unreadable in part or in whole

## Sandmeyer – Course Materials – ENS400 Senior Capstone Class: Sustainability in Action

	Page
<b>1. SYLLABUS &amp; DAILY SCHEDULE .....</b>	<b>3</b>
a. ENS400_2018S – syllabus .....	5
b. ENS400_2018S – schedule .....	11
<b>2. PROJECTS .....</b>	<b>16</b>
a. ENS400_2018S – project I – UK SSP (group) .....	18
i. ENS400_2018S – project I – group evaluation rubric .....	21
ii. ENS400_2018S – project I – self & group peer review .....	24
b. ENS400_2018S – project II – public film screening (group) .....	29
<b>3. PAPERS .....</b>	<b>31</b>
a. UK GCCR FAQ .....	33
b. ENS400_2018S – paper I – the meaning of sustainability .....	35
c. ENS400_2018S – paper II – the measure of sustainability .....	38
<b>4. STUDENT WORK .....</b>	<b>41</b>
a. ENS400_2018S – project I presentation .....	43
b. ENS400_2018S – project I rubric (Sandmeyer and Tedder) .....	46
c. ENS400_2018S – paper I (meaning) .....	52
d. ENS400_2018S – paper 2 (measure) .....	64

### **ENS400: Student Work**

The work provided here represent both group and individual work by the students of ENS400. The project presentation was a group effort, and the rubric thus evaluates the work of the group as a whole making this presentation. The two papers were produced by two different individuals in the class.

*(left blank intentionally)*



# MATERIALS MANAGEMENT

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

April 19, 2018 – Sandmeyer/Tiedler

University of Kentucky.

SUSTAINABILITY STRATEGIC PLAN

UK Sustainability

Materials Management

STRATEGIES High-level directives focused on sustainability and encompassing multiple operational units

TACTICS Deliverables needed to complete strategy

ACTION ITEMS Quantified targets related to fulfilling the tactics

MEASURES OF SUCCESS Metrics used to track progress toward completion of action items

RESPONSIBLE PARTIES The person and/or unit responsible for implementing action item and tracking progress

25% by 2025

Materials Management

- Guide for the integration of sustainability with the operations of the University of Kentucky for the next five years
- Specific performance targets set for tactics organized by six key operational focus areas



3

MATERIALS MANAGEMENT

4

Materials Management Strategy

MATERIALS MANAGEMENT

Gain a deeper understanding of the life of materials at UK; engage in education, waste reduction and landfill diversion; and seek to improve the sustainability of material purchased across all areas of the University.

"Our efforts will include materials from regular operations, public-private partnerships and construction and development."

5

TACTICS

1. Increase UK's waste diversion rate to 50%

2. Develop and implement a sustainability purchasing protocol

3. Conduct waste audits to understand the University's waste stream and identify reduction, diversion and procurement improvements

4. Increase education and outreach on waste diversion/reduction and procurement practices

Materials Management

6

Action Items for Materials Management

1. Increase UK's waste diversion rate to 50%  
1.1 Establish protocols for collecting, handling and tracking for these waste streams: Surplus, recycling, organic, universal waste, medical waste and construction waste  
1.2 Reduce production and increase diversion of organic waste, including food, pallets and other organics (i.e. limbs, leaves, tree stumps)  
1.3 Increase waste diversion through the surplus program and other reuse programs  
1.4 Increase recycling rate by 25% (vs. 2017) by expanding options and promoting participation  
1.5 Increase waste diversion from construction and renovation projects and capture weight data for each project.  
1.6 Identify opportunities to increase medical waste diversion

2. Develop and implement a sustainability purchasing protocol  
2.1 Assemble team to draft protocol  
2.2 Present protocol to President's Sustainability Advisory Committee for review  
2.3 Present protocol to EVPPA for approval

4. Increase education and outreach on waste diversion/reduction and procurement practices  
4.1 Create comprehensive outreach and education plan using audit results  
4.2 Conduct targeted education and outreach efforts  
4.3 Improve and expand recycling, waste management and surplus webpages  
4.4 Target high visibility print publications and request that they are printed on recycled content paper. Include statements of recycled content and encourage recycling of the publication

3. Conduct waste audits to understand the University's waste stream and identify reduction, diversion and procurement improvements  
3.1 Conduct waste audits  
3.2 Use audit results to strategically identify waste minimization and diversion opportunities

7

Measures of Success for Materials Management

1. Increase UK's waste diversion rate to 50%

- Increase in organics, recycling, electronics, surplus, medical and construction waste diversion

2. Develop and implement a sustainability purchasing protocol

- Development and implementation of a proper purchasing protocol

3. Conduct waste audits to understand the University's waste stream and identify reduction, diversion and procurement improvements

- Waste audits and findings reports

4. Increase education and outreach on waste diversion/reduction and procurement practices

- Creation of an education plan and webpage
- Targeted education and outreach events planned
- Education surveys conducted
- Tracking number of publications printed on recycled paper

8

Resources Used and Previous Experience

#recycleblue

PLAN: The Post-Landfill Action Network

FREE & THRIFT STORE MANUAL

Materials Management

9

What is STARS? Why we aren't using it

"The Sustainability Tracking, Assessment & Rating System™(STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance."

Comparative Analysis & Benchmark Programs

Materials Management

ENS400 Teaching Materials

10

Schools gathered from PLAN/UK Models

1. Oregon State University

2. St. Olaf College

3. UC Berkeley

4. University of Georgia

5. William & Mary College

Sustainable UGA UNIVERSITY OF GEORGIA

Materials Management

ENS 400 Packet, page 43

11

Repair Fairs: Oregon State University

Free repairs & demos  
recycle.oregonstate.edu

On-campus organization that repairs appliances & electronics, bicycles, clothing, computer diagnostics, housewares, jewelry, musical instruments, wood furniture

© Bob Sandmeyer

Materials Management

12

## St. Olaf College: Take Back the Tap



Many other schools either have full or partial bans:

- Full Ban: bottled water sales are banned at all campus location, including dining facilities and vending machines
- Partial Ban: Bottled water sales are banned in certain locations or events, but the sale is not banned on the entire campus

Materials Management

13

## Take Back the Tap UKY Pitch

Feedback/ Comments:

- Tap water stigma
- Installment of filtered water dispensers only in new projects and out of necessity

The first step would be a campus wide vote on a partial ban of bottled water. UK has already implemented filtered water dispensers throughout campus, so the switch would be simple. The next step would be promoting the use of reusable water bottles and banning the sale of water in campus dining and stores. We would need continued education campaign for students, faculty, and staff about why bottled water is not a wise commodity for social justice, economic, and environmental reasons.

Materials Management

14

## Deskside Recycling System

UGA has an optional program employees can choose to be apart of by giving up their traditional wastebasket in exchange for a 7 gallon bin for mixed recyclables and a small side saddle for landfill items.

Benefits:

- Reduces the amount of plastic bags used for office waste
- It helps participants be more mindful of things they discard
- Frees up building service workers to focus on other tasks



Materials Management

15

## Deskside Recycling System at U.K.

We have a lot of new buildings up and coming which could be the forefront of implementing this. The system would be targeted at employees, but would engage students as a lot of students are also employees

We have a lot of faculty and staff interested in recycling- if they participate they won't feel like they are being forced to do something which will lend better outcomes.

If it's received well, we could then start to make it mandatory for all buildings

Comments From Stakeholder:

- We have something similar to this with the recycling bins outside of the hallway
- Will be difficult for people who have more waste
- But it is a good system- it would just need a little tweaking to be implemented on our campus

Materials Management

16

## DorMania at William & Mary College

DorMania is a student run program at William & Mary College in West Virginia that aims to tackle waste streams when students move out of dorms in the spring. They collect donations and items meant to be discarded, cleans, sorts and stores them until the next fall. That fall they facilitate a yard sale/thrift store for incoming dorm students, with all of the proceeds going to pay for the program operations.



Materials Management

17

## DorMania at William & Mary College

Focuses on student engagement as all workers were volunteers from other student organizations or from around campus

Help divert thousands of pounds of previously discarded waste thru either recycling or reselling

Prevents incoming students from having to buy all new products, and at cheaper prices

A sample list of some of the donations they accept:

- Mini-fridges, microwaves, small furniture
- electronics
- Mirrors, lamps or lights
- school supplies
- resettable power strips, hampers
- storage bins/baskets, decorations, rugs
- Dishes, shelves, upright storage containers

Materials Management

18

## DorMania at William & Mary College

Inventory Fall 2017			
Electronics	Kitchenware	School Supplies	Cleaning Supplies
Apple Watch 1	Blender	3 Ring Binder	Windex
Apple Watch 2	Coffee Maker	3 Ring Binder	Windex
Apple Watch 3	Coffee Maker	3 Ring Binder	Windex
Apple Watch 4	Coffee Maker	3 Ring Binder	Windex
Apple Watch 5	Coffee Maker	3 Ring Binder	Windex
Apple Watch 6	Coffee Maker	3 Ring Binder	Windex
Apple Watch 7	Coffee Maker	3 Ring Binder	Windex
Apple Watch 8	Coffee Maker	3 Ring Binder	Windex
Apple Watch 9	Coffee Maker	3 Ring Binder	Windex
Apple Watch 10	Coffee Maker	3 Ring Binder	Windex
Apple Watch 11	Coffee Maker	3 Ring Binder	Windex
Apple Watch 12	Coffee Maker	3 Ring Binder	Windex
Apple Watch 13	Coffee Maker	3 Ring Binder	Windex
Apple Watch 14	Coffee Maker	3 Ring Binder	Windex
Apple Watch 15	Coffee Maker	3 Ring Binder	Windex
Apple Watch 16	Coffee Maker	3 Ring Binder	Windex
Apple Watch 17	Coffee Maker	3 Ring Binder	Windex
Apple Watch 18	Coffee Maker	3 Ring Binder	Windex
Apple Watch 19	Coffee Maker	3 Ring Binder	Windex
Apple Watch 20	Coffee Maker	3 Ring Binder	Windex
Apple Watch 21	Coffee Maker	3 Ring Binder	Windex
Apple Watch 22	Coffee Maker	3 Ring Binder	Windex
Apple Watch 23	Coffee Maker	3 Ring Binder	Windex
Apple Watch 24	Coffee Maker	3 Ring Binder	Windex
Apple Watch 25	Coffee Maker	3 Ring Binder	Windex
Apple Watch 26	Coffee Maker	3 Ring Binder	Windex
Apple Watch 27	Coffee Maker	3 Ring Binder	Windex
Apple Watch 28	Coffee Maker	3 Ring Binder	Windex
Apple Watch 29	Coffee Maker	3 Ring Binder	Windex
Apple Watch 30	Coffee Maker	3 Ring Binder	Windex
Apple Watch 31	Coffee Maker	3 Ring Binder	Windex
Apple Watch 32	Coffee Maker	3 Ring Binder	Windex
Apple Watch 33	Coffee Maker	3 Ring Binder	Windex
Apple Watch 34	Coffee Maker	3 Ring Binder	Windex
Apple Watch 35	Coffee Maker	3 Ring Binder	Windex
Apple Watch 36	Coffee Maker	3 Ring Binder	Windex
Apple Watch 37	Coffee Maker	3 Ring Binder	Windex
Apple Watch 38	Coffee Maker	3 Ring Binder	Windex
Apple Watch 39	Coffee Maker	3 Ring Binder	Windex
Apple Watch 40	Coffee Maker	3 Ring Binder	Windex
Apple Watch 41	Coffee Maker	3 Ring Binder	Windex
Apple Watch 42	Coffee Maker	3 Ring Binder	Windex
Apple Watch 43	Coffee Maker	3 Ring Binder	Windex
Apple Watch 44	Coffee Maker	3 Ring Binder	Windex
Apple Watch 45	Coffee Maker	3 Ring Binder	Windex
Apple Watch 46	Coffee Maker	3 Ring Binder	Windex
Apple Watch 47	Coffee Maker	3 Ring Binder	Windex
Apple Watch 48	Coffee Maker	3 Ring Binder	Windex
Apple Watch 49	Coffee Maker	3 Ring Binder	Windex
Apple Watch 50	Coffee Maker	3 Ring Binder	Windex
Apple Watch 51	Coffee Maker	3 Ring Binder	Windex
Apple Watch 52	Coffee Maker	3 Ring Binder	Windex
Apple Watch 53	Coffee Maker	3 Ring Binder	Windex
Apple Watch 54	Coffee Maker	3 Ring Binder	Windex
Apple Watch 55	Coffee Maker	3 Ring Binder	Windex
Apple Watch 56	Coffee Maker	3 Ring Binder	Windex
Apple Watch 57	Coffee Maker	3 Ring Binder	Windex
Apple Watch 58	Coffee Maker	3 Ring Binder	Windex
Apple Watch 59	Coffee Maker	3 Ring Binder	Windex
Apple Watch 60	Coffee Maker	3 Ring Binder	Windex
Apple Watch 61	Coffee Maker	3 Ring Binder	Windex
Apple Watch 62	Coffee Maker	3 Ring Binder	Windex
Apple Watch 63	Coffee Maker	3 Ring Binder	Windex
Apple Watch 64	Coffee Maker	3 Ring Binder	Windex
Apple Watch 65	Coffee Maker	3 Ring Binder	Windex
Apple Watch 66	Coffee Maker	3 Ring Binder	Windex
Apple Watch 67	Coffee Maker	3 Ring Binder	Windex
Apple Watch 68	Coffee Maker	3 Ring Binder	Windex
Apple Watch 69	Coffee Maker	3 Ring Binder	Windex
Apple Watch 70	Coffee Maker	3 Ring Binder	Windex
Apple Watch 71	Coffee Maker	3 Ring Binder	Windex
Apple Watch 72	Coffee Maker	3 Ring Binder	Windex
Apple Watch 73	Coffee Maker	3 Ring Binder	Windex
Apple Watch 74	Coffee Maker	3 Ring Binder	Windex
Apple Watch 75	Coffee Maker	3 Ring Binder	Windex
Apple Watch 76	Coffee Maker	3 Ring Binder	Windex
Apple Watch 77	Coffee Maker	3 Ring Binder	Windex
Apple Watch 78	Coffee Maker	3 Ring Binder	Windex
Apple Watch 79	Coffee Maker	3 Ring Binder	Windex
Apple Watch 80	Coffee Maker	3 Ring Binder	Windex
Apple Watch 81	Coffee Maker	3 Ring Binder	Windex
Apple Watch 82	Coffee Maker	3 Ring Binder	Windex
Apple Watch 83	Coffee Maker	3 Ring Binder	Windex
Apple Watch 84	Coffee Maker	3 Ring Binder	Windex
Apple Watch 85	Coffee Maker	3 Ring Binder	Windex
Apple Watch 86	Coffee Maker	3 Ring Binder	Windex
Apple Watch 87	Coffee Maker	3 Ring Binder	Windex
Apple Watch 88	Coffee Maker	3 Ring Binder	Windex
Apple Watch 89	Coffee Maker	3 Ring Binder	Windex
Apple Watch 90	Coffee Maker	3 Ring Binder	Windex
Apple Watch 91	Coffee Maker	3 Ring Binder	Windex
Apple Watch 92	Coffee Maker	3 Ring Binder	Windex
Apple Watch 93	Coffee Maker	3 Ring Binder	Windex
Apple Watch 94	Coffee Maker	3 Ring Binder	Windex
Apple Watch 95	Coffee Maker	3 Ring Binder	Windex
Apple Watch 96	Coffee Maker	3 Ring Binder	Windex
Apple Watch 97	Coffee Maker	3 Ring Binder	Windex
Apple Watch 98	Coffee Maker	3 Ring Binder	Windex
Apple Watch 99	Coffee Maker	3 Ring Binder	Windex
Apple Watch 100	Coffee Maker	3 Ring Binder	Windex

Stakeholder Comments:

There is a similar program as this already happening on UK's campus thru the recycling office, where items are donated during move out and are sent to goodwill or other charities. Could work at UK, since it merges the idea of the thrift store with an already existing program.

Materials Management

19



A non-profit thrift store operated by student volunteers at UC-Berkeley that accepts donations of office supplies, books, clothes, small household items, etc.

"One-for-one" trades are available as well as items that are "\$3 or less."

Money gained from the "\$3 or less" sales go towards program maintenance and charities.

Materials Management

20

## Additional remarks about ReUSE

Thoughts from our stakeholder...

She mentioned that something similar is already in the works at UK.

The thrift store model would likely be a good fit for our campus.

Strengths: diverts materials from landfills, scale can be adapted to different student population sizes, encourages reuse, and convenience.

Weakness: thrifting could be just another trend

Student Engagement opportunities:

A chance to trade-in something unwanted for something wanted at no cost.

Volunteering for community service.

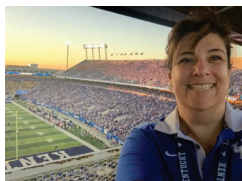
Convenience is enough encouragement for student involvement.

Materials Management

21

## Materials Management Stakeholder: Esther Moberly

Waste, Recycling, and Trucking Manager



ENS400 Teaching Materials

22

## Outreach: Pop-Up Thrift Shop



Tuesday, April 17th  
4:00-6:30pm  
Bowman's Den Lawn

Donation-optional thrift store and informal sewing workshop

Engagement & Partners:

- United Students Against Sweatshops (USAS)
- KY Student Environmental Coalition (KSEC)
- UKSPSP Informational Table



© Bob Sandmeyer

ENS 400 Packet, page 44

23



Overview of event

Funds Raised: \$75+  
Students Reached: 40-

"This is a great idea, I'm glad UK is stepping up their sustainability game."  
"How did you do this? How can I do this?"  
"Woah, love this."  
"When is the next one?"

## **Grading Methodology**

- Sandmeyer and Tedder evaluated each presentation separately over the weekend. There was no consultation between them during this phase.
  - Sandmeyer and Tedder, individually, reviewed the notes they each took during the presentations. They also reviewed the presentations, themselves, uploaded to Canvas.
- After the weekend, Sandmeyer and Tedder came together to discuss their evaluation of each presentation and determine a Consensus Grade for the group.
  - In some instances rather wide disagreement about elements of certain presentations arose
    - Sandmeyer tended to favor presentational and logical coherency
    - Tedder tended to favor fidelity to UKSSP assignment and accuracy of UKSSP data.
  - Summary meeting notes at the conclusion of Sandmeyer rubrics (Sandmeyer-Tedder Meeting Notes) give an indication of areas of predominant discussion between Sandmeyer and Tedder
- Project grade is thus a consensus between Sandmeyer and Tedder.
  - Project grade uploaded to Canvas is the average of scores by Sandmeyer and Tedder.
  - This Consensus Grade is the score for the group, which is to say it is the score each member of the group earned. The UKSSP project was a group project and so the score is a group grade.

<b>Sandmeyer</b>	<b>Tedder</b>		<b>Score</b>
95.00%	89.50%	<b>Materials Management</b>	<b>92.25%</b>

Presenting Group  
Materials Management

Evaluator  
Sandmeyer

Group Grade (in percentage)

**95%**

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.

Excellent

Good

Fair

Weak

**1.****UKSSP: Explanation of SSP & Core Area**

20% of total

✓

**A. The UKSSP and Your Core Area**

✓

- Explain *Core Area relative to UKSSP* as a whole
  - o Define strategies
  - o Identify tactics
  - o Identify action items
  - o Describe measures of success

- Nice intro of UKSSP
- Good intro of core area

**B. Significance of Core Area for Students**

✓

- Discuss significance of core area emphasizing **connections between focus area and students**
- Summarize *personal experiences of group members* that came to be applied to project relative.

- Very good transition to core members' experience
  - o Post-landfill conference

**2.****Benchmarking & Comparison**

20% of total

✓

**A. Identify the highest performing institutions via Benchmarking**

✓

✓

- Provide a list of *institutions that are leaders in this area* of sustainability and describe the methodologies used to generate this list.
- Provide a list of the *most innovative/effective programs found* at these institutions and describe the methodology used to generate this list.

- Very interesting explanation of why you decided not to use STARS
- Without use of visual corroboration (a style issue in part)

**B. Assess most innovative/effective programs found**

✓

- Explain whether UK already has **something similar**
- Would program be **good fit** for UK

- Addressed – a bit quick but good

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.			Excellent	Good	Fair	Weak
3.	Program Concepts & Campus Outreach Effort	50% of total	✓			
	<b>A. Describe (<i>up to five</i>) potential program concepts tailored specifically to the unique conditions at the University of Kentucky</b> <ul style="list-style-type: none"> <li>Explain how program concepts are <i>focused on student engagement</i></li> <li>Demonstrate how it supports <i>core area</i></li> </ul>		✓			
	<b>B. Key stakeholders &amp; Selection of Campus Outreach Effort by group</b> <ul style="list-style-type: none"> <li>Identify &amp; explain <i>role of stakeholder(s)</i> from SSP tactic team</li> <li>Explain how discussion with stakeholder led to <i>selection of ONE PROGRAM</i> from development</li> </ul>		✓	✓		
	<b>C. Design and implementation of group's campus outreach effort</b> <ul style="list-style-type: none"> <li>Describe <i>CAMPUS OUTREACH EFFORT</i> selected</li> <li>Demonstrate how group project engaged and <i>educated peers about CORE AREA of UKSSP</i></li> </ul>		✓			
	<b>Presentation Evaluation</b>	10% of total	✓			
	<b>A. Content</b> <ul style="list-style-type: none"> <li>Organized &amp; clear explanation</li> <li>Accurate</li> </ul>		✓			
	<b>B. Style</b> <ul style="list-style-type: none"> <li>Appropriate volume and <b>eye contact</b></li> <li>Effective use of visual aids</li> </ul>			✓		
	<b>C. Stays on Schedule</b>		✓	✓		

Evaluation Notes	
1.	UKSSP: Explanation of SSP & Core Area
2.	Benchmarking & Comparison
3.	Program Concepts & Campus Outreach Effort
	Presentation Evaluation

Excellent job. Study Areas of the UK Strategic Plan				
Buildings and Grounds	Energy	Food & Dining Services	Materials Management	Transportation
			Alexis	
			Sarah	
			Sarah	
			Jonathan	
			Cassie	
			Lauren	

### Meeting Summary: Sandmeyer-Tedder

- Area of weakness: not a very clear distinction between innovative programs 2.A and what would be a good fit for UK.
- Campus outreach was the just the kind of thing the designers of the project envisioned. Excellent design and execution. A model for student engagement in UKSSP.
- Best in show! Nicely done. Set the bar high from the get go.

Presenting Group**1. Materials Management**Evaluator**Tedder****Group Grade (in percentage)**

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.			Excellent	Good	Fair	Weak
<b>1.</b>	<b>UKSSP: Explanation of SSP &amp; Core Area</b>	<b>20% of total</b>	X			
	<b>A. The UKSSP and Your Core Area</b>			X		
	<ul style="list-style-type: none"> <li>Explain <i>Core Area relative to UKSSP</i> as a whole               <ul style="list-style-type: none"> <li>Define strategies</li> <li>Identify tactics</li> <li>Identify action items</li> <li>Describe measures of success</li> </ul> </li> </ul>		Good job putting waste diversion into sustainability context. Room for improvement with the description of impact of purchasing protocols and its connection to sustainability.			
	<b>B. Significance of Core Area for Students</b>		X			
	<ul style="list-style-type: none"> <li>Discuss significance of core area emphasizing <b>connections between focus area and students</b></li> <li>Summarize <i>personal experiences of group members</i> that came to be applied to project relative.</li> </ul>		PLAN and work with UK Recycling as examples of previous experience.			
<b>2.</b>	<b>Benchmarking &amp; Comparison</b>	<b>20% of total</b>	X			
	<b>A. Identify the highest performing institutions via Benchmarking</b>		X			
	<ul style="list-style-type: none"> <li>Provide a list of <i>institutions that are leaders in this area</i> of sustainability and describe the methodologies used to generate this list.</li> <li>Provide a list of the <i>most innovative/effective programs found</i> at these institutions and describe the methodology used to generate this list.</li> </ul>		Good description of STARS and listing of high scoring schools. Good transition from STARS to PLAN schools. Repair Fair, Take Back the Tap, Deskside Recycling, DorMania, reuse sore. Slides for the programs were wordy and hard to read.			
	<b>B. Assess most innovative/effective programs found</b>			X		
	<ul style="list-style-type: none"> <li>Explain whether UK already has <b>something similar</b></li> <li>Would program be <b>good fit</b> for UK</li> </ul>		Good job connecting each program to UK context and talking about fit.			

A = Excellent; B=Good; C=Fair; D=Weak. See syllabus for grading scale.			Excellent	Good	Fair	Weak
3.	Program Concepts & Campus Outreach Effort	50% of total	X			
	<b>A. Describe (<i>up to five</i>) potential program concepts tailored specifically to the unique conditions at the University of Kentucky</b> <ul style="list-style-type: none"> <li>Explain how program concepts are <i>focused on student engagement</i></li> <li>Demonstrate how it supports <i>core area</i></li> </ul>			X		
	All of the programs focused on student engagement and were clearly connected to the core area. There was not a clear transition between the innovative programs identified through benchmarking and the program concepts tailored for UK.					
	<b>B. Key stakeholders &amp; Selection of Campus Outreach Effort by group</b> <ul style="list-style-type: none"> <li>Identify &amp; explain <i>role of stakeholder(s)</i> from SSP tactic team</li> <li>Explain how discussion with stakeholder led to <i>selection of ONE PROGRAM</i> from development</li> </ul>		X			
	Yes, and a good introduction of Esther. Room for improvement in your explanation of how Esther helped you select your ONE program from the list you developed.					
	<b>C. Design and implementation of group's campus outreach effort</b> <ul style="list-style-type: none"> <li>Describe <i>CAMPUS OUTREACH EFFORT</i> selected</li> <li>Demonstrate how group project engaged and <i>educated peers about CORE AREA of UKSSP</i></li> </ul>		X			
	Pop up thrift shop. Yes. The pop up was a GREAT outreach event for the SSP and also a powerful proof of concept for your program recommendation					
<b>Presentation Evaluation</b>		10% of total	X			
	<b>A. Content</b> <ul style="list-style-type: none"> <li>Organized &amp; clear explanation</li> <li>Accurate</li> </ul>		X			
	<b>B. Style</b> <ul style="list-style-type: none"> <li>Appropriate volume and eye contact</li> <li>Effective use of visual aids</li> </ul>			X		
	Some slides wordy and hard to read.					
	<b>C. Stays on Schedule</b>		X			

### Definition of Sustainability

The way sustainability is defined is inherently dependent upon the framework of the society defining it. Thus, this paper will detail a personal definition of sustainability, in-so-far that ~~it is an~~ this attempt seeks to interpret a definition designed for all through a lens informed primarily by prevalent ideologies of capitalistic societies of the Global North and historical context of environmentalism in the United States. The way sustainability is defined inevitably dictates the way that a society will shift to realize said definition. Thus to attempt to define sustainability for societies that that function entirely outside of this cultural framework would be unwise.

**Commented [BS1]:** A mouthful. Try not to say everything in just one sentence.

**Commented [BS2]:** Not sure your point. Is there no adequate definition. Or the only adequate definition is one situationally anchored.

Sustainability is frequently depicted in terms of three pillars—economics, environment, and society, or defined using the triple-bottom-line: society, the economy, and the environment. John Elkington, for instance, explains this concept as three tectonic plates shifting independently of one another but are all stacked above one another, which leads to “shear zones” which can cause earthquakes (Elkington 1999). The economic plate rests on physical, financial, and human capital. Physical capital is inherently derived from the environmental plate and, likewise, social capital from the societal plate. Thus, the three plates are interdependent, and changes to one can readily disrupt all—for instance, if the economy was doing well, but was creating pollution that had a significant impact on the environment, it could harm natural capital, like fish, or societal capital, like public health, which would in turn harm the economy by removing an industry input. As such, sustainability initiatives must take all three into consideration to actually succeed. Of course, this exists within the context of a capitalistic society, but following this idea, literature will be discussed regarding economic, environmental, and social sustainability.

In 1987, the United Nations World Commission on Environment and Development (WDEC) published *Our Common Future*, or the Brundtland Report in which it outlined the challenges facing the environment and development and detailed solutions for fixing it. Notably, it is the origin of the most frequently cited definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WDEC 1987).

Since 1987, the meaning of sustainable development has become highly contested. In his article, Herman E. Daly says it is broadly interpreted in two very different ways: one implies sustaining “the average per capita utility [or happiness] of members of a generation”, the other implies preserving “the capacity of [an] ecosystem to sustain energy/food flows [or throughput] over the long term” (Daly 2003). Daly then argues that the latter throughput interpretation is the only valid one, as it is measurable and, unlike happiness, can physically be passed to future generations.

Similarly, the terms sustainability and sustainable development have frequently been confounded. In his piece “Is ‘sustainability’ the same as ‘sustainable development’” Haydn Washington states that “sustainable development has [...] been seen as the *transition strategy* to reach sustainability,” but argues that because the WDEC definition posits that environmental problems will be solved through further (albeit sustainable) development, it is inherently problematic because most development simply cannot be sustainable (Washington 2015). Washington acknowledges that although some, like Daly, feel WDEC’s meaning of development implied development of a qualitative nature (rather than implying oxymoronic perpetual physical growth), Washington himself feels WDEC’s language is, at the very least, ambiguous, and thus

**Commented [BS3]:** Very good beginning. But given the fact that Brundtland preceded Elkington, it would make sense to begin with Brundtland. Then you can turn to Elkington to see how this concept is modified by him.

**Commented [BS4]:** New idea = new paragraph

allows either interpretation to count, which has led to integration of the perpetual-physical-growth interpretation into modern sustainability initiatives.

Rather than depict the perpetual physical growth side as entirely oxymoronic, Washington's argument can instead be framed in a light of cornucopians and environmentalists. According to Judith A. Layzer in his text *The Environmental Case*, cornucopians represent this limitless growth idea through a lens of innovation and technological improvements, so although clearly physical resources are finite, they believe that there will always be another innovation or solution to prevent catastrophic scarcity. Environmentalists, on the other hand, are more cautious, believing that natural resources should be conserved for the future in case human innovation fails to advance rapidly enough to prevent major planetary issues (Layzer 2016). Layzer then splits environmentalists between pragmatics and idealists—those who believe a reliance on technology (that currently exists) is enough to save us from major environmental problems, and those who feel a major societal shift is necessary to successfully avoid catastrophe. In *A Declaration of Sustainability*, Paul Hawken astutely notes that “if every company on the planet were to adopt the environmental and social practices of the best companies [...] the world would still be moving toward environmental degradation and collapse” (Hawken 1993). Hawken is a good example of an idealist environmentalist, and his call for an upheaval of the present economic system is worth noting.

Additionally, Layzer explains several other iterations of environmentalist lenses, each of which move primarily beyond an economic focus, instead emphasizing environmental sustainability. Before delving into them, some historical context will be given to provide a basis for these predominating environmentalist lenses as well as a cultural context for present-day Americans. In her book *Something in the Soil*, Patricia Nelson Limerick details the history of

Commented [BS5]: Is Daly relevant here?

Americans' perception of wilderness. When Europeans initially ventured to the New World, they were frightened of the wilderness, which is not surprising, given that this unfamiliar terrain frequently lead to their demise. This fear was followed by a period of domination of nature as an attempt to control it—the influence of which, Limerick argues, is still quite evident today. Once people felt more in control, there was a drastic shift in perception to one of appreciation of nature. This fell in tandem with the Romanticism and Transcendentalism movements, as well as the United States searching for an independent identity, separate from British rule, which was found, in part, in the vast expanses of pristine landscapes found in the US. (Limerick 2001). Given this newfound identity and appreciation, people in the United States in the early 1900s began calling for the protection of the environment. Here Layzer begins to explain several other distinctions of environmentalists. Some, like Gifford Pinchot of the US Forest Service, argued for conservation of lands, in which they would be utilized for economic benefit but only to the extent that they could continue to be beneficial for generations to come. Others, like John Muir of the Sierra Club, felt that certain lands should be set aside entirely to be protected from human use altogether, providing the theory behind Wilderness Areas (Layzer 2016). Although Pinchot and Muir both call for protection of nature, their ideas inherently both assume a level of human dominance and distinction over and from nature. A definition of sustainability based on either of these ideals would differ drastically in the level of acceptable environmental protection, however both would inherently distinguish humans and nature as entirely separate entities.

As time progressed, some environmentalists began to look more deeply at this distinction between humans and nature. Layzer brings up two other categories of environmentalists, both of which stem from preservationist ideals—Aldo Leopold's Land Ethic and Arne Naess' concept of deep ecology. The former acknowledges human separation but uses it to implicate a

**Commented [BS6]:** Slow down a bit.

(Excellent discussion, but you're moving over some substantive terrain in a way that elides over some very important considerations.)

**Commented [BS7]:** See my previous comment

responsibility of stewardship, the latter challenges this distinction entirely, reframing the concept from an anthropocentric perspective to an ecocentric one. Aldo Leopold's *A Sand County Almanac* begins with incredibly poetic and sentimental descriptions of nature, gradually and subtly leading to the culminating argument of the Land Ethic, that all life—and the land itself—has intrinsic value beyond anthropocentric utility, and that as comprehending beings humans have an obligation to be stewards of the earth (Leopold 1949). This idea is the basis for the Endangered Species Act of 1973—a rather progressive piece of legislation, likely only passed because of the inherent valuation of nature as a part of American identity. The Land Ethic also led to Arne Naess' concept of deep ecology, which goes beyond an anthropocentric viewpoint altogether and argues that all living things have not only inherent but equal value, and that human quality of life is contingent on a deep relationship with nature (Layzer 2016). Deep ecology challenges the notion that humans are separate from nature, and, unlike the other ideologies, is not yet largely represented in some act of United States Legislation. In William Cronon's *Trouble with Wilderness*, he warns that defining wilderness as something far removed from human touch is dangerous for the overall success of ecological functioning. Othering nature implicates that it is okay to degrade other creature's environments because they are already seen as lesser in value than humans (Cronon 1995).

Although an ecocentric perspective eventually rose from a historically anthropocentric cultural basis, it is clear that the historical fear and subsequent dominion of nature basis has largely shaped American understanding of humanity's role relative to the environment. An understanding of this evolution, as well as what each theory represents, is important. Even though a definition of sustainability stemming from each of these dominant ideologies—conservation, preservation, Land Ethic, and deep ecology—would first and foremost emphasize

environmental sustainability, each conception leads to a distinctly different understanding of what environmental sustainability is, as demonstrated by the ideas embodied by the Forest Service, Wilderness Areas, or the Endangered Species Act.

As seen in the iterations of prevalent environmentalist theory in the United States, cultural context plays an enormous role in dictating common perspectives. Similarly, importance of underlying societal assumptions can be seen in dominant environmental economic theory as well. Garrett Hardin's well-known "Tragedy of the Commons," conveys the idea that when commons resources are left unregulated—that is, when resources lack sufficient property rights—everyone acts in their own rational self-interest and exploits the resource, inevitably leading to overconsumption and degradation of the resource (Hardin 1968). Elinor Ostrom's "Governing the Commons," refutes Hardin's theory, drawing from observations of how, globally, other cultures successfully manage commons resources without individual property rights, dispelling implicitly tragic notions of commons governance with success stories (Ostrom 1990). These drastically varying theories are distinguished by the cultures they are based on. Thus, cultural diversity is an incredibly valuable resource that should be valued just as highly as biological diversity in a definition of sustainability, as it provides frameworks and solutions inconceivable within American society.

Take ethnobotanist Wade Davis' TED Talk "Dreams from Endangered Cultures," wherein he describes what is truly being lost each time a culture dies out—an entirely different way of being. He provides many examples, like the "Barasana in the Northwest Amazon, [...] who [...] must marry someone who speaks a different language [...] yet [...] where there are six or seven languages spoken [...] you never hear anyone practicing a language. They simply listen and then begin to speak" (Davis 2003). Drastically differing sets of ideologies provide for the

**Commented [BS8]:** Excellent analysis of literature – if too quick. But excellent!

possibility of drastically differing solutions, and eliminating ideologies from a cultural framework may result in their permanent loss. Even if they are to arise, as when deep ecology surfacing out of a culture of anthropocentrism, they are likely to be perceived as radical and fail to dominate in general thought (as seen in deep ecology's failure to be translated into United States' legislation). It is dangerous for humanity to become so entrenched within one belief system when other cultures can no longer be acknowledged—therein lies a road to extinguishing pathways of knowledge that are inconceivable to those born and raised into a Westernized, capitalistic society. Maintaining cultural diversity is key to maintaining social sustainability.

Having reviewed dominant American theory behind economic, environmental, and societal sustainability, the importance of defining the cultural framework at hand becomes apparent in the distinctions between theories that draw from a historically Western ideologies and theories that do not. As ideologies and definitions grow within a society, particular words become associated with certain connotations, and inevitably entire bodies of literature form to debate minutia—take the aforementioned argument over “development”. Failing to understand the full implications of any singular word can lead to obfuscation of the entire definition itself. In this sense, trying to define sustainability across Western capitalistic societies, even those with generally aligned ideologies, is difficult given the precision necessary to create a standing definition. If the translation fails to account for some connotation or ambiguity, the definition may fail to hold weight. Allowing individual societies to form their own definitions is the surest way to achieve a definition that will make for successful implementation. This does not mean that the definition cannot have global implications, but that the originator's cultural framework will be important in informing a global perspective of a definition.

**Commented [BS9]:** It wasn't especially clear that the focus of the preceding discussion was intentionally American theory. Your introduction of the Brundtland Commission Report, as an example, obscures this point.

**Commented [BS10]:** If you have a chance, check out the work of Kyle Whyte. Your thesis is consistent with his work.

Drawing from the United States' historical framework, nearly every conception of sustainability has an ethical implication of needing to live in a way that protects resources for the future. Thus, basing the sustainability definition will be that of sustainable development in *Our Common Future* is appropriate. In this case, the definition will operate under the assumption that sustainable development is a means in which to reach sustainability, and as such, living in a way that achieves this framework would be sustainability. The ambiguity of development in the Brundtland Report is hugely problematic. In response to Daly's descriptions of the two different definitions for sustainable development, utility and throughput, I disagree with his disregard for the notion of utility. Although no, utility cannot be concretely measured, utility can be easily integrated into his argument of halting uneconomic growth for developed nations. After some requisite amount of material wealth, the benefits of each additional good will begin to diminish, especially relative to those that lack this basic requisite amount. Both the utility and throughput definitions play a key role in this—if attempting to allocate finite resources to individuals in a way that redistributes global wealth, inherently a utility judgement is being made—that one individual will have a greater use for it than the other. Thus, the goal should be sustainable development that shifts our throughput economic society to a cyclical one and curbs uneconomic growth (growth that has more negative effects, like pollution, than it does positive ones) while simultaneously stimulating economic growth by means of equilibrating material wealth globally.

Although curbing uneconomic growth would require a drastic societal shift from the Global North, in actuality the ideology behind it does not have to be so terrifying. All that must be done is focus on developing qualitatively. After all, Western culture may have already hit 'peak stuff', meaning that this is potentially the pinnacle of material demand, and that from this point forward effectively our culture will begin downsizing (Hutton 2016). Downsizing

**Commented [BS11]:** Very good. Would be useful to revisit Daly here.

physically does not mean worsening—certainly a sleek 2018 model of a phone is far preferable to a clunky computer from the 1970s. Continuous improvement and development are fully possible without continuous physical growth—it would instead look like using innovation to demand less, allowing culture and an eternal quest for knowledge to flourish.

Similarly to perpetual physical growth ideals, allowing preservationist ideals to prevail and holding wilderness areas as more sacred than other forms of nature has dangerous, unsustainable implications. Although maintaining wilderness areas may be important for things like ecological markers, setting aside a space cannot mean that other spaces are now okay to degrade. Humans must be a part of the natural system, and to hold some human-free region up as the most natural place implicates a psychological distinction between humans and nature. With such an expansive population, humanity cannot afford to write off the ecological integrity of every natural system that exists where people reside. Instead, we must learn to design our societies in a way that promotes ecological and human welfare simultaneously. The Elkington's triple bottom line concept dictates that humanity is reliant on the environment as a material basis for all we do, so environmental integrity must not be jeopardized by humanity's economic actions. In order to preserve environmental quality, human systems must learn to effectively integrate ecosystem conservation into average infrastructural projects. On some level, all people should feel some connection to place and obligation to protect it—a sense of deep ecology is important to continue protecting biological diversity and ecosystem integrity.

Preserving cultural diversity is just as important as maintaining biological diversity. In Elkington's discussion of the triple bottom line, he states, "some in the sustainable development community insist that sustainability has nothing to do with social, ethical, or cultural issues" (Elkington 1999). Even from a purely monetary lens, this is a poor argument. Any group of

people lacking the basic needs or rights to achieve their full potential are functioning below their efficient level, which is inherently a societal waste. When the Endangered Species Act was passed into law, the United States government acknowledged that Leopold's Land Ethic, agreeing it is unethical to exterminate a species from the planet. To think, then, that the permanent loss of a culture is acceptable within the confines of global development is incredibly misguided. The imposition of imperialistic globalization tactics that inevitably homogenize humanity's cultures is a devastating loss of resources. Not only are people forced to function at a lower level in their newly created, disadvantaged position in another society, but their rich cultural lifeways are discarded and forgotten as if they were nothing. Providing (without imposing) opportunity for all and valuing ideologies beyond our own is crucial to having a functioning sustainable global community.

Drawing from all of this, sustainability should be thought of as living in a way that meets (without exceeding) humanity's present material needs without significantly degrading environmental quality or homogenizing cultural diversity, thus preserving the ability of future generations of people and biota to meet their own needs. This encourages us to consume only what we absolutely must, allowing us to instead maximize our qualitative development. It encourages a more equitable distribution of material goods and highlights the importance of maintaining diversity of culture and species. Although the definition is anthropocentric, the rights of biota to continue existing are inherently worked into the definition as well, in that future generations of both people and biota are secured. Likewise, homogenizing cultural diversity is specifically protected as many feel cultural loss is not an issue. It is a modified version of the Brundtland Report's definition of sustainable development, but provides clarification and protection for key interests. Sustainability is not an easy thing to define, but when a definition

**Commented [BS12]:** Really nice development of your idea.

contradicts a physical possibility or results in the destruction of peoples or species, it is quite clearly conflicting with the true definition of the word.

Julianna Dantzer

Word Count: 3,076

Superb piece. With some editing and amplification, you could publish this. Also this could be a good writing sample, if you need one – with some work to fill in the holes and amplify your thesis. If you are interested in doing that, I'd be happy to help. A real pleasure to read.

Formatted: Font color: Red

Formatted: Font color: Red

#### Works Cited

Cronon, William. 1996. Forward to Paperback Edition. In *Uncommon Ground: Rethinking the Human Place In Nature*. P. 19-21

Davis, Wade. Dreams From Endangered Cultures. Dreams From Endangered Cultures, TED Talks, Feb. 2003, [www.ted.com/talks/wade\\_davis\\_on\\_endangered\\_cultures](http://www.ted.com/talks/wade_davis_on_endangered_cultures).

Hardin, Garrett "The Tragedy of the Commons," *Science*, 162 (3 December 1968).

Hutton, Will. "If Having More No Longer Satisfies Us, Perhaps We've Reached 'Peak Stuff.'" *The Guardian*, *The Guardian*, 30 Jan. 2016, [www.theguardian.com/commentisfree/2016/jan/31/consumerism-reached-peak-stuff-search-for-happiness](http://www.theguardian.com/commentisfree/2016/jan/31/consumerism-reached-peak-stuff-search-for-happiness).

"The Upshot." *A Sand County Almanac*, by Aldo Leopold, Oxford University Press, 1949.

Limerick, Patricia Nelson. 2000. Mission to Environmentalists. In *Something in the Soil: Legacies and Reckonings in the New West*. New York: W.W. Norton and Company. P. 171-185

“Making Capitalism Sustainable.” *Cannibals with Forks: the Triple Bottom Line of 21st Century Business*, by John Elkington, Capstone, 2002.

Ostrom, Elinor. *Governing the commons*. Cambridge university press, 2015.

“Sustainable Economic Development.” *The Essential Agrarian Reader*, by Herman E. Daly, University Press of Kentucky, 2003.

“A Policymaking Framework.” *The Environmental Case*, by Judith A. Layzer, CQ Press 2016.

Waas, Tom, Jean Hugé, Aviel Vebruggen, and Thomas Block. “Navigating towards sustainability: essential aspects of assessments and indicators.” *Sustainability Key Issues*. Routledge, 2015. P. 88-104.

World Commission on Environment and Development. “Report of the World Commission on Environment and Development: Our Common Future.” UN Documents, NGO Committee on Education, 1987, [www.un-documents.net/wced-ocf.htm](http://www.un-documents.net/wced-ocf.htm).

ENS 400

### The Measure of Sustainability at Universities

As the idea of pursuing a triple bottom line in community management becomes increasingly popular, questions begin to arise about how success in achieving sustainability goals can be measured. Several thoughts and criticisms have emerged as a result. In this paper, I seek first to identify how our university and others across the nation are measuring the efficacy of their sustainability policies. To do so I will use the University of Kentucky Sustainability Strategic Plan and the Sustainability Tracking, Assessment & Rating System (STARS) program; these are both powerful tools in analyzing trends in collegiate sustainability metrics. Secondly, I plan to compare these metrics and strategies to those identified by sustainability professionals and experts seeking to solidify sustainability indicators. I end with arguing that while the metrics currently in place at our university and others around the country do a good job at measuring for environmental sustainability, they are inadequate for assessing the true impact of sustainability policies, and must reevaluate and move to implement more measures to incorporate other spheres of sustainability.

Commented [BS1]: Excellent introduction

### STARS (Sustainability Tracking, Assessment & Rating System)

STARS, the Sustainability Tracking, Assessment & Rating System is a program hosted by AASHE, the Association for the Advancement of Sustainability in Higher Education. This program is a tool for colleges and universities around the world to become certified as a leader in collegiate sustainability. According to their website:

“(STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance” (AASHE).

Colleges and universities submit a report every few years and are awarded one of five titles ranging from Participant, Bronze, Silver, Gold, and Platinum. According to the STARS website, only three schools have earned a platinum rating, 107 have earned Gold, 149 have earned Silver, 37 have scored Bronze, and 17 have been granted the Participant status. As of 2015, the University of Kentucky earned a silver rating, scoring a 45.25 out of 206 points overall. However, the Office of Sustainability is planning on submitting another report this coming year. These points are scored on a rubric according to various programs and categories that school are expected or encouraged to have in order to be considered sustainable.

The STARS report is completely self-reported by sustainability staff at colleges and universities. They report on nineteen different categories ranging from academics, engagement, operations, planning and administration, and innovation.

### **University of Kentucky Sustainability Strategic Plan**

The University of Kentucky is soon unveiling a Strategic Plan to guide all efforts in sustainability across the university for several years. The process in the creation of this plan has brought together stakeholders from across the university to engage several aspects of sustainability.

The plan is broken into six operational areas of which to focus: Materials Management, which tracks the life cycle of all materials bought and disposed of on campus; Energy, which seeks to reduce the negative impact of energy use on campus

**Commented [BS2]:** Why? Or, under what compulsion? Isn't this self-reporting? Is that important?

by increasing efficiency and conservation; Food and Dining services, which works towards a comprehensive and sustainable campus food system; Transportation, which plans to increase the number of UK community members choosing sustainable transportation options; Buildings and Grounds, which seeks to design, construct, operate and maintain spaces that promote environmental stewardship and social well-being; and finally, Greenhouse Gas Emissions Reduction, which commits the University to reducing overall greenhouse gas emissions by 25% below the levels recorded in 2010 by the year 2025.

Each of these areas and goals are further broken down into strategies, tactics, and action items. Each of these in turn are accompanied by measures of success, which the Office of Sustainability will track and report on each year.

These measures of success include **mainly quantifiable measures** that detail goals to track and survey different programs laid out across all operational areas in the Sustainability Strategic Plan. These metrics are, for the most part, highly effective at reporting on environmental sustainability throughout campus.

Commented [BS3]: Could you be more specific?

### **Problems in UKSSP and STARS Reporting**

However, the plan makes little attempt at substantively addressing or measuring issues of social sustainability. Social and economic sustainability are pointed to inconsistently throughout the document; mostly highlighted in the broad strategies given at the introduction to each area. For example, one part of Materials Management's strategy states:

Reducing the generation of waste decreases the flow of material to incinerators and landfills. These facilities produce greenhouse gas emissions, can

contaminate air and groundwater supplies and may have disproportionate negative impacts on low-income communities. Human rights and working conditions can also be improved through purchasing protocols that prioritize human rights throughout the supply chain (UKSSP).

**Commented [BS4]:** What sort of purchasing protocols, for instance?

While it is highly commendable that the University is willing to acknowledge and connect issues of social justice relating to consumption and waste, the area makes no further connection between how the university efforts will have a substantive impact on these issues. There is no discussion of how our practices may have previously exacerbated this problem, or how we will ensure that this premise is met.

Similarly, the strategy given for Energy states that the plan seeks to “reduce the financial, social and environmental impacts of campus energy consumption through conservation, efficiency and production/delivery system improvements” (UKSSP).

However, these social impacts are not mentioned in any tactic, action item, or measure of success for the area.

**Commented [BS5]:** What specifically is a social impact, and how ought it be assessed?

Likewise, Buildings and Grounds’ strategy states that the team seeks to “design, construct, operate and maintain spaces that support the mission of the University while promoting environmental stewardship and the well-being of the community” (UKSSP). However, how the well-being of the community is being addressed by the Buildings and Grounds team remains unclear.

**Commented [BS6]:** What is well-being of a community? Is there any indication of what this expression signifies? More to the point, is the definitional problem distinct from the question about metrics you’re highlighting here?

The only area that both points to and addresses issues of social and economic sustainability is Food and Dining Services. They begin by pointing out that “food is one of the areas where the importance of sustainability’s triple bottom line is most clear.

Sustainable food systems have far-reaching impacts for environments, economies and communities" (UKSSP). They build on this by stating:

We bring attention to economic sustainability through a focus on locally and fairly sourced products. We focus on community sustainability by prioritizing efforts to track and reduce food insecurity. Through the tactics of this strategic plan, we hope to raise awareness of the importance of food to the sustainability of human and ecological communities near and far (UKSSP).

They address these issues in their tactics, action items, and measures of success. Two of their five tactics are related to social and economic sustainability, one addressing food insecurity both on and off campus, and one looking to increase local food purchasing and consumption and create and foster a local food economy. These are reflected in their action items and measures of success. In their fourth tactic

"Expand programs that address food insecurity", they commit to increasing on-campus efforts to address food insecurity, increasing connections between UK and off-campus efforts to address food insecurity, and collect data related to food insecurity. In their third tactic, "Improve sustainability through local and sustainable purchasing goals", they commit to increasing the amount of local food purchased, establishing goals to purchase local products for UK Healthcare, measuring and increasing the variety of certified, sustainable food products served, and measuring and increasing the percentage of purchases that fall under one or more sustainability certifications (UKSSP).

The measures for success for the action items of the third tactic can be quantified by looking at amounts purchased. However, the measures for success for the fourth

**Commented [BS7]:** How is "expansion" to be measured?

tactic become very vague. For instance, under action item 5.1, increase on-campus efforts to address food insecurity, the measure of success is “track and report efforts”. For 5.2, the measure for success states: “increase connections between UK and off-campus efforts to address food insecurity”. The third, collect data related to food insecurity from UK community, is more clear, stating that there will be an annual survey. However, it is still highly concerning that there is no real outline for how two of the three action items in the final tactic are to be accomplished.

The overall lack of social and economic sustainability metrics in the University of Kentucky Sustainability Strategic Plan is an area that should be built upon and addressed further. The connections drawn between these areas that are closely related to environmental sustainability, and social and economic well-being seem to be mostly thrown in as a token, little more than an homage to the Venn diagram model included earlier in the plan.

STARS and AASHE in general has a similar problem in addressing social and economic sustainability. In the STARS reporting, just three of their nineteen categories make some mention of social or economic benefits or programs. These three are diversity, investment, and wellness. The rest of the nineteen categories focus on environmental operations (AASHE). While diversity is certainly a social issue that collegiate sustainability, and furthermore sustainability in general, needs to focus on, it is certainly not the only social issue at play on college campuses. Additionally, limiting economic sustainability to one category on investment policies is inadequate. While there is some overlap in measuring for economic and environmental sustainability, such

**Commented [BS8]:** But earlier you said the metrics were “mainly” quantitative. This implies some are not. I would expect that at least some of these are metrics of social sustainability. Why am I wrong about this? That is to say, do some metrics fall outside the sphere of quantitative measure (by design)?

in conserving energy, there are several ways in which economics overlap with social issues that go unnamed in the report.

While I realize that many Offices of Sustainability operate with this environment-first mindset at colleges and universities across the country, I believe that boxing the concept of sustainability into ~~the box of environmentalism on such an institutionalized level that involves so many in higher education~~ **one sphere** is a dangerous precedent.

One part of the University of Kentucky Sustainability Strategic Plan that makes the plan durable is the intersection of staff and faculty that it brings together. It involves stakeholders from across many operational units of the university all working on making individual areas more sustainable, and unites their efforts in order to decrease greenhouse gas emissions and function as an overall more environmentally sustainable place. This is why it seems odd that some of the social and economic concerns were not more addressed in the plan; there are people and departments on campus dedicated to issues intersecting with social and economic concerns, and there are likely people on the tactic teams that have a strong working knowledge of social and economic issues that come along with their environmental area. Thus, it seems that these areas could and should have been more integrated into the Strategic Plan to ensure that the plan was truly encompassing the triple bottom line.

### **Sustainability Metrics**

Sarah Fredericks (2015) points to this same issue in other attempts at sustainability metrics. In her essay “Ethics in Sustainability Indexes”, she summarizes

this issue that commonly arises when looking at the value and success of sustainability efforts:

The goals of the sustainability movement inherently involve ethical and normative claims as people envision not only what it is technically possible to sustain but also what they think is ethically right or culturally acceptable to sustain. Thus, it is not surprising that key ethical priorities of the sustainability movement such as justice are not well represented in indicators and indexes (Fredericks 2015).

The only section in the UK Sustainability Strategic Plan to mention issues of justice is Materials Management. The strategy for this section highlights the disproportional impact that waste has on low-income communities and communities of color. In line with what Fredericks is stating in her chapter, this ideology is not represented in the index.

**Commented [BS9]:** Not sure this is accurate. Isn't social justice a goal identified in the guiding vision of the document.

However, Fredericks goes on to propose one solution to this issue:

**Commented [BS10]:** good

The sustainability movement often emphasizes gaining and spreading knowledge to help people understand not only their contribution to pollution, climate change, and environmental injustice but also how their actions (e.g., recycling, voting, reducing consumption) can aid sustainability efforts (Fredericks 2015).

Three of the areas detailed in the Sustainability Strategic Plan seek to accomplish what Fredericks is identifying as being integral to the pursuit and measure of sustainability: education and empowerment. These three are Materials Management, Food and Dining Services, and Energy. The measures of success for some of these tactics are detailed, providing plans and timelines on how they intend to reach the UK community through websites, direct outreach, and surveys. Materials Management, for

example, details plans and timelines to survey the UK community, build online centers for recycling education, and base their outreach strategy on specific results from waste audits. Others, however, such as the Food and Dining Services seem to tack on the outreach component of their strategy at the end, leaving how they intend to accomplish their goals open.

### Conclusion

It is my belief that the current system and policies tracking sustainability at our own university and at those around the country are insufficient to the current climate surrounding sustainability. In the past few years, there has been a huge push to integrate issues surrounding social, economic, and environmental injustice, and this is reflected in neither the University of Kentucky Sustainability Strategic Plan, nor the AASHE STARS metric.

Commented [BS11]: Nicely said

I believe that in order to accommodate the growing demand for intersectional environmentalism, institutions for higher education have to take a step towards integrating social and economic concerns into their sustainability policy, beyond the low-hanging fruit of economic savings that come from conservation. To do this, more stakeholders need to be included. Fredericks (2015) points out that absolute inclusion on a local level is critical to the success of any sustainability policy, so that solutions are applicable to the involved community. To really get at the heart of sustainability, we must consider sustainability as a whole picture rather than severable parts, and bring together those who are working in all circles of sustainable policymaking at our university.

Measures for success in these areas may require more qualitative results such as surveys and narratives, to accurately reflect the impact that the policies have on the local community. However, building policies around these ideas is the only way to ensure that the policies remain relevant through the ever-changing climate of sustainability.

Lauren T

Word Count: 2,311

**Commented [BS12]:** Aha, here's the crux of my complaint of this very fine paper. You don't really analyze what delimits the subject area for a metric that must be qualitative from that subject area which is more naturally subject to quantitative analysis.

### References

- AASHE STARS. The Association for the Advancement of Sustainability in Higher Education. Retrieved from <https://stars.aashe.org/>
- Fredericks, S. (2015). Ethics in sustainability indexes. Kopnina, H.; Shoreman-Ouimet, Eleanor. Sustainability: key issues (77-87). New York, NY: Routledge.
- University of Kentucky Sustainability Strategic Plan. Forthcoming.