

Sustainability Assessment Report May 2016

Annual Assessment Meeting

On May 4th, faculty who teach required and elective coursework for the *Individualized Major in Sustainability* were invited to a meeting to discuss the assessment report. Attending this meeting, which lasted for 90 minutes, were: Marian Brown (SUS 101); Milene Morfei (PSY 335); Kent Klitgaard (ECON 101, SUS 290, ECON 325, ECON 326, ECON 209, ECON 255); Laura McClusky (SUS 290, ANTH 270, ANTH 270, SOC 277); and Ernie Olson (ANTH 230, SC 101, ANTH 359). Invited but unable to attend: Dan Renfrow (SOC 200); Tukumbi Lumumba-Kasongo (INTL 350); Muin Uddin (ECON 102); Niamh O'Leary (ENVR 101L, ENVR 102L, ENVR 340); and Jackie Schnurr (BIO 119L). We later noted the oversight omission of Elliot Smith (MATH 151).

Assessment Data

In 2015, when the *Individualized Major in Sustainability* had only been offered for one year, then-program-coordinator Dr. Laura McClusky responded to the call for an assessment plan with a listed of the learning goals/objectives of the sustainability major, mapping the outcomes to the various required and elective courses included in the program. However, with Dr. McClusky on sabbatic leave in 2015-16, and Dr. Milene Morfei on medical leave in Spring 2016, we did not have the wherewithal to collect the data to effectively measure student learning. With a new reporting format from the Curriculum Committee, we now have a better sense of how what to be specifically looking for as measurements of our students' success. Some very general program assessment data points follow – we will do a better job in 2016-17 of collecting more relevant data in order to make data-driven recommendations for programming changes.

Interest in the Sustainability academic program, which has only been offered since Fall 2014, has been quite strong so far and continues to build. One student has declared the *Individualized Major in Sustainability*. To date, we have graduated four students with minors in Sustainability and one with a Sustainable Food System minor. One 2016 graduate double-minored in Sustainability and Sustainable Food Systems.

Two continuing Wells students have formally declared the sustainability minor. A number of other students who have not yet formally declared the sustainability minor have already taken the required (SUS 101) *Introduction to Sustainability* class and verbally expressed their intent to fulfill the requirements for the minor. Some of those students have also completed or been approved to complete a required sustainability internship (SUS 290), signaling their even stronger intent to complete the minor (*see chart, page 2*).

Enrollment in the required (SUS 101) *Introduction to Sustainability* class has been consistently strong. In 2014, the first time the course was offered, the course was capped at 16 students. 15 students enrolled, with 14 students successfully completing the class. In 2015, when the enrollment cap was raised to 24, 24 enrolled, one withdrew, leaving 23 students completing the class. For Fall 2016, again with a course enrollment cap of 24, 7 continuing students have so far enrolled, with a number of first year students expected to enroll over the summer. A smaller class size for SUS 101 is actually preferred, both for pedagogical reasons and because the Sustainability classroom in Zabriskie 212 only holds 16 without bringing in additional tables and seating from the outer lounge area.

From the SUS 101 course evaluations, in Fall 2014, five students indicated they took the course as a major/minor requirement, with seven others taking the class simply because of their interest in the topic. In Fall 2015, 10 respondents indicated that completing the major/minor requirement was one of their reasons for taking the course; nine others indicated they took the course because it was of topical interest. This seems to signal a steady growth in both general interest in sustainability and specific interest in pursuing further academic study in the field.

However, the relatively high number of students indicating they are taking the course for major/minor requirements signals some disconnect, with far fewer students actually declaring either the *Sustainability* major or minor or the *Sustainable Food System* minor. Student course evaluations indicate that students would recommend this *Intro to Sustainability* course to their peers (4.5/5 in 2014; 4.89/5 in 2015).

We do not have similar course evaluation information for the other required courses in the Sustainability major, but they are all common, foundational courses for other academic programs (Economics, Environmental Science, Psychology), so are typically heavily subscribed.

No Sustainability major has yet taken the required SUS 401 *Capstone Project in Sustainability*, but the sole declared major is already beginning to develop her project of a potential campus “tiny house” residential experience.

One of the initial assignments for the (SUS 101) *Introduction to Sustainability* course has been to have all participants complete a nationally delivered **Sustainability Literacy Assessment** survey, measuring respondents’ current knowledge within the three domains of sustainability: environmental, societal, and economic. The results of that survey assessment have been instructive.

In Fall 2014, of the 30 questions (10 in each sustainability knowledge domain area), the average number of correct responses was 17.85, or a 59% success rate. That class population was mixed, with four freshman, 4 juniors, and 5 seniors taking the course. Interestingly, the freshman cohort, with two environmental science majors among their numbers, scored above the class average (18.75). The senior cohort in the class scored somewhat higher as well (19.2). Interestingly, among the junior cohort, which scored the lowest (15.25 average), two of the four students indicated they were majoring in an individualized major in business/entrepreneurship with a minor in sustainability. We did not conduct a post-course re-test of that sustainability literacy assessment, which would have been useful, nor did we do a comparative breakdown by each sustainability knowledge domain area.

In Fall 2015, using that same sustainability literacy assessment tool, the overall scores were 20.33 or a 70% success rate. This class was more mixed, with only one freshman, two sophomores, five juniors, and ten seniors. Among this group, sophomores did better than the group (21.8); three of them were natural science majors (biology/environmental studies/environmental science). Generally, the older students with a natural science background performed better (22.1 average) than did students in business (19.0), but even those students performed better than others in the group (18.0 average). Again, we did not conduct a post-course retest using that same sustainability literacy assessment; we have identified post-testing utilizing the same assessment tool as a valuable means to measure progress.

Some faculty members teaching courses in the Sustainability major have agreed to utilize this sustainability literacy assessment starting in Fall 2016 and to conduct a post-course re-testing using this same tool. The data resulting from this sustainability literacy assessment may highlight sustainability knowledge content areas which need strengthening within disciplines. Embedding sustainability content within supporting courses contributes to our majors’ overall sustainability fluency and their ability to synthesize content and achieve deeper learning.

Another requirement for both the Sustainability major and minor program, SUS 290/390 Internship in Sustainability, has been successfully completed by a number of students, even those not ultimately completing the additional requirements for the Sustainability minor. An area for further examination is determining the “pressure points” for students who complete the required SUS 101 Introduction to Sustainability course and a sustainability internship, but who do not then go on and successfully complete the minor (*see chart next page*).

<i>semester</i>	<i>year</i>	<i>course #</i>	<i>Internship description</i>	<i>Grad exp</i>	<i>Minor</i>	<i>Grad year</i>
summer	2014	FOOD 290	Early Morning Farm CSA farm laborer	2015	FOOD	2015
summer	2014	SUS 290	Cayuga Lake Floating Classroom educator	2015	SUS	2015
Fall	2014	SUS 290	Sustainability Center sustainability programs intern	2016	<i>no</i>	2016
Spring	2015	SUS 290	Sustainability Center sustainability programs intern	2015	SUS	2015
Spring	2015	SUS 290	Village of Aurora Farmers Market development intern	2016	SUS	2016
Summer	2015	SUS 290	King Ferry Vineyard sustainable agriculture intern	2016	FOOD / SUS	2016
Summer	2015	FOOD 290	Wells College Campus Garden Internship	2018	<i>no</i>	-
Summer	2015	SUS 290	UW-Stout research project: phosphorus pollution	2016	SUS	-
Summer	2015	SUS 290	Solarize Cayuga internship – <i>not successfully completed</i>	2016	<i>no</i>	2016
Fall	2015	SUS 290	Village of Aurora Farmers Market implementation intern	2016	<i>no</i>	2016
Spring	2016	SUS 290	Recycling program improvement intern	2016	<i>no</i>	2016
Spring	2016	SUS 290	Village of Aurora Farmers Market development intern	2018	?	-
Summer	2016	SUS 290	Village of Aurora Farmers Market management intern	2018	?	-

Program Changes

As noted in the Sustainability Program Review submitted earlier this spring, the sustainability academic program has issues with some elective courses no longer being offered or not being offered with sufficient frequency to allow for a major to readily fulfill the requirements for two courses within their preferred two areas of specialization. Examples are RELG 330 *Native Americans and the Environment*, which has not been offered since 2011, and WGS 285, a topics course that has only been offered once; the instructor has not been renewed.

However, we still await approval from the New York State Department of Education for the Bachelor of Arts in Sustainability. Until/unless that happens, or we receive feedback from NYSED on our proposal, we will not initiate procedures to make substantive changes in those major/minor course offerings and areas of specialization.

In Spring 2016, in order to attract additional student interest to the Sustainability program, we requested and were approved by the faculty to have the SUS 101 *Introduction to Sustainability* class listed as meeting the requirements of the CARS (Critical Analysis and Reasoning) designation within the “*Sustainable Community*” general educational academic offerings. For the future, should interest in the sustainability program grow to such an extent that a spring delivery of the SUS 101 course is warranted to meet demand, we will consider also applying to have the SUS 101 *Introduction to Sustainability* course approved for LGI (Local & Global Interconnections) designation, since the course activities very much interrogate that concept of interconnectedness. To date, enrollments for the SUS 101 course, while meeting the enrollment cap, have not engendered significant wait lists.

For 2016-17, we will attempt to capture more discrete data on the movement of declared majors and minors through the Sustainability academic program, to determine what are preferred content specialization pathways, and perhaps seeking to make the major more prescriptive and less self-designed, with the goal to assure more integrated delivery of knowledge content among the three domains: environmental, social/human, and economic. In addition, we will seek to collect data to understand why some students start the minor track, including taking the SUS 101 course and completing the SUS 290 internship, but do not then complete the remaining requirements for the minor. This need for better data is also spelled out in the 2016-17 Sustainability Assessment Plan.

Sustainability Program Coordination/Planning

When the program faculty met, beyond developing the major assessment plan, we identified some additional planning and data collection efforts that need to take place in the near- and longer-term:

- 1) ***Schedule to regularly meet together as a group.*** The purpose of these meetings will be to discuss issues, concerns and to evaluate sustainability program curricula and develop opportunities to strengthen sustainability teaching.

Marian Brown will devise a schedule, convene those meetings and report on the discussions/actions.

- 2) ***Actively work together to avoid course scheduling conflicts for required courses within the Sustainability major.*** Faculty have already begun to do such scheduling checks with one another to especially avoid conflicts among required courses and electives that are not offered frequently and/or regularly (e.g. *Comparative Environmental Policy Analysis, Sustainable Agriculture, The Pacific and Cultural Survival*).

This course scheduling process will be undertaken by the involved faculty during sustainability faculty meetings each semester before class information is due.

- 3) ***Develop new or highlight existing sustainability learning objectives for required and elective courses.*** These sustainability learning objectives will be in addition to discipline-specific learning objectives. This information will be added to course syllabi and, where faculty deems it appropriate and useful, to individual course lesson plans. Faculty is encouraged to continue to integrate content from all three sustainability knowledge domains into related courses. Faculty will develop appropriate teaching methods to assure that students achieve those student learning outcomes, and will develop appropriate means to measure the degree to which students have successfully learned related content. Faculty are strongly encouraged to develop student learning outcomes that demonstrate effective synthesis of knowledge from among the three domains, leading to a deeper understanding of the intricacies and complexities of sustainability thinking and practice.

All involved faculty will do this and submit their revised student learning objectives to Marian Brown for collation and progress reporting.

- 4) ***Develop and regularly deliver a standardized Sustainability Literacy Assessment instrument with both pre- and post-testing in each required course.*** This sustainability literacy assessment tool may be the one already in use in SUS 101 or, in the future, the faculty group may jointly develop a new assessment tool that better gauges student learning of concepts within all three knowledge domains of sustainability: environmental, social/human, and economic. Results of these standardized assessments may help inform faculty of content areas they may want to introduce or reinforce within their disciplinary courses, and may assist with efforts to better “scaffold” knowledge delivery among courses within the major.

All involved faculty will deliver the assessment survey using a Survey Monkey created by Marian Brown; results will be viewable by Marian for collation and progress reporting.

- 5) ***Capture relevant assessment data from each required and elective courses within the major.*** Use this data to review and perhaps revise the sustainability major and minor curricula. Such data will minimally include, but may not be limited to:
 - Course enrollment – course completions (grading distribution), course withdrawals, incompletes
 - Student/class projects demonstrating effective synthesis of sustainability content from among the three sustainability knowledge domains, including grade distribution
 - Sustainability Literacy Assessment pre- and post-testing results
 - Student course evaluations, specifically seeking results for:
 - Question #1: Reason(s) why the student took the course (college requirement, major/minor requirements, elective within major, topical interest)
 - Question #24: Development of writing skills
 - Question #25: Development of oral presentation skills

- Question #26: Development of critical thinking / analytical skills
- Question #27: Development of quantitative / formal reasoning skills
- Question #28: Development of understanding of diverse perspectives/ peoples
- Question #29: Development of aesthetic awareness / understanding
- Question #30: Development of Sustainability Understanding

Add this additional question to the standard course evaluation form asking about the students' perception of the degree of their sustainability understanding.

Note: if the instructor already uses question #30 to elicit feedback about their students' understanding of discipline-specific content, this could become question #30-B.

- Question #31: The degree to which the student would recommend the course to peers.

All involved faculty will submit this data to Marian Brown for collation and progress reporting. Only the evaluations from the most recent semester in which the relevant course was delivered will be included.

- 6) **Capture data on student pathways through the Sustainability academic program(s)**, including but not limited to the following:
- other majors/minors students attach to the Sustainability major/minor
 - relative popularity of areas of specialization within the major/minor
 - popularity of elective courses within the major/minor
 - status of declared majors and minors
 - reasons for lack of success in achieving the major or minor (“pressure points”)

Marian Brown will seek relevant data from the Registrar's office and individual faculty, as well as anecdotal reports from students to faculty advisors, and will collate the data for progress reporting.

- 7) **Revise the Sustainability major/minor requirements.** Such revisions may include removal of courses no longer offered (or courses offered too inconsistently offered to be useful) and addition of relevant courses, as appropriate (e.g. FOOD 285 Selected topics: Intro to Fall Gardening). As noted earlier and in our Sustainability Program Review, the sustainability major (and the sustainability minor) has issues with some elective courses no longer being offered or not being offered with sufficient frequency to allow for a major to readily fulfill the requirements for two courses within their preferred two areas of specialization.

The involved faculty will review and revise the curriculum as a group and submit proposed changes for further review and approval.

Note: This action is contingent upon NYSED approval of the *Bachelor of Arts in Sustainability* this year.

Future action plans the faculty identified that may begin this year but are not expected to be completed include:

- 1) **Develop proposals for team-taught courses that explore big sustainability challenges** (e.g. climate change, environmental racism) through multiple disciplinary perspectives.
- 2) **Continue to explore means to formally recognize faculty who contribute required and elective coursework to the sustainability curricula.** Minimally, the Center for Sustainability will include this information in the section of its website devoted to Sustainability Academics.
- 3) **Develop an inventory of specific sustainability knowledge acquired and skills developed through successful completion of each required course in the major / minor.**
- 4) **Explore LGI course designation for SUS 101 Introduction to Sustainability.** The course content fully interrogates Local & Global Interconnections. However, since LGI courses are only offered in spring semesters, this move would only be undertaken if/when course enrollments warrant adding a spring section of SUS 101 in order to meet student demand. However, this move could further broaden the appeal of the sustainability academic program to those meeting general education requirements.

Respectfully submitted by Marian Brown, May 31, 2016