The
UNIVERSITY
of VERMONT

FACULTY SENATE

Minutes
April 7, 2014

Senators in Attendance: 59

Absent: Ross (FPPC), Prue (SAC), Mierse (Art), Silveria (Biochemistry), Eastman (CDAE), Liptek (Chemistry), Favro (Communication Sciences), Smith (Education Rep. 1), Salambier (Education Rep. 2), Welch (English Rep. 1), Mehrtens (Geology), Okech (Leadership and Developmental Sciences), Buzas (Mathematics and Statistics Rep. 1), Weiss (Medicine Rep. 1), Hehir (Neuroscience Rep. 2), Tyzbir (Nutrition and Food Science), D'Amico (Pediatrics Rep. 2), Wittpenn (Pediatrics Rep. 2), Chan (Philosophy), Headrick (Physics), Green (Radiology), Wu (Rehab and Movement Science), Brennan (Religion), Fletcher (Engineering Rep. 2), Danigelis (Sociology), Adams (Surgery Rep. 1), Couch (Surgery Rep. 2), Schapiro (Anesthesiology), Contampasis.

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Meeting began at 4:02pm

1. **Approval of the Minutes.** The minutes of March 10, 2014 were approved with one correction.

2. **Senate President's Remarks.** President Roberts announced how there needs to be a new Faculty Senate president for next three years. Guest speaker from the University of Minnesota, Julie, will be speaking about IBB on April 30th. We are getting a new e-mail and calendar system; Julie asked if anyone wants a say in the new calendar system to let her know. Julie introduced Susan Weir, who are seeking departmental partners about disciplinary expectations.

3. **President & Provost Remarks.** President Sullivan used his time to speak briefly about the nest dean of the Rubinstein school, which is Nancy Mathews. He mentioned how the committee has nominated its first African American to have grated UVM: Andrew Harris. He talked about what's going with the 40% rule; instate tuition cannot exceed 40% of out of state tuition. The house has passed the proposal about online courses and grad. Courses to have courses tuition lower for out of state tuition. Has the full support of the governor. Chris Lucier will be leaving-John Ryan will be replacing him. The dean of the honors college has decided to step down; there will be an interim position for that followed by a national search for permanent replacement. The VT Law School and UVM: there might be a major announcement about problems between the two institutions. We have been looking for an academic program addition. He thanked the

leadership of the Senate and how there will be the Faculty Senate dinner tonight. He said how the faculty is the core of the university and that we wouldn't be where we are now if it wasn't for their dedication and love for what they do.

4. **Curricular Affairs** Cathy Paris, CAC chair, announced that the ALANA name will be changed to CRESP: Critical Race and Ethnic Studies Program. Two reasons are 1). It implies that there are not overlapping categories into which the people assort. The new name encapsulates the new state of the discipline. It removes its emphasis from strictly U.S. based categories. Many of us do not identify to only one particular identity. 2). There is a center on campus, and lots of mistakes are made; people end up going to the student center. Question was why it is called "critical?" Critical as in the sense that there are distinct racial categories. VOTE: PASSED; two abstentions. In the college of arts and sciences; the dept. of music and dance- Cathy Paris mentioned how music is changing, and music technology is taking a more important role. A number if institutions in our state such as Johnson and Lyndon state have music technology programs. The funds are in place to do that, and student interest in it is very strong. VOTE: PASSED.

5. **The General Education Sustainability Motion.** Laura Hill-Bermingham from Plant Biology and dean Wang, co-chairs of the General Education Committee on Sustainability came out to speak in regards to the motion of the new Sustainability curriculum; they asked to bring two motions to vote and provide some historical data. The historical part: Sustainability encompasses environmental, social, and economic aspects. In 2010, the SGA supported a resolution to pass a sustainability requirement; for it to be included in the general education plan. She mentioned notes from the last meeting from March. The Sustainability requirement could be met in a multitude of ways: through their curricular and/or co-curricular activities. The 2014 resolution: Sam Gasy: He said it was passed because "we students believe that it would be a lot more valuable to us to not just take an S1 class, but rather understand how sustainability correlates to what we are studying in particular." He explained how it would benefit them personally as individuals as well. Laura took back over: The most resent resolution supports all four learning outcomes and adopting a curricular approach. There are a variety of disciplines with the Sustainability theme: religion, physics, education, biology, business, etc… so there are many ways where Sustainability can be imbedded into everyone's curriculum. Multiple volunteer programs that have volunteered for review: environmental studies, plant biology, Rubenstein school of Civil and Environmental Engineering. For co-curricular review, there are three programs that are willing to collaborate: The Davis Center leadership team, the Eco program, and the prineal internship program, which is an internship through the Rubinstein school. Laura asked to vote on two motions: 1). To adopt the sustainability learning outcomes 2). Motion to move ahead with this curricular and co-curricular review; to continue the process that they have already begun. Julie mentioned how they did the same thing with a previous writing program in terms of asking for interim approval as opposed to approving the whole thing which would include the date of approval. Lots of questions followed about the next steps in terms of making it a circular requirement. Laura responded with asking for approval for gathering the base line data. The dean mentioned that the particular motion is for approval for this sustainability review curriculum.
VOTES: Both votes PASSED.

6. **Academic Calendar.** Julie began with a few remarks. One is to start the academic calendar earlier in the summer. The second is to go later in December, but because the calendar fluctuates, there will become a day when grades will be due on Christmas eve. The third is to have class on Labor Day which would give flexibility for a fall break. If they were to do that now, classes would be in session, and all other staff would be off. In order to implement that kind of change, it would have to go through the various contract negotiations with the unions. Having gone through that, there are three possibilities for fall. One is to leave the fall semester as it is, so having Labor day off, no fall break, a week for Thanksgiving, and having the reading days stand as they are. Two would be to implement a fall break, leave the Thanksgiving break at five days, and take off one reading day. Keith added that the spring term in the calendar is seventy-one days long; the fall calendar is sixty-seven days long. So to simply add in a fall break day would undermine the number of teaching days of the fall term. Julie went back to her speech. She said option three would be to institute a fall break, revert to a three day Thanksgiving break, and keep the reading days as they are. Keith answered questions. Questions from people regarded leaving the dorms available to students so they don't miss classes and having a midweek start. The midweek start is needed for the custodial staff to get ready. Also, they like to build calendars that start on Monday and give students a full week of classes. It was also noted that many schools start school on Labor Day so that is a possibility. Not having Labor Day means more drinking for students. Someone also asked about having Thanksgiving on Canada's holiday. Overall, there was a lot of concern about the days off and preserving the holiday of Labor Day. They had a vote based on all three options, with a YES to having Julie and check with registration to see if students will be able to have class on Labor Day.

7. **New Business.** There was no new business at this time.

The meeting was adjourned at 5:25 pm.

Faculty Senate Feedback on Academic Rigor: 3.10.14

- Two years ago students complained that their core courses were "over-rigorous"
- Students complain that there is too much reading in classes
- It is hard to do small group discussions in large courses that do not have T.A.'s
    - Cannot expect more rigor without resources, bigger classrooms, etc.
    - A flipped classroom may help this
- Do students really want more rigor, or is this just the latest buzz?
- By comparison, Honors College students are very motivated. Can we subset out these students and see their perceptions of academic rigor at UVM?
- Perhaps in the survey it would be more useful to compare their junior to their freshman year instead of senior year with freshman year.
- Faculty raises are tied to student satisfaction, yet we are encouraged to raise expectations; there's a "students are customers" mentality.
    - There are different incentives for rigor for tenured faculty then for lecturers, whose job security is tied to positive student evaluations.
        - Chairs and supervisors need to support junior faculty who are rigorous and have high expectations.
- 40% of grades assigned at Brown last year were A's; this is not a UVM-specific problem.
- Academic rigor is easier to achieve in professional schools where students are more focused on what they want.
- There's only so much a faculty member can do, there need to be clear expectations for the role the student needs to play in learning, and we need to make these expectations a part of the class culture.
- What prevents the students from excelling? We try so hard… where's their energy and interest? Where is the investment?
    - Motivation is an issue
- Honors College takes the best students out of the classroom; they are the ones who raise the bar for other students.
- Who is Admissions accepting? Why does UVM accept from the bottom third?
- How do we attract the top students? Maybe we should try to suss out the work ethic of students applying to UVM?
- If academic rigor is important to us, then we ought to be marketing ourselves as an academically rigorous institution.
- Comment: "If I held students to the same standard now as I did in 1980, I wouldn't have students and wouldn't have a program."
- At what level do you teach mixed classes; keeping 200 graduate level courses open to undergraduates and keeping it academically rigorous for grad students.
- Do metrics such as enrollment affect academic rigor?
- Students are not reading and not coming prepared to class; faculty are modifying their classes rather than withholding expectations.
- Teacher evaluations should include: "Did you learn a lot?"
- Students can hide in big classes

- Students don't always value their experience; do not see the cause and effect of not going to class vs. not doing well
- Exam questions could be measured using Bloom's taxonomy, and rigor would be proportional to the average ranking of the exam questions.
- Barriers to enhancing rigor?
  - RPT
  - Class size
  - Some units are more rigorous than others
  - Too much reading required
  - Increasing student to faculty ratio makes it hard to maintain rigor
- There needs to be communication to students that there is a tradeoff between in the moment satisfaction and long-term rigor
- Innovative teaching may provide a way to increase rigor even in larger classes
- Too much rigor gets poor reviews
- We must separate student perceptions of fairness and rigor
- Faculty members who stress rigor tend to get lower student evaluations
- What are the incentives for attending programs and trainings to become better teachers?

Memo To: The Faculty Senate

From: The Curricular Affairs Committee of the Faculty Senate, Cathy Paris, Chair

Date: March 17, 2014

Subject: Approval of a proposal to change the name of the ALANA U. S. Ethnic Studies program to the Critical Race and Ethnic Studies (CRES) program

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The Curricular Affairs Committee at its meeting of March 13, 2014 unanimously approved the action recommended in the following memo.

The most important justification for changing the name of the ALANA U. S. Ethnic Studies program to the Critical Race and Ethnic Studies (CRES) program is that the new name is a more accurate reflection of the current state of the discipline and the intellectual orientation of the program faculty.   First, the ALANA acronym, which stands for African American, Latino/a American, Asian American, and Native American, suggests that there are stable, absolute, and readily discernable differences between the racial groups represented by each letter, which is not the case. Second, the program no longer plans to limit its curricular offerings to representations of these four groups: the name is ultimately more exclusive than inclusive. Third, ALANA leaves no room for the representation of multi-racial identities, groups that are commanding the attention of an ever-growing body of scholars. The proposed name change signals the intention of the program to expand its investigation of racial identity beyond the arbitrary boundaries of American racial categories. Programs that bear similar names are thriving at peer and aspirant institutions such as Washington State, University of New Mexico, Rutgers, and UC Santa Cruz.

A second, quite practical, justification for changing the name of the program is that students often confuse the ALANA U.S. Ethnic Studies program with the ALANA Student Center. The conflation of the two creates problems for students, some of whom have explained that, had they known that ALANA U.S. Ethnic Studies was not somehow an extension of the ALANA Student Center, they might have chosen an ALANA minor.

A new prefix, CRES, is also requested at this time.

Agreeing that the proposed new name is a better descriptor of the mission and philosophy of the program as well as a more distinctive label, the Curricular Affairs Committee of the Faculty Senate unanimously approved the name change request at it meeting of March 13, 2014.

Memo To: The Faculty Senate

From: The Curricular Affairs Committee of the Faculty Senate, Cathy Paris, Chair

Date: March 17, 2014

Subject: Approval of a proposal for a new concentration and a new minor in Music Technology and Business, Department of Music and Dance, College of Arts and Sciences

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The Curricular Affairs Committee at its meeting of March 13, 2014 unanimously approved the action recommended in the following memo.

The Department of Music and Dance, College of Arts and Sciences, has submitted a proposal for a Bachelor of Arts in Music with a new Concentration in Music Technology and Business and a a second proposal for new Minor in Music Technology and Business.

Overview: The proposed new concentration and new minor have the same objective, to train students for a career that utilizes modern music technology for a career in the music business. The current degree in Music focuses on more traditional elements of music, namely the history, theory and performance of music. Previously, the Department of Music and Dance offered only one introductory course in music technology. With technology becoming more integral to the creation and performance of music, students are looking for institutions with more comprehensive offerings in the area of music technology. The new degree concentration and minor will allow students to gain the knowledge and experience for a variety of careers in music, from local studio recording to composing for films, allowing them to tap into the abundance of jobs in the growing market of music technology.

Objectives of the proposed concentration and minor are:
- To train students for a career that utilizes modern music technology in music business
- To provide education designed to make UVM Music majors more competitive in the job market
- To prepare students for advanced degrees in Music Technology, Recording Technology, and Music Business

Rationale for the Program: Demand for the new concentration and new minor is evident, as music technology has become an essential component of both artistic music and commercial music. Several programs in our region offer a degree in either music technology or music production, and have recording studios and dedicated music technology faculty to support a music tech program. Prospective students ask about music technology opportunities at UVM and some students have left UVM to pursue music technology elsewhere.

Program Administration: Dr. Yutaka Kono, Assistant Professor and Director of Orchestra/Assistant Professor of Music and Department faculty.

Program Structure: The new concentration will require 41 credits with 6 credits in Music History, 8 credits in Music Theory, 8 credits in Performance Study, and 19 credits in Music Technology and Business. These last 19 credits come from two existing courses and six new proposed courses, along with either a one-credit senior project in Music Technology or a one-credit Music Technology internship. For the senior project, students will be expected to produce a near-professional album-length recording (45-60 minutes) or a substantial live performance using audio/visual technology. The internship will provide supervised fieldwork, giving the student experience in specialized areas.

The new minor in Music Technology will require 18 credits, to include one 3-credit course in Music History or Literature, one Music Theory course, two required courses in Music Technology and Business (MU185 and MU060), and 6 additional credits from the proposed Music Technology and Business courses. Current Music majors are not eligible for the minor in Music Technology and Business.

Resource Requirements: Two smaller studios will be remodeled into one larger recording studio. The cost of renovation is approximately $75,000. There will also be an initial cost of approximately $27,000 for recording studio equipment. The Technology Innovation Fund (supported by the Student Technology Fee) will provide $30,000 toward the recording equipment. The College of Arts and Sciences has agreed to commit $35,000 and the Provost's Office has agreed to provide $45,000 toward the cost of the studio renovation. The department has budgeted $2000 per year for equipment maintenance and software upgrades, as well as an additional $2500 to replace the recording studio computer following a typical computer replacement cycle.

Program Assessment: The new concentration and minor in Music Technology and Business will be reviewed on the standard eight-year Academic Program Review cycle.

Proposal Review Process: A subcommittee of the Faculty Senate Curricular Affairs Committee was charged on November 14, 2013 with the review of the Music Technology and Business proposals. Over the course of the next three months, the review subcommittee exchanged emails with the program and the School of Business Administration in order to resolve a set of issues around courses, faculty, and resources for the new programs. These clarified to the satisfaction of all concerned, the subcommittee recommended approval of the proposals to the full CAC at its meeting of February 13, 2014. The full committee requested additional information around several points, which the subcommittee obtained and then revised its report accordingly. The CAC voted unanimously to approve the proposal at its meeting of March 13, 2014.

Proposal for Sustainability Learning Outcomes for UVM

**With Recommendations for Implementation and
On-going Review and Assessment**

Submitted by the
Ad-hoc Senate Committee for Sustainability Learning Outcomes

Co-chairs
Laura Hill Bermingham, Deane Wang

Committee
Sam Ghazey (SGA representative), Stephanie Kaza (Environmental Program and
Faculty Fellows Program, Director), Brian Lee (CEMS-School of Engineering),
Marilyn Lucas (BSAD), Rycki Maltby (CNHS-Nursing), Lisa Watts Natkin (GSS
representative), Tarah Rowse (UVM Office of Sustainability, and Committee staff),
Allan Strong (RSENR), Leon Walls (CESS-Education), Laura Webb (CAS-Geology),
Sandy Wurthmann (CAS-Chemistry), Christine Vatovec (COM-Pathology)

Executive Summary

The University of Vermont has been pursuing General Education Learning Outcomes
for all undergraduate students at UVM. This report includes 1) a proposal to the
Faculty Senate to approve four Sustainability Learning Outcomes (SLO) with
recommendations for implementation, 2) a description of the background and
committee work leading up to this proposal, 3) a recommendation for a
Sustainability Learning Outcomes Curriculum Review Committee, and 4) a
recommendation for a university-wide assessment procedure for these learning
outcomes.

Preceded by an SGA resolution for a sustainability general education requirement
for all UVM undergraduates and a Senate approved Writing and Information
Literacy requirement, the work of the Ad-hoc Sustainability Learning Outcomes
Committee began on 30 November 2012. The Committee met approximately bi-
weekly each semester up to the Spring of 2014, with representation from all

colleges and schools and relevant institutional organizations. The Committee created a wiki website for educating the UVM community about a) sustainability learning outcomes, b) work on this topic at colleges and universities nationally, and c) the ongoing work of this Committee. Members of the Committee met with their respective academic constituencies during academic year 2013-14. The Committee presented to the Senate four times and held two open-forums in Spring of 2014 for UVM community input. In addition, a Blog was open from Fall of 2013 to mid-Spring of 2014 to solicit input from the UVM community. Materials/slides from the Senate presentations are linked from the website and a summary and archive of all comments received via the blog, representative meetings, and open forums are in an appendix to this report.

The UVM community was generally very supportive of the proposed learning outcomes, and we received many helpful comments. No major changes in the learning outcomes were requested. Some minor changes are included in the report as examples of the type of feedback and response the Committee pursued. The SGA adopted a Resolution endorsing the Sustainability Learning Outcomes on 25 March 2014. The outcomes were organized into four components (knowledge, skills, values, and the personal domain). A preamble was added to the outcomes to provide context and some explanation of sustainability, and it was felt by the Committee that this preamble should accompany the learning outcomes as presented to incoming students.

The final outcomes are presented to the Faculty Senate for approval at the 14 April 2014 faculty meeting. There might be some concern that the University is not ready to implement these general education learning outcomes. The analysis by the committee, presented in the proposal below, suggests that UVM is in a very good position to implement this proposal, given the acceptability of some interim conditions.

1. Proposal to the Faculty Senate

The Ad-hoc Senate Committee for Sustainability Learning Outcomes recommends to the Faculty Senate to approve the following learning outcomes as a general education requirement for all incoming University of Vermont undergraduate students beginning in Fall 2014. We suggested that these Sustainability Learning Outcomes be accompanied by a Preamble to provide context and explanation for the desired learning outcomes (as presented below). The motion then reads:

> *Whereas the University of Vermont has made numerous curricular and operational commitments to sustainability and the environment (e.g., taught over 50 sustainability-focused courses - AY2013, is a member in the AASHE STARS program - 2013, created a LEED Silver Building Policy - 2011, committed to climate neutrality by 2025 in its Climate Action Plan - 2010, supports a Sustainability Faculty Fellows Program - 2009, signed the American College and University President's Climate Commitment - 2007, created and continuously funded an Office of Sustainability - 2007, has one of the nation's first Environmental Studies Programs - 1972),*
>
> *Whereas the Student Government Association (SGA) has an ongoing commitment to a sustainability general education requirement as signified by their 2010 resolution for "the creation of a university-wide sustainability curricular requirement," and their March 2014 resolution that "endorses all four learning outcomes,"*
>
> *Whereas the Faculty Senate has been receptive and supportive of Sustainability Learning Outcomes as presented to the Senate four times over the past two academic years,*
>
> *Be it resolved, that the Senate approves the following four Sustainability Learning Outcomes,*
>
> *Be it further resolved, that the Ad-hoc Sustainability Learning Outcomes Committee work with the Office of Sustainability to grant interim AY 2014-15 approval of a subset of the 55 UVM STARS sustainability-focused courses that closely meet the four Sustainability Learning Outcomes and also solicit curricula for approval from any interested departments. And, that they work together to create a Sustainability Curriculum Review Committee (SCRC) that would begin its work in Fall of 2014 to review course, curricula, and co-curricular proposals for meeting the Sustainability Learning Outcomes. The SCRC will report their efforts the Faculty Senate Curricular Affairs Committee.*

<u>Preamble</u>

As stated in Our Common Ground, "The University of Vermont is an educationally purposeful community seeking to prepare students to live in a diverse and changing world." In the context of the emerging challenges of the 21st Century, this preparation includes envisioning and planning for a sustainable society. In addition, Our Common Ground speaks to "the transforming power of education." Thus UVM's vision for sustainability embraces the goal of educating all of its students to understand and contribute to the sustainability of human society. That is, we recognize that the pursuit of ecological, social, and economic vitality must come with the understanding that the needs of the present be met without compromising the ability of future generations to meet their own needs. Through its General Education Initiative, The University of Vermont will integrate its sustainability vision across curricular and co-curricular activities. Whatever their chosen discipline, each student will demonstrate their mastery of the defined learning outcomes in the *knowledge, skills* and *values* categories, as well as the *personal domain*.

Students who are prepared to address the challenges of creating a sustainable world have <u>knowledge</u> of current issues in sustainability and the social, ecological, and economic dimensions of these complex problems. With the knowledge gained through coursework from varied disciplines, students develop the <u>skills</u> to engage in rigorous and complex discussions around creating sustainable solutions. Coursework and experiences in sustainability are meant to widen social, historical, and cultural perspectives and strengthen students' ability to negotiate multiple <u>values</u> that routinely come into play when planning for sustainability at the local, regional or global scales. Students connect conceptual learning to challenges and opportunities in the world outside of the university classroom by critically analyzing their own experiences in order to make sustainability meaningful and guide their <u>personal</u> actions.

The Sustainability Learning Outcomes

• **Learning outcome 1:** *Students can have an informed conversation about the multiple dimensions and complexity of sustainability. (knowledge category)*

• **Learning outcome 2:** *Students can evaluate sustainability using an evidence-based disciplinary approach and integrate economic, ecological, and social perspectives. (skills category)*

• **Learning outcome 3:** *Students think critically about sustainability across a diversity of cultural values and across multiple scales of relevance from local to global. (values category)*

• **Learning outcome 4:** *Students, as members of society, can recognize and assess how sustainability impacts their lives and how their actions impact sustainability. (personal domain)*

Next steps for implementation

The University of Vermont is in a good position to implement and maintain these general education learning outcomes. a) The ad-hoc committee could perform some interim curricular, course, and co-curricular review, b) the Sustainability Faculty Fellows program could continue to do its Professional Development work with this more targeted set of learning outcomes and also support departments in pursuing approval of curricula meeting the requirement, and c) the Office of Sustainability could continue to support administrative needs of the sustainability curriculum.

a) As part of the University of Vermont's participation in the Association for the Advancement of Sustainability in Higher Education's (AASHE) **Sustainability Tracking, Assessment & Rating System™** (STARS) courses offered by the University of Vermont have already undergone a review process. 184 courses were reviewed out of the 2,589 offered in AY 2012-2013. Of these, 55 courses were considered to be "sustainability-focused" and 52 "sustainability-related." The 55 courses that are sustainability-focused could be reviewed by the existing ad-hoc Sustainability Learning Outcomes committee to provide a sub-set that could be submitted to the Senate Curricular Affairs committee for approval as "interim courses" for AY 2014-15. Thus, for example, if 40 were approved with an average enrollment of 40, this would provide 1600 available seats for meeting the requirement through the course mechanism.

b) In its sixth year of providing faculty professional development, the Sustainability Faculty Fellows program has offered to modify its programming to include working with curricular teams from Departments to integrate Sustainability Learning Outcomes into a major or other curricula. Some departments and programs have already volunteered to proceed with this review. With over 80 faculty in 22

departments that have already completed this faculty development program, both course and curricula development is well-supported at UVM. Co-curricular possibilities could also be reviewed on an interim basis through targeted study of programs pursuing or closely related to sustainability initiatives. A few that seem particularly relevant are: EcoReps, RSENR Perennial Internships, the SGA leadership training through Student Life, and the Davis Center leadership training.

c) The Office of Sustainability currently supports many sustainability initiatives across campus. One of its current functions is to support the administrative needs of this Committee. A graduate fellow, Tarah Rowse, has been doing excellent service in supporting the needs of this committee and its work to develop the Sustainability Learning Outcomes through its various subcommittees and committee of the whole (this work described in detail in Part 2, below). A graduate fellow for summer and AY 2014-15 has been to continue this work with the Sustainability Curriculum Review Committee (SCRC). This Committee could be convened in the early part of Fall 2014 to begin work on course and curriculum. With about 10,000 undergraduates and assuming perhaps 70% moving through the course pathway to achieve the learning outcomes, an average of 1,750 sustainability seats in courses would be needed each year (note: the interim approval of courses could make as many as 1,600 seats available for AY 2014-15, majors that might seek curricular approval include Environmental Studies majors, Environmental Science majors, Sustainable Business, Rubenstein School, Sustainable Landscape Horticulture major, Ecological Agriculture major, Community and International Development major, Food Systems minor, Leadership for Sustainable Food Systems certificate).

The Transfer Problem

From the students' perspective, one of the benefits of university-wide general education is to allow for transferability across majors, as students frequently change majors, schools, and colleges. The multiple pathway approach (courses, curricula, co-curricula) could create difficulties for students transferring out of a program that used a curriculum approach into one that did not. Having only taken part of a curriculum that integrated sustainability learning outcomes into several courses, the student may not have the full exposure to the intended content. In this case, the student may have to take a course to demonstrate exposure to the full set of learning outcomes. A student moving from a major implementing a curricular approach to the learning outcomes to another major using the same mechanism, would not have this problem. Resolving these types of issues would be part of the Fall 2014 work of the SCRC to both review courses, curricula, programs and develop policy for the variety of issues that invariably arise in a complex institution.

In summary, the University of Vermont is in a good position to transition to a Sustainability Learning Outcomes General Education Requirement in the next two academic years.

2) Background and Committee Work

I. General Education Background

Taking responsibility for curricular reform relative to General Education, the Faculty Senate initiated its process in Fall of 2011. Prior to that step, a joint administrative and faculty committee worked on developing the UVM General Education concept from 2009 to 2011. An overview of that process is available on the Faculty Senate pages:

(http://www.uvm.edu/~facsen/generaleducation/?Page=genedarchives20092011.html)

The University of Vermont has committed to a Learning Outcomes approach to its General Education requirement. Other universities have chosen a course-based approach to General Education whereby students need to choose one or more courses in a topical/subject area. This has saved those institutions the process of specifying the detailed or general learning outcomes expected from those courses. UVM's approach is more flexible, allowing courses, curricula, co-curricular, and extra-curricular activity to provide mechanisms for achieving a learning outcome. This approach does require a commitment to general assessment as without a course format, evaluating the success in meeting learning outcomes requires other strategies.

Updates on the several general education initiatives led by the Faculty Senate are available at:

http://www.uvm.edu/~facsen/generaleducation/

The six overarching learning outcomes, developed in 2010-11 by the Joint Committee on General Education of the Faculty Senate and the Central Administration, were endorsed in principle by the Faculty Senate in May 2011, pending the continuation of an open and inclusive process that would determine detailed implementation and assessment plans to be approved by further votes of the Senate. As the ad hoc Faculty Senate General Education Committee began its work in Fall 2011, it chose to focus its work on "writing and information literacy." That process resulted in the initiation of a pilot phase for first year writing outcomes in AY 2012-13. The committee continues its work on 2nd through 4th year writing outcomes.

II. Student Government Association Resolution

In March of 2010, the Student Government Association introduced and passed a resolution supporting the creation of a General Education requirement concerning sustainability. They felt that it was an important part of the vision of the University

of Vermont and should be part of the 2009-2013 Strategic Plan of UVM. Developing a resolution was supported by a majority of students in their 2009 student survey. The specific resolution is quoted below, with the full resolution included in the Appendices.

> "BE IT RESOLVED that the Student Government Association Senate at the University of Vermont, supports the creation of a university-wide sustainability curricular requirement for all incoming undergraduate students at the University of Vermont."

III. Committee Work

On 30 Nov. 2012 the first meeting of an *Ad-hoc Faculty Senate Committee on Sustainability Learning Outcomes* was held in Memorial Lounge to begin the process of developing the next set of learning outcomes along with implementation and assessment plans. The model process developed by the Writing and Information Literacy Committee were followed as closely as possible for this next step.

Up to the date of this report, the Committee met 17 times to work on the learning outcomes, an implementation plan, and recommendations for a review committee structure and process, and strategies for general education assessment. Agendas and meeting minutes are archived on the Committee workspace on the UVM General Education Wiki that was established to support both the Committee and the UVM Community in its evolving understanding of sustainability and how higher education is including sustainability in various curricula.

http://gened-sustainability.wikispaces.com/

The Committee also met with their respective constituencies in departmental meetings to present and discuss the draft sustainability learning outcomes. In addition, the Committee co-chairs met with the Writing and Information Literacy co-chairs to learn about their process, and also with the Diversity co-chairs to share strategies and approaches.

The Committee felt that providing many different opportunities for UVM community input was critical to the process, so in addition to each representative meeting with the academic departments, the Committee held two Open Forums (February 5 and 19, 2014), opened a Blog for input starting in Fall of 2013, and coordinated with UVM SGA to receive input from student leaders.

http://blog.uvm.edu/dwang-genedsustain/

To keep the Senate apprised of our work, the Committee presented to the Faculty Senate once in the Spring of 2013 (16 May), once in the Fall of 2013 (11 November), and twice in Spring of 2014 (10 February, 10 March) prior to making its proposal scheduled for the 7 April 2014 Faculty Senate meeting.

For an additional review prior to the presentation of the "final" Sustainability Learning Outcomes to the Faculty Senate on 10 March 2014, the Committee utilized an Advisory Committee of faculty and staff in various departments across campus to provide an additional critique of what the Committee had synthesized from the various commentary.

Scott Matter
Teresa Mares
Cami Davis
Robert Bartlett
Luis Vivanco
Lynda McIntyre
Jennifer Cirillo
Cynthia Gerstin-Pepin
Alan Tinkler
Mandar Dewoolkar
Jeff Frolik
Walter Poleman
Gillian Galford
Elizabeth Getchell
Clare Ginger
Thomas Hudspeth

Both the minutes of the Committee meetings and the slides presented to the Faculty Senate are archived on the Committee wiki site.

3) Recommendation for a
Review Committee Structure and Function

The following recommendation could constitute a draft description of the Faculty Senate's review committee for this general education requirement.

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The function of the Sustainability Curriculum Review Committee (SCRC) is to develop, maintain and monitor the portfolio of academic courses and experiences in the Sustainability Curriculum. The SCRC will serve as a sub-committee of the Curricular Affairs Committee of the Faculty Senate. The Office of Sustainability will provide staff support to the SCRC to include proposal process assistance, meeting coordination, and general organizational support.

I. Purpose
- Develop and oversee a phased-in implementation plan for the sustainability requirement.
- Propose suggested changes to the sustainability requirement, as necessary, to the Faculty Senate.
- Solicit, review, and approve proposals for three pathways to fulfill the sustainability requirement:
    - Courses that qualify for designation as a "Sustainability Course."
    - Curricula[1] that qualify for designation as a "Sustainability Curriculum."
    - Co-curricular activities that qualify for designation as a "Sustainability Co-Curriculum."
- Develop and implement a policy for periodic review of approved sustainability courses, curricula, and co-curriculum stipulating revisions as necessary.
- Develop and implement a policy for review and approval of substitutions and alternatives of the sustainability requirement on a case-by-case basis.

II. Membership
1. The composition of the SCRC should be one faculty member from each of the seven undergraduate degree-granting schools and colleges (CALS, CAS, CESS, CEMS, CNHS, RSENR, BSAD) and one to two Provost appointees.
2. The Chairperson of the SCRC shall be appointed from amongst the Curricular Affairs Committee (CAC) and the chair of CAC shall be a voting ex officio member. The Office of Sustainability staff member shall be an official voting member.

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[1] Curricula are defined as majors, minors, programs, themes, concentrations, foci, etc. Curricula would generally be a sequence (must be more than one course) structured through an academic unit.

3. The SCRC will consist of a maximum of twelve (12) members, including academic representatives, staffing from the Office of Sustainability, the ex-officio chair of the CAC, and up to two representatives from the Provost's Office.
4. Members of the first committee will serve staggered terms with a third serving two years, a third serving three years, and a third serving four years. Thereafter all members will serve three-year terms.

III. Meetings
1. There will be at least two meetings a semester to address the functions of the SCRC.
2. The presence of six (6) voting members at any meeting shall constitute a quorum.

IV. Sustainability Requirement Pathways
In order to satisfy the sustainability requirement students must meet all four defined sustainability learning outcomes (SLOs) covering the knowledge, skills, values, and personal domains prior to graduation. There are three approved pathways (Figure 1) to completing the sustainability requirement: 1) completion of a sustainability *course*, 2) completion of a sustainability *curriculum*, or 3) participation in a sustainability *co-curriculum*.

Figure 1: Three Pathways for Completing the Sustainability Requirement
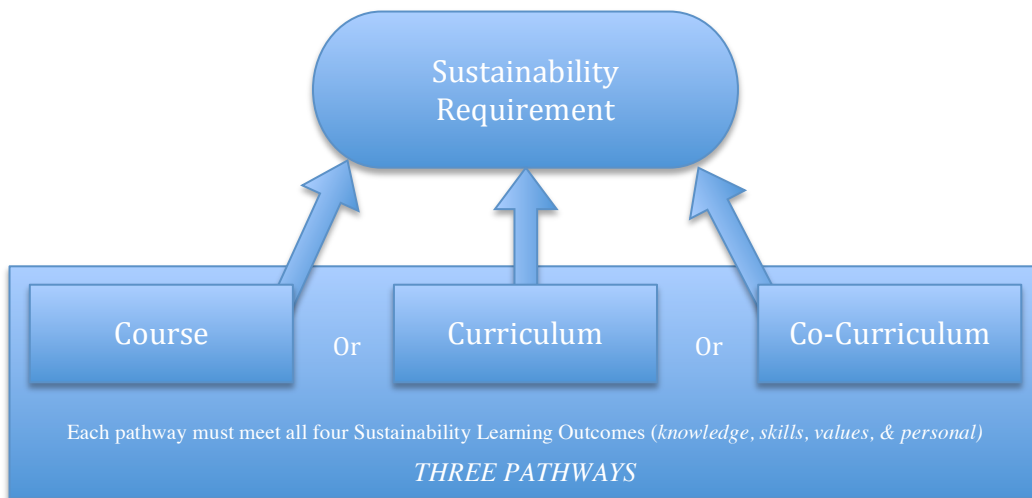
V. Proposals

Sustainability requirement proposals (course, curriculum or co-curriculum) submitted by faculty, academic units, and other responsible leaders should capture the intent of the general education sustainability requirement. There will be four sustainability requirement proposal submission deadlines each academic year. The SCRC will provide example course, curriculum, and co-curriculum proposals and be

available to faculty for process and proposal consultation (staff or subcommittee). The SCRC will approve or reject all proposals in a timely manner, providing explanation for all rejections and guidance for proposal improvement. All proposals must include: 1) an overview statement, 2) a SLO matrix (**Figure 2**), and 3) supporting documentation (i.e. syllabi), which together indicate and justify how the four learning outcomes are being met through varied mechanisms[2]. Proposals need not meet the four SLOs equally. It is up to the SCRC to decide for each proposal if the SLOs are met at a sufficient level to establish coverage and competency. A list of all approved courses, curricula, and co-curriculum will be made publicly available.

VI. Periodic Review

Courses, curricula, and co-curriculum that have been approved must go through a review process at regular intervals. Courses and co-curriculum should be reviewed every three years. Curricula should be reviewed every five years. In addition to a complete updated proposal with current syllabi (when applicable) evidence of learning outcome assessment should also be included. A staggered process of review for the large pool of course proposals submitted in the first year (additional years only if needed) will be established through random assignment at the end of year one. A third of the first-year proposals will be required to submit for re-review at two years, a third at three years, and a third at four years. Thereafter all course proposals will go up for re-review at the regular three-year interval.

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[2] Mechanisms are defined as the course or program component, element, or material that addresses the SLO. Examples of mechanisms are readings, lectures, videos, tours, exercises, projects, assignments, etc.

Figure 2: Example SLO Matrix to be included in a Sustainability Requirement Proposal
(Note: Matrices for curriculum proposals will include a course column.)

Sustainability Learning Outcome	Mechanism	Description of how the learning outcome is met
Learning outcome 1: *Students can have an informed conversation about the multiple dimensions of sustainability and its complexity. (knowledge)*	"Sustainability Buffet" (*activity*)	At the "sustainability buffet", students peruse a variety of written and graphic expressions of what defines sustainability. The definitions include those of individuals, organizations, companies, etc. Students are asked to choose a preferred and least preferred definition to share with the group, explaining why their choices were made. Class discussion and debate follow on the heels of this; students can be prompted to identify common themes, conflicting ideas, etc.
	Mechanism	
	…	
Learning outcome 2: *Students can evaluate sustainability using a disciplinary approach and integrate economic, ecological, and social perspectives. (skills)*	Product life-cycle analysis (*assignment*)	The LCA assignment is a four-week individual assignment resulting in an 8-page paper holistically assessing the environmental impacts of product inputs and outputs from production and distribution to consumption and refuse. Economic and social impacts are also included through critical questioning.

Learning outcome 3: *Students think critically about sustainability across a diversity of cultural values and across multiple scales of relevance from local to global. (values)*	Smart-growth community investigation (*module*)	This three-week unit examines 6 smart-growth community case studies on six different continents (all but Antarctica). Emphasis is placed on showcasing and discussing the role that societal structures, ways of life and cultural values have on sustainable development patterns at the local level.
	Mechanism	
	…	
Learning outcome 4: *Students, as members of society, can recognize and assess how sustainability impacts their lives and how their actions impact sustainability. (personal)*	Ecological footprint quiz (*exercise*)	Students answer questions about their current lifestyle habits, arriving at an estimate of the amount of land and ocean area required to sustain current consumption patterns and absorb your waste on an annual basis.
	Mechanism	
	…	

VII. Specific Proposal Considerations

Courses:
- There should be the option for diversity courses to also be designated as sustainability courses (overlap of D1/D2 and S courses).
- A Course Action Form is required for all course proposals in order for the registrar to administer a course change and provide a sustainability designation.
- Course designations are tied to the course and would be re-reviewed with any instructor change.

Curriculum:
- Each of the four learning outcome may be met by one or more courses.
- Syllabi for all courses in the proposal must be submitted.

Co-Curriculum:
- Coordinators, directors or faculty advisors of co-curricular activities seeking designation as a "Sustainability Co-Curriculum" must submit a proposal to the SCRC to be listed on the approved co-curriculum list.
- A complete overview (with supporting documentation) detailing the program or activity and training components, including the goals and schedule should be provided.

Sustainability Requirement and Transfer Credit:
- A student requesting approval of a transferred course to satisfy the sustainability requirement must submit a petition to the Office of Transfer Affairs.
- If the petition is complete with sufficient justification the petition will be forward to the SCRC for review and determination.
- To be considered for sustainability credit a transferred course must carry at least three credits (or the equivalent).
- A detailed syllabus of the transferred course, along with the statement and SLO matrix must be provided.

4) Recommendation for Assessment Processes

The Sustainability Learning Outcomes Committee is making this recommendation with full knowledge that a university-wide assessment protocol supported through various academic offices at the University of Vermont will probably be needed in the long run to support General Education. Until that point in time, these recommendations might assist the development of that more general assessment process.

I. Overall Assessment Framework

As outlined in the Sustainability Curriculum Review Committee (SCRC) process, there are three approved pathways to complete the sustainability requirement: 1) completion of a sustainability course, 2) completion of a sustainability curriculum, or 3) participation in a sustainability co-curriculum. The overall assessment framework will align with the designation process. For example, the sustainability designation matrix submitted will include a description of the assessment strategy.

There should be a pilot program to explore assessment methods, which will inform the development of the assessment framework structure. Three goals for the assessment framework are keeping it at the course level (close to where student learning occurs), involving faculty in the assessment development, and using existing institutional processes and resources to the greatest extent feasible.

A. Pilot program: Course Level Assessment

The pilot program will explore a variety of methods for assessing the sustainability learning outcomes to identify effective and efficient strategies. Possible methods include; student focus groups, pre/post tests, faculty reporting student grades on artifacts identified in their course designation matrix, and a team of faculty developing a common rubric used to assess student assignments related to the sustainability learning outcomes.

If possible, during the Summer 2014, a team of faculty will design a common rubric, which address the sustainability learning outcomes. This team could also create a database of sustainability course activities and assignments. Faculty teaching the "S" designated courses will use the rubric to assess student assignments and give feedback about the rubric to the SCRC.

The Office of Sustainability graduate assistant on the SCRC will support the pilot research project. Data gathered will inform the development of the assessment framework, which will establish an ongoing assessment review process for designated courses, curriculum and co-curricular programs. Blackboard's "Goal

Alignment" feature may offer assistant in gathering course "artifacts" (i.e., course readings, student assignments and assessments).

B. Pilot program: Curriculum Level Assessment

During the Summer 2015, curricular mapping workshops will be held for interested and willing department teams. These workshops will guide faculty through the process of identifying where in their core curriculum sustainability learning outcomes will be addressed and how to develop a common rubric (or rubric elements) for assessing these outcomes.

C. Meeting Outcomes In Co-curricular Activities

Assessment of co-curricular activities is the purview and responsibility of the party submitting the designation proposal. An assessment description needs to be included with the designation proposal submitted to the SCRC.

D. Opportunity to "Test Out" of the Requirement

Only students enrolled in departments requiring the "Sustainability Course" are eligible to test out. Policies for "testing out" will follow the existing policy established for accepting credit to meet the diversity requirement. An essay is part of this process and will serve as the assessment for this option. For more details: Diversity Credit Policy Website

II. Responsible Parties

The Faculty Senate in partnership with the Office of the Provost are responsible for the assessment of the Sustainability Learning Outcomes. Operationally, the Sustainability Curriculum Review Committee (SCRC) of the faculty senate will support the assessment efforts. The Office of Institutional Assessment, the Center for Teaching and Learning, and the Office of Sustainability can collaboratively support assessment implementation.

III. How Does Assessment Data Inform Change

Assessment data will be used to improve sustainability curriculum at UVM. Assessment data will not be used to evaluate faculty or as a graduation requirement for students.

IV. Institutional Level Assessment

The Office of Institutional Research can administer the institutional level assessment. Sustainability related questions could be added to existing student surveys. UVM can decide to administer the National Survey of Student Engagement (NSSE) Sustainability Education Consortium (twenty questions). Administering the

NSSE sustainability consortium questions enables UVM to benchmark results against participating universities.

Appendices

A. Proposed Catalog Copy

B. Professional Development Status - Sustainability Faculty Fellows

C. Assessment of Existing UVM Sustainability Courses

## D. Archive of Commentary on Learning Outcomes

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A. Proposed Catalog Copy

Courses that meet the sustainability learning outcomes are designated in the Schedule of Courses with an "S" designation. Curricula (i.e. majors or minors) that meet the sustainability learning outcomes are designated in the catalog description of each curricula.

B. Professional Development Status - Sustainability Faculty Fellows

The University of Vermont already supports professional development for sustainability in courses and curricula. The Sustainability Faculty Fellows (SFF) program works in collaboration with the Office of Sustainability, the Center for Teaching and Learning, the Environmental Program, the GreenHouse Residential Community, the Provost's Office, and an external partner nationally known for its work on sustainability curricula, Shelburne Farms.

To date 80 UVM faculty from 32 different academic departments are Sustainability Faculty Fellows. In a four year period that was analyzed, Sustainability Faculty Fellows courses (courses developed during the SFF sessions to include sustainability content) had class enrollments summing to approximately 7,500 students. These students come from across campus.
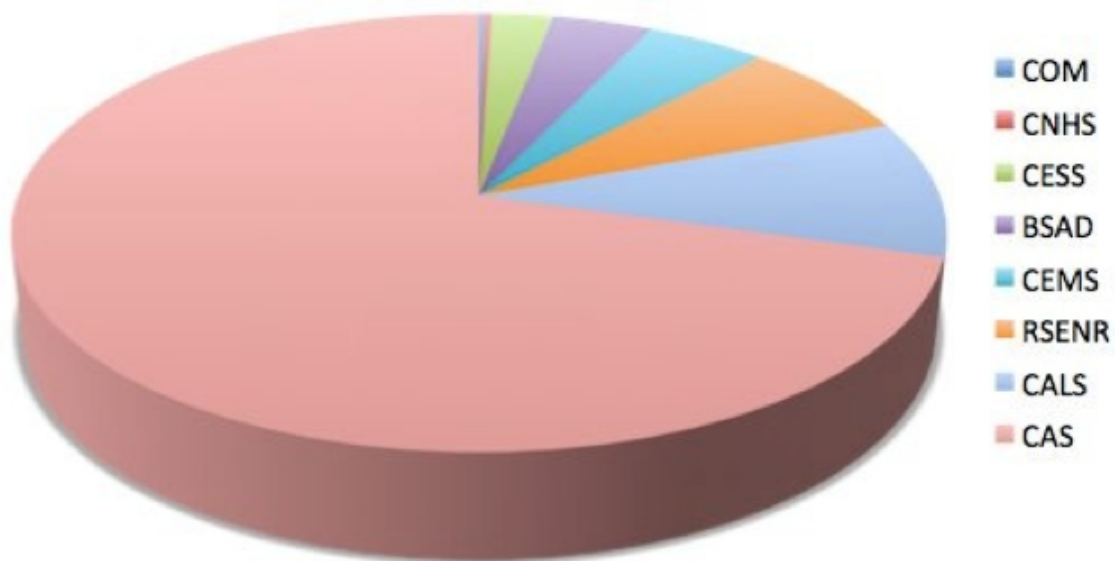
The work of UVM's Sustainability Faculty Fellows program is know nationally and highlighted on the American Association for Sustainability in Higher Education (ASSHE) website (http://www.aashe.org/resources/case-studies/sustainability-faculty-fellows-program-university-vermont-uvm). It has been used as a model program for other institutions.

Early program assessment indicates that UVM's program is working well and can continue to support sustainability curricular development. Some assessment results indicate that our fellows greatly valued their professional development experience. In the follow-up survey, 100% "agreed or strongly agreed" that: "As a result of participating in this institute, I feel better prepared to integrate

sustainability into my course." And 93% "agreed or strongly agreed" that: "As a result of participating in this institute I feel more grounded in sustainability frameworks." The assessment also revealed that 80% of the fellows would like to become mentors for future Faculty Fellows, strengthening considerably our Faculty Learning Community model of peer education.

C. Assessment of Existing UVM Sustainability Courses

The University of Vermont's participation in the Association for the Advancement of Sustainability in Higher Education's (AASHE) **Sustainability Tracking, Assessment & Rating System™** (STARS) has jump started UVM's processes of evaluating courses for suitability in meeting the four Sustainability Learning Outcomes. Most courses offered by the University of Vermont with sustainability content have already undergone a review process. 184 courses were reviewed out of the 2,589 offered in AY 2012-2013. 55 courses were considered to be "sustainability-focused" and 52 "sustainability-related."

A list of these 55 courses are provided below. While not all these courses may be suitable for meeting the four learning outcomes, they clearly are a good starting point for a process of developing UVM's capacity for providing students with the opportunity to meet the general education requirement.

Dept	Number	Title
BSAD	263	Environmntl & Social Reporting
BSAD	295	Sustainable Business
CDAE	237	Economics of Sustainability
CDAE	2	D2: World Food,Pop & Develop
CDAE	2	D2: World Food,Pop & Develop
CDAE	102	Sustainable Community Dev
CDAE	102	SL: Sustainable Community Dev
CDAE	195	SL: Intro to Ecological Econ
CDAE	251	SL:Contemp Policy Iss:Comm Dev
CDAE	295	Restorative Envir Dsgn Studio
CDAE	395	Critical Iss in Transportation
CDAE	395	The Econ of Food Systems
CE	151	Water & Wastewater Engineering
CE	132	Environmental Systems
EDTE	74	Science of Sustainability
ENSC	1	Intro Environmental Sciences
ENSC	1	Intro Environmental Sciences

ENVS	187	SL: Campus Sustainability
ENVS	195	Climate Action Seminar
ENVS	195	Vermont Energy Systems
ENVS	195	Soc Marketing Sustainability
ENVS	1	Intro to Environmental Studies
ENVS	2	Internat'l Environmental Stds
ENVS	95	Eco-Reps: Env Resp Behavior
ENVS	95	Climate Change&the Environment
ENVS	184	Sustain Transpo Planning
ENVS	195	Env Entrepreneurship
ENVS	195	Envr Entrepreneurship
ENVS	195	Greening Health Care Systems
ENVS	195	Climate Justice & Advocacy
ENVS	195	Vermont Food Systems
ENVS	195	Sustainability Science
ENVS	195	SL:Systems Thinking
ENVS	195	Topics in Climate Change
ENVS	204	SL: Creating EnvSusCommunities
ENVS	295	SL:Sustainability Education
ENVS	295	SL:Community-based Nat Res Mgt
ENVS	295	Circumpolar Climate
ENVS	295	SL:Adaptation toClimate Change
ENVS	295	Ecol Health Well-Being
FOR	272	Sustainable Mgmt Forest Ecosys
FS	345	Food Systems, Society & Policy
GEOG	190	Politics of Land Use: Ecuador
HCOL	186	SL: Ecology for Sustainability
NR	285	SL: Biomass to Biofuels
NR	378	SL: Place-BasedLandscapeAnyl

PH	312	Food Systems & Public Health
PHIL	10	Ethics of Eating
PHIL	10	Ethics of Eating
PRT	188	Ecotourism in Costa Rica
PRT	230	Ecotourism
PSS	21	Introduction to Ecological Agr
PSS	156	Permaculture
PSS	156	Permaculture
PSS	212	Advanced Agroecology

Additionally, some faculty teaching "sustainability-related" courses may choose to modify their syllabi to better address the University's Sustainability Learning Outcomes. The 52 courses that were reviewed in this category follow.

Dept	Number	Title
ANTH	23	D2: Anthro Third World Dev
ANTH	196	SL: Food, Culture and Politics
BSAD	195	Green IT & Virtualization
CDAE	6	Energy Alternatives
CDAE	170	Solar Strategies Bldg Constrct
CDAE	195	Holistic Design Studio
CDAE	276	Community Design Studio
CDAE	295	Energy Use in US Food Systems
CE	251	Envr Facility Dsgn/Wastewater
CE	134	Engineering Systems Modeling
CE	175	Senior Design Project
ENSC	201	SL:Recov&Restor Altered Ecosys
ENSC	202	Ecological Risk Assessment
ENVS	174	Nat Areas Conservation&Steward
ENVS	177	Intro to Landscape Restoration
ENVS	178	Environmental Ethics

ENVS	179	D2: Ecofeminism
ENVS	181	Race, Class and Garbage
ENVS	195	Political Ecology
ENVS	195	Environmental Journalism
ENVS	195	Human Health & the Env
ENVS	295	D2:Circumpolar World
ENVS	295	The Culture of Nature
ENVS	295	SL: Modeling Env Systems
ENVS	295	Conv & Develp in Madagascar
GEOG	145	Geography of Water
GEOL	55	Environmental Geology
GEOL	55	Environmental Geology
GRS	1	D2:Intro to Global Studies
HCOL	185	Climate Chng, Complxty & Soc
HIST	67	D2: Global Environmental Hst
HLTH	103	D2: Intro to Global Health
HLTH	103	D2: Intro to Global Health
NR	85	Place Based Sus&Ecol Des in VT
NR	85	Sustainable Landscape Ecology
NR	2	Nature & Culture
NR	16	Ecological Citizenship
NR	104	Social Proc & the Environment
NR	206	SL:Env Prob Sol&Impact Assess
NR	378	Land Cons:Science & Practice
NR	385	Climate Chg:Science&Perceptio
PH	304	Environmental Public Health
POLS	159	Int'l Environmental Governance
POLS	249	Global Justice
PRT	188	SL:Sust Landscape Architecture

D. Archive of Commentary on Learning Outcomes

To provide an archive of the commentary on the draft learning outcomes that the University community provided, these comments are included in this report to the Faculty Senate.

From the Blog, Representative meetings with college/school constituencies, and Open Fora.

*** General

Susanmarie Harrington says:
January 31, 2014
A general comment on the document layout: sometimes the explanatory text in between the blue header and the learning outcome sounds like an outcome itself; sometimes it sounds like a rationale for the outcome. I find going back and forth between outcomes and explanations makes reading the document a little challenging. Maybe group all the rationales together?

February 8, 2014
From BSAD (posted by Deane)
There might be opportunities in exploring sustainability and other Gen Ed requirements. For example, one can argue that sustainability has natural synergy with diversity, science and technology. This is particularly relevant for the values category. Has there been any discussion on updating or integrating existing Gen Ed requirements with sustainability focus?

February 8, 2014
From BSAD (posted by Deane)
I notice that "ecological" and "environmental" are used interchangeably in the document. Are the learning outcomes more about nature (ecological) or human and nature (environmental)?

February 8, 2014
From BSAD (posted by Deane)
Thank you very much for circulating the draft and providing the background information. I like the framing of the learning outcomes document a lot. In particular, it builds a strong argument for the need to explicitly define the outcomes and connects with Our Common Ground.

I think the four categories make sense. They are the critical success factors for ensuring that the ultimate goal – sustainability of human society – is met.

February 7, 2014

From Student Forum
A student advocated for campus-wide capstone senior projects that could integrate sustainability across disciplines.

February 7, 2014
From Student Forum
A student felt that there was a danger of "greenwashing" in having a sustainability requirement. UVM needs to show that it really serious about sustainability in the curriculum, not just a single class.

February 7, 2014
From Student Forum
A student felt that requiring a course (e.g. D1, D2) is a weak way of implementing these requirements. There will be student resistance to the topic, because the student is being forced to take a course. This approach is much less effective than if the learning outcomes are incorporated into a curriculum or activity. The negative "requirement" becomes the emphasis of the class.

February 7, 2014
From Student Forum
A student felt that the last two learning objectives were the most important (values and personal domain). The privilege issue that comes with being wealthy should be emphasized (a white upper class perspective on environment and sustainability) so that students are aware of other global perspective. In the personal domain, students should have tangible ideas of what they can do to effect change, so they don't just get depressed… they can make a positive change. Students don't involve themselves because it is depressing.

February 7, 2014
From Student Forum
A first year student felt that none of her introductory classes (an environmental major) touched on sustainability directly.

February 7, 2014
From Student Forum
The SLO objectives do a good job of being broad, but translating sustainability to more specific activities, plans, and designs would be helpful. The student used the example of his senior design capstone (mechanical engineering) as a good way to make more specific sustainability actions tangible.

Jacques Bailly says:
February 5, 2014
Just wanted to echo and affirm the comment that there is no easily applicable definition of what sustainability is. From the bullet points in the document, it seems to be primarily environmental and global thinking, secondarily economic and

societal, that includes the long-term for humanity (100 years? 1000 years?) and the planet (1 million years? 1 billion?).

Also, if it's to be "outcome-based," that sounds as if we are asking for competence, not exposure. How do we verify the outcome?

If it's not to be a simple course check off, how would it be sensibly negotiated by a Greek major who minors in Art History? What about a math major who minors in studio art? I can imagine how it could be done, but it's not natural to the disciplines, really. The "easy answer" is that it be a course check-off. Adding extra-curricular options is tantamount to it being a course check-off, and puts a further burden on those students who are under financial strain, because it might take time when they could be earning money.

This seems in danger of being an "impossible object," but that in itself should not necessarily deter us. Ideals are impossible to attain.

January 31, 2014
Laura Hill Bermingham says:
In the CALS discussion of learning outcomes, there was a concern about how UVM will assess whether students are meeting learning outcomes. The SLO committee is collaborating with the Office of Institutional Research and other Gen Ed committee to work toward an overall assessment of Gen Ed learning outcomes at UVM. In addition, the SLO committee has an assessment subcommittee that will present at a Faculty Senate meeting in Spring 2014.

Laura Hill Bermingham says:
January 31, 2014
In the Plant Biology department discussion of the learning outcomes, there were 2 major concerns: (1) sustainability is not explicitly defined and so it may be difficult for advisors to advise students on meeting these learning outcomes, (2) overall dissent regarding the general education framework at UVM (i.e., requriting our students to learn about certain issues that may not be of interest in their respective discipline).

bhylee says:
December 6, 2013
One point of discussion at the Nov 19 CEMS meeting concerned whether quantitative reasoning should explicitly be a part of these learning outcomes. Some faculty members suggested that the science and economic components of sustainability require an understanding of numeric data and quantitative evidence. They were encouraged to elaborate on this point by posting their own comments or participating in other feedback mechanisms such as the open forums planned for the Spring semester.

Jim Burgmeier says:

November 21, 2013
At the CEMS college meeting on November 19, there was mention of satisfying this general education outcome by requiring students to take a course, probably from an approved list similar to the diversity requirement.

This is not how the general education proposal was developed nor how it was approved by the Senate. Rather, the UVM curriculum should incorporate enough sustainability "information" that students become aware of it as they carry out their college careers. Requiring additional courses will be a problem for some majors and GenEd was not a list of checkoff boxes.

***Outcome 1

February 8, 2014
From BSAD (posted by Deane)
For each of the critical success factors, it might help to offer some ideas as to how we can measure them quantitatively or qualitatively. For example, what qualifies as "informed conversation"? Perhaps one way to be more specific about implementation is to identify relevant curricular and co-curricular activities (existing as well as future ones) and their ties with these learning outcomes. These activities are relevant in the skills category as well.

From BSAD says:
February 8, 2014
For Learning outcome 1, would perspective be a more appropriate word than conversation?
Learning outcome 1: Students can have an informed perspective about the multiple dimensions of sustainability and its complexity.

Susanmarie Harrington says:
January 31, 2014
I agree with Alan's suggestion above. And Jeff's suggestion makes me wonder, generally, whether you can provide some guidance about the ways that sustainability connects to different disciplines–I'm assuming he suggests technical in order to make more apparent connections to the engineering curriculum. In the outcomes might not be the place to do that, but rather in the intro.

Is the complexity of sustainability the same as its multiple dimensions? Just wondering whether you can simplify.

And is conversation truly the goal? or communication more broadly?

Alan Tinkler says:
January 30, 2014

For each of the four outcomes, I will post slight revisions. The rationale for the slight revisions is to bring the action forward in order to ensure that the outcomes are clear and concise. One general revision that I've suggested deals with the deletion of "can" when it's used. Each outcome (which implies "can") is stronger, in my view, without "can."

So, for outcome 1: Students engage in informed conversations about the multiple dimensions of sustainability and its complexity.

jfrolik says:
January 16, 2014
This outcome might also include 'technical and/or data-driven' ways of thinking.

tmares says:
January 19, 2014
I think that clarifying what is the "it" in the first statement is needed. Is it the classroom, the experience, the world, the challenges?

*** Outcome 2

Alan Tinkler says:
January 30, 2014
Outcome 2: Students evaluate sustainability using a disciplinary approach and integrate economic, ecological, and social perspectives.

This entry also raises the question about whether or not the additional descriptors are necessary. They certainly add clarity, but in this one there seems to be a little blending with the first outcome.

I believe that the outcomes are strong (because the are clear and concise); in other words, they can (in my view) stand alone.

tmares says:
January 19, 2014
        I wouldn't suggest adding "quantitatively-informed" without a balance of qualitatively-informed. Perhaps something about diverse methodological perspectives and approaches?

jfrolik says:
January 16, 2014
This outcome might be written as 'quantitatively informed opinion'.

*** Outcome 3

NO COMMENTS

*** Outcome 4

February 8, 2014
From BSAD (posted by Deane)

The personal domain addresses knowledge and skill applied outside classroom. How do we assess this outcome?

February 8, 2014 at 3:31 pm
From BSAD (posted by Deane)
For Learning outcome 4, would using the decision making pyramid model be worthwhile? Something to the effect that individual decisions on sustainability requires the least amount of information, consensus and due process. Something like:
Learning outcome 4: Students, as members of society, can recognize and assess how local, organizational, national and international sustainability decision-making differs in complexity, process and scope.

Alan Tinkler says:
January 30, 2014
Outcome 4: Students recognize and assess how sustainability impacts their lives and how their actions impact sustainability.

Additional note: I understand the desire to include being a member of society, but the outcome is that students recognize and assess, so (from my perspective) the removal of the clause moves the action of the sentence to a more powerful rhetorical position.

All this is to say, these are only minor suggestions; it is clear that thoughtful work went into the outcomes (for which I am grateful since this is an important initiative).

For all my comments, please regard those that are helpful and disregard the other.