Sustainability Literacy as a Bridge to Addressing 21st-Century Problems

COLLEGE OF CHARLESTON

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EXECUTIVE SUMMARY

The College's Quality Enhancement Plan (QEP), Sustainability Literacy as a Bridge to Addressing 21st-Century Problems seeks to add to the storied history of the College of Charleston (CofC and "the College"). The College recognizes there is a confluence of "21st-century problems" that will require rigorous critical thinking skills, systems competencies, and interdisciplinary fluency to address. The 21st-century problems CofC students will have to address are social (for example, institutional racism, sexism, LGBQT+ rights), economic (increasing debt, wage disparity between men and women, poverty) and environmental (climate change, sea level rise, biodiversity loss). Where these three domains – the economic, environmental and social – meet and intersect is known as the "Triple Bottom Line" (TBL) of sustainability. This QEP places the College at the forefront of higher education in addressing these 21st-century problems by equipping students with sustainability literacy.

The College will provide sustainability literacy learning opportunities structured around developing critical thinking skills, synthesizing knowledge across disciplines, contributing to creative problem solving, cultivating analytical reasoning and fostering awareness about sustainability literacy. Students' exposure to these learning skills will serve the important function of helping them better understand and comprehend the interdependent synergies of the systems that interact to make the Triple Bottom Line. Because sustainability literacy is based upon understanding how social, economic and environmental systems interact, these learning opportunities will provide the entryway into students advocating for addressing 21st-century problems.

Developing empowered citizens who are able to think critically and bring ingenuity to solving challenges is central to the mission, purpose and strategic planning of the College. This is seen most clearly in the third goal of the College's Strategic Plan, which is to "provide students the global and interdisciplinary perspectives necessary to address the social, economic, environmental, ethical, scientific and political issues of the 21st-century." It also is part of the College's mission, which is to develop responsible, productive members of society. This QEP will help the College meet its mission and Strategic Plan by focusing on sustainability literacy. This focus adds to the current institutional context of providing CofC students with perspectives needed to address social, environmental and economic problems.

In order to enhance student learning at the College in regards to sustainability literacy, five key goals and seven student learning outcomes structure this QEP. Addressing these five goals will occur through curricular and co-curricular opportunities for student engagement including sustainability literacy course infusion, the development of a Sustainability Literacy Scholars Program, creation of an undergraduate certificate in Sustainable Businesses and Communities, creation of an Honors College Sustainability Literacy cohort, and co-curricular alternative breaks and campus-wide events. These goals will also be met programmatically by generating new institutional opportunities for student, faculty, and staff engagement around sustainability literacy, most notably by the institutional development of a Sustainability Literacy Institute. These initiatives will be assessed by multiple direct and indirect measures.

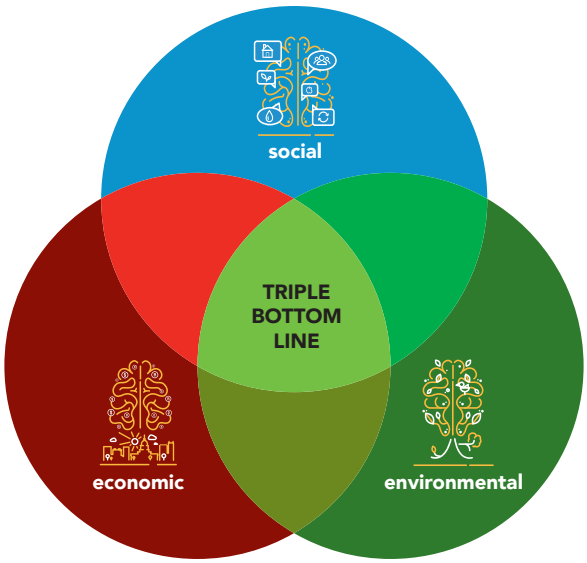
By focusing on the development of sustainability literacy afforded by this QEP, CofC students will be able to advocate for a more just, sustainable society – one where they can apply their passions and hard-won knowledge in creating a more resilient, equitable future for all. The College is honored to present this QEP on "Sustainability Literacy as a Bridge to Addressing 21st-Century Problems" to SACSCOC and to embark upon the exciting new era for the College of Charleston.

OVERVIEW

Founded in 1770 and located in the heart of historic Charleston, South Carolina, the College of Charleston ("CofC" and "the College") is a state-supported comprehensive institution that provides education in the arts and sciences, teacher education and business. The College strives to meet the growing educational demands primarily of the Lowcountry and the State of South Carolina and, secondarily, of the southeast United States. Consistent with its heritage, a liberal arts undergraduate curriculum is central to the mission of the College. Over 10,000 undergraduates, approximately 1,000 graduate students and 415 students enrolled in non-credit courses at the College work closely with more than 500 committed full-time faculty.

The College's new QEP, "Sustainability Literacy as a Bridge to Addressing 21st-Century Problems," scheduled to begin implementation in academic year 2017-18, adds to the storied history of the College of Charleston. The College recognizes that addressing 21st-century problems will require the cultivation of sustainability literacy in CofC students. To do so, this QEP uses sustainability as a systems framework for conceptualizing and cultivating problem-solving skills for students. The key to sustainability literacy is what is called the "Triple Bottom Line" (TBL) of sustainability, where 21st-century problems are understood as social (for example, institutional racism, sexism, LGBTQ+ rights), economic (increasing debt, wage disparity between men and women, poverty) and environmental (climate change, sea level rise, biodiversity loss) (see Figure 1). A majority of 21st-century problems cannot be solved within a single domain of the TBL, nor are they mutually exclusive. That is, they are often a combination of social, economic and/or environmental issues, making them complex problems. Skills such as critical thinking, synthesis, analytical reasoning and problem solving are central in teaching students to address sustainability problems (Rivilla and Dominquez 2014; Atkas,et al. 2015; Redman and Larson 2011; Verhulst and Lambrechts 2015; Johnston and Johnston 2013; Gosselin, et al. 2013; Wiek, Withycombe and Redman 2011). As outlined in the "need" section of this document, the College recognizes that many of its students are currently deficient in these sustainability literacy competency areas. Thus, by pursuing this QEP, the College will focus on providing, primarily, undergraduates the opportunity to gain the skills and knowledge to become citizens who advocate for solving 21st-century problems.

Figure 1. The Triple Bottom Line of Sustainability



Developing a student body that is sustainability literate will help the College meet several goals of the current Strategic Plan and aid in achieving the College's mission, in particular, goal No. 3: "provide students the global and interdisciplinary perspectives necessary to address the social, economic, and environmental issues of the 21st century." Several pieces of evidence, to be discussed in detail later, support the need for this QEP, beginning with a survey of the student body in 2011 assessing the extent to which students were receiving the knowledge, skills, and abilities associated with becoming sustainably literate through existing courses. Additionally, a 2015-16 review of institutional effectiveness assessment of academic program assessment reports revealed that very few programs at CofC are currently addressing the basic tenets of sustainability literacy. While these programs were having some success with student learning in these areas, the knowledge seems pocketed in a few programs and assessment data indicate opportunities to expand to more disciplines across campus. Additionally, a review of several enterprise-level direct and indirect measures (ETS Proficiency Profile and the National Survey of Student Engagement), a catalog audit, student focus groups and a faculty/staff survey revealed gaps in student learning that knowledge and skills around sustainability literacy would help to address. The ETS Proficiency Profile and the NSSE data both indicate that there is room for improvement in students' abilities to demonstrate and the College's capacity to provide students with critical thinking and integrative learning skills. The faculty/staff survey and student focus groups further revealed an interest in but lack of training around the topic of sustainability literacy. Employer data also shows a great demand for employees with the knowledge and skills associated with sustainability literacy.

The central focus of this QEP is to equip CofC students with the skills and knowledge they will need upon graduation so that they can advocate for and help design resilient social, economic and environmental systems. In order to enhance student learning at the College around sustainability literacy, five goals (see Table 1) and three avenues for advocacy (educate, express, empower) structure this QEP.

Table 1. The Five Goals of the QEP

1. **Build Awareness** of the three systems of the Triple Bottom Line of sustainability (social, economic and environmental) and how these three systems are related to one another (Sustainability Literacy).
2. Cultivate sustainability literacy by developing students' fluency in systems thinking (**synthesize and integrate knowledge**).
3. Demonstrate the impact of production and consumption practices on the three systems (social, economic and environmental) of the Triple Bottom Line (**skill building and competency learning**).
4. Enhance student learning through active learning around sustainability literacy by helping students design solutions to various sustainability problems (**experiential and learning practice**).
5. Students advocate for resiliency at the individual, institutional, community, national or international level (**change agents for resiliency**).

Achieving these five goals will occur through a variety of curricular and co-curricular activities, such as course infusion, the development of a Sustainability Literacy Scholars Program, creation of an undergraduate certificate in Sustainable Businesses and Communities, creation of the Honors College Sustainability Literacy cohort, co-curricular alternative breaks and campus events. These curricular and co-curricular activities will be framed around an annual theme of the year; Year One is water quantity and quality, Year Two is social justice, and Year Three is food issues (Years Four and Five will be decided by campus vote). This will include an art expression competition and a solutions competition around each theme. The QEP will be managed through the creation of a Sustainability Literacy Institute, which will facilitate opportunities for student, faculty and staff engagement.

PROCESS USED TO DEVELOP THE QEP

In the fall of 2014, as a part of the reaccreditation process, the College began actively planning for a project that would improve and enhance existing student knowledge, skills, attitudes, values and behaviors consistent with SACSCOC Core Requirement 2.12 and Comprehensive Standard 3.3.2. The development of the plan focused on selecting a topic that would enhance student learning by building on the capability of CofC to develop, initiate, implement and complete the plan. Outlining goals, student learning outcomes and an action plan with an appropriate timeline, budget and assessment plan involved constituencies from across the institution.

The broad-based, inclusive process used to develop the QEP began with senior leadership determining the best method to solicit input for the topic of the College's next QEP. Following the submission of the QEP proposals, a 14-member Quality Enhancement Plan Steering Committee was appointed by the president to review topic proposal submissions and to make recommendations for the final topic of this next QEP. QEP Steering committee members were hand-selected by the president to represent various academic schools, staff divisions and the student body.

GLOSSARY

SUSTAINABILITY
The integration of social, economic and environmental systems in ways that allow for individual, institutional, community, regional and planetary resilience.

SUSTAINABILITY LITERACY
Having the knowledge and skills to advocate for resilient social, economic and environmental systems.

TRIPLE BOTTOM LINE (TBL)
A framework for conceiving of sustainability by analyzing the systemic links between the three core domains of human life: social, environmental and economic. (The TBL dimensions are also commonly called the three Ps: people, planet and profit/prosperity.)

SYSTEMS THINKING
A set of analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviors and devising modifications to them in order to produce desired effects. In the context of this QEP, systems thinking will focus on the system interactions of the economy, society and the environment, at individual to global scales.

RESILIENCE
The capability to anticipate risk, limit impact and bounce back rapidly through survival, adaptability, evolution and growth in the face of turbulent change.

Organizing for Action

The QEP Steering Committee consists of six faculty, seven staff and one student from a variety of different disciplines and areas of expertise. Several members also serve as chairs of various subcommittees (see page 10 for list of subcommitee members). It was formed to oversee the development of the Quality Enhancement Plan. Specifically, the committee was charged with the following responsibilities:

- provide oversight and coordination of the QEP process;
- engage the College community in the process and provide updates of progress;
- draft and review selected sections of the QEP;
- ensure that the QEP is complete, accurate and submitted on time;
- meet guidelines CR 2.12 and CS 3.3.2, and
- confirm the integrity of the process and the College's submission.

The QEP Steering Committee met five times in the spring of 2015 to discuss and review the proposals and then continued with its duties once the topic was selected, providing guidance and oversight to the development of the final QEP. QEP Steering Committee minutes are posted on the Office for Institutional Effectiveness and Strategic Planning website (oiep.cofc.edu).

Topic Selection Process

The president invited all campus constituents (faculty, students and staff) to submit proposals for the next QEP topic. The request for proposals was sent in the fall semester of 2014, with a December 15, 2014, deadline. Six QEP proposals were submitted on the following topics: undergraduate research, developing an advising curriculum, sustainability literacy for solving 21st-century problems, faculty learning communities, collaborative learning with the Halsey Institute for Contemporary Art, and a culminating senior experience (see Table 2).

Table 2. Topic Proposals Submitted

Proposed Topic	Brief Summary
Broadening Access to Student Success through Undergraduate Research and Creative Engagement with Faculty	Design a cohesive research program that will provide CofC with a unifying educational objective and a shared sense of direction that can create a strong network of infrastructural support to sustain institutional progress.
Developing an Advising Curriculum	Create and implement a formal advising curriculum (first year to senior year) based on a shared campus advising philosophy with a focus on student and career development. The curriculum will aid new, transfer, international and veteran student persistence and timely progression to graduation.
Sustainability Literacy as a Bridge to Addressing 21st-Century Problems	A program designed to use a systems thinking approach to improve critical-thinking skills and prepare students to become creative problem solvers ready to tackle "wicked" problems. This program includes enhancing the curriculum to infuse sustainability literacy into new and existing courses, create a teaching and learning hub for sustainability literacy, and infusing sustainability literacy into co-curricular events.
Stimulating Student Learning through Faculty Learning Communities	A program designed to promote sound pedagogical practices that equip and empower faculty to become better instructors through faculty learning communities that establish interdisciplinary collaboration through which pedagogical approaches are examined and improved.

Collaborative Learning	The Halsey Institute of Contemporary Art provides many opportunities for self-directed, experiential learning to the College of Charleston student body, yet many students (and faculty) are not aware of these offerings. The goal of this proposal is to increase student participation in Halsey programs and to integrate classroom learning into the fabric of the educational mission over the next five years.
Senior Year Experience (withdrawn)	The major goal of the SYE is to foster in graduating seniors an appreciation for thinking about human questions and issues in global and interdisciplinary terms, and to uniquely prepare them to think at the interstices of disciplines and address real world problems in socially responsible ways.

The evaluation process conducted by the QEP Steering Committee included a rubric-based review of the submitted proposals; a presentation of the proposals by the proposal authors; an opportunity for proposal authors to respond to additional questions from the QEP Steering Committee; and in-depth review and discussions among the committee members. Based on this, a QEP Steering Committee Recommendations Report was submitted to the Reaffirmation Leadership Team with a summary of the strengths and weaknesses of each of the proposals, including a discussion of institutional fit. After reviewing the proposals closely, the QEP Steering Committee selected the top three proposals and outlined strengths and potential weaknesses. The rubric and Recommendations Report can be provided to the on-site committee upon request.

Using the QEP Steering Committee Recommendations Report as a guide, the Reaffirmation Leadership Team narrowed the selected topics down to two: “Broadening Access to Student Success through Undergraduate Research and Creative Engagement with Faculty” and “Sustainability Literacy as a Bridge to Addressing 21st-Century Problems.” Selecting from a broad base of campus constituents, proposal development committees were created for each topic and the committees were charged with helping the authors to further refine the individual proposals. Membership and affiliations of these two proposal development committees consisted of faculty and staff representing each of the academic schools as well as divisions and student representation. The roster of the two development committees can be provided to the on-site committee upon request.

With additional support from the proposal development committees, the two proposals were refined and expanded using a common template to ensure consistency. The QEP Steering Committee completed another review and submitted a second recommendations report to the Reaffirmation Leadership Team on October 1, 2015. The recommendations report outlined the strengths and weaknesses of the revised proposals for undergraduate research and sustainability literacy. Upon review and consideration of this report and the revised proposals, the Reaffirmation Leadership Team selected “Sustainability Literacy as a Bridge to Addressing 21st-Century Problems” as the next QEP topic on October 16, 2015.

This topic was selected by the Reaffirmation Leadership Team as members acknowledged the inherent need to improve students’ ability to solve 21st-century problems. The College recognized that 21st-century problems are interrelated, interconnected, and will require ingenuity to solve. Generating the aptitude, value system, and interdisciplinary skills needed to solve complex problems is an underdeveloped aspect of the College’s student body. Sustainability literacy, which is grounded in systems thinking and creative problem solving, is an effective way to improve students’ ability to solve these problems and allows the College to fulfill its Strategic Plan and mission.

QEP Plan Development Process

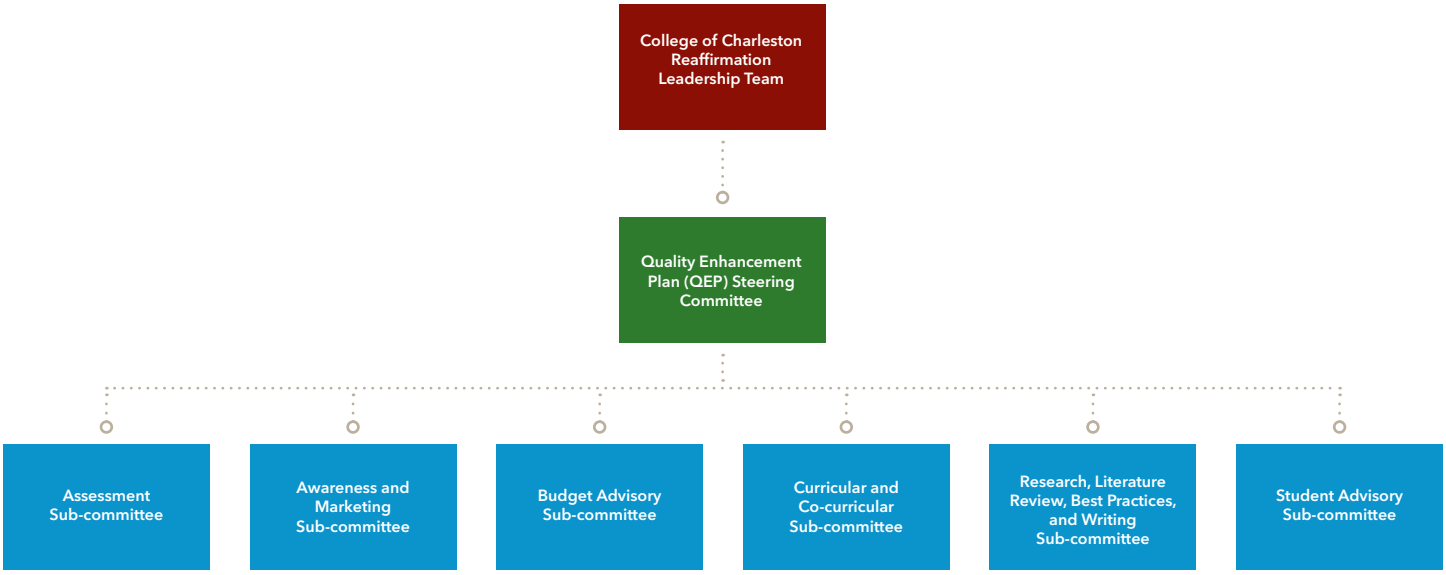
Once the final QEP topic was chosen, subcommittees were formed from a broad base of the campus

community. The subcommittees included faculty and staff from each school and multiple divisions, as well as students, and members were selected and appointed by the president. Altogether, more than 40 subcommittee and QEP Steering Committee members were involved in developing the QEP and acting as liaisons back to their respective units or divisions to provide updates and gather information as necessary. The purpose and organization of the subcommittees were to develop the different aspects of the QEP. The subcommittees involved include: Research, Literature Review, Best Practices and Writing Subcommittee; Student Advisory Subcommittee; Curricular and Co-Curricular Subcommittee; Assessment Subcommittee; Awareness and Marketing Subcommittee; and the Budget Advisory Subcommittee (see Figure 2).

The QEP subcommittees met at least monthly during the development period; their charges are outlined in Table 3, below. Each subcommittee was charged with recording minutes of all meetings and providing monthly updates to the QEP Steering Committee.

To oversee the successful implementation of the QEP, an Implementation Committee has been formed that consists of faculty, staff and students that represent the academic and administrative divisions of the College and that have appropriate experience to make constructive contributions to the implementation and assessment of the project. Further information on the Implementation Committee is provided in the Organizational Structure section.

Figure 2. QEP Steering Committee and Subcommittees



QEP STEERING COMMITTEE AND SUBCOMMITTEES

LeVasseur, Todd
Visiting Assistant Professor of Religious Studies and Environmental and Sustainability Studies

Hansen, David
Associate Professor of Management and Marketing, Co-Chair

Roof, Karin
Director of Academic Assessment and Strategic Planning, Co-Chair

Berry, Mark
Executive Director, Division of Marketing and Communications

Callicott, Burton
Instruction Coordinator/Research and Instruction Librarian

Cregg, Emma
Graduate Student

Ewalt, Jo Ann
Professor in Political Science, retired

Johnson, Tim
Interim Dean, School of Languages, Cultures, and World Affairs

Jones, Sam
Vice President of Fiscal Services

Keenan, Kevin
Associate Professor in Political Science

Mignone, Robert
Department Chair/Professor in Mathematics

Miley, Melinda
Assistant Vice President for Educational Programs and Services

Mueller, Rene
Professor, Director of International Business Program

Payment, Susan
Director of Student Life

Scott, Monica
Vice President of Facilities Planning

ASSESSMENT SUBCOMMITTEE

Roof, Karin
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Ewalt, Jo Ann
Professor in Political Science, retired

Mihal, Deborah
Director of Disability Services

O'Brien, Michael
Assistant Professor of Music

Snyder, Marcia
Assistant Dean, School of Business

Van Arnhem, Jolanda
Instructional Design Librarian

AWARENESS AND MARKETING SUBCOMMITTEE

Ancrum, Zipora
Planning and Accreditation Support Manager

Berry, Mark
Executive Director, Division of Marketing & Communications, Chair

Bloodworth, Josh
Associate Director of Accreditation and Assessment

Calvert, Lisa
Assistant to the Dean of Sciences and Mathematics

Cregg, Emma
Graduate Student

McCauley, Nandini
Director of Marketing/Communication, School of the Arts

Ragusa, Christine
Assistant to the Dean of Humanities and Social Sciences

Roof, Karin
Director of Academic Assessment and Strategic Planning

Tate, Joseph
Program/Event Coordinator, School of Education, Health, and Human Performance

BUDGET ADVISORY SUBCOMMITTEE

Blackwell, Calvin
Professor of Economics, Department Chair

Jones, Sam
Vice President of Fiscal Services, Chair

McGee, Brian
Dean of the Graduate School, Provost and Executive Vice President for Academic Affairs

Nichols, Matt
Budget Director

Patrick, Paul
Vice President for Administration and Planning

CURRICULAR AND CO-CURRICULAR SUBCOMMITTEE

Cabot, Jeri
Dean of Students, Co-Chair

Ciarcia, Christopher
Associate Director, Center for Civic Engagement

Cherry, Lynn
Associate Provost, Curriculum and Institutional Resources

Finnan, Christine
Professor/Program Director, Teaching, Learning, and Advocacy

Hansen, David
Associate Professor, Management and Marketing

Jaumé, Steven
Associate Professor in Geology

Keller, Page
Director, Peer Education and Support Programs

LeVasseur, Todd
Visiting Assistant Professor of Religious Studies and Environmental and Sustainability Studies

Mignone, Robert
Professor in Mathematics and Department Chair, Co-Chair

Pothering, George
Professor in Computer Science

Wright, Jen
Associate Professor in Psychology

RESEARCH, LITERATURE REVIEW, BEST PRACTICES, AND WRITING SUBCOMMITTEE

Burton Callicott
Instruction Coordinator/Research and Instruction Librarian, Chair

Callahan, Timothy
Department Chair in Geology

Futrell, Michelle
Director, Undergraduate Academic Services

Pritchard, Seth
Department Chair in Biology

Veal, William
Professor in Teacher Education

Wood, Liza
Data Coordinator

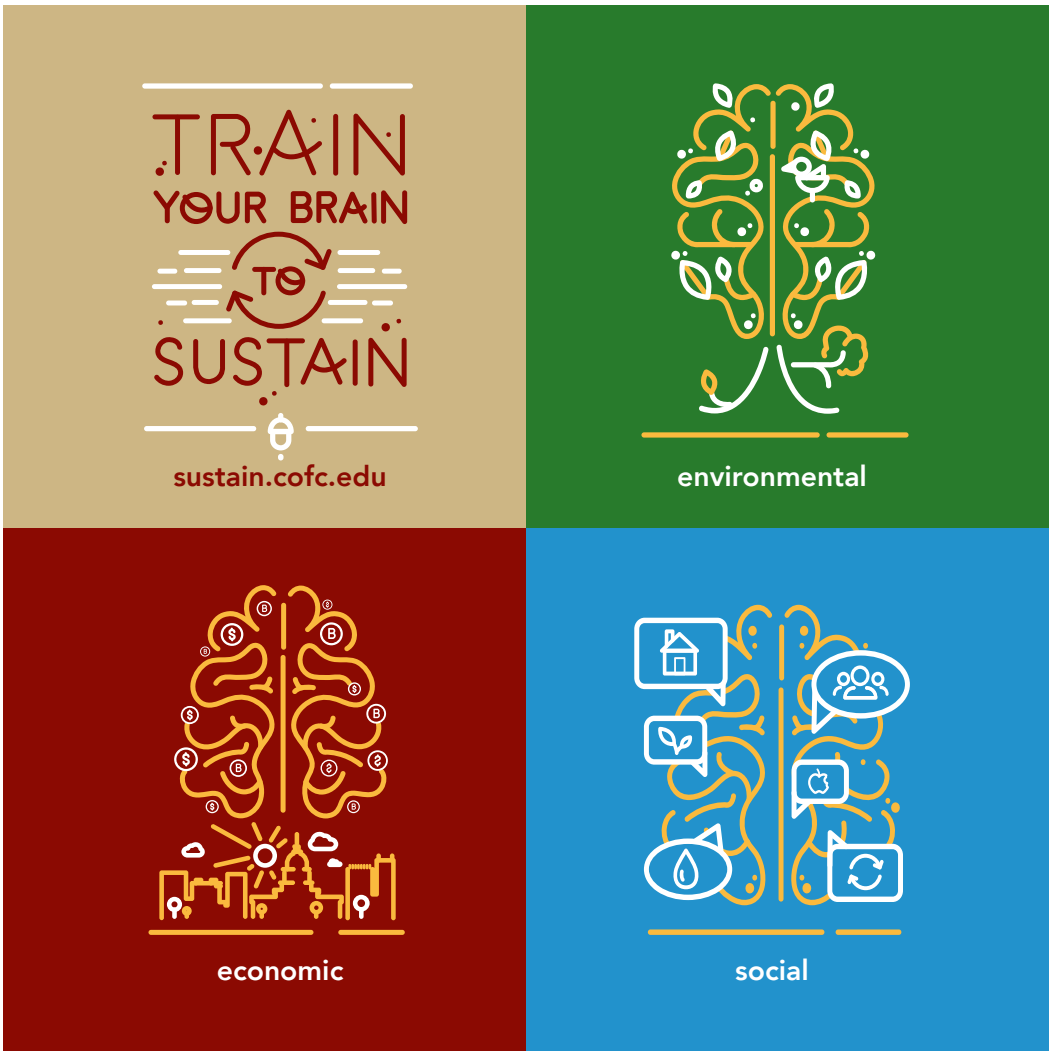
STUDENT ADVISORY SUBCOMMITTEE

Cregg, Emma (*Graduate Student, Chair)*
Gilmer, Caroline
Larimer, Morgan
Petro, Joshua
Rash, Taylor
Russell, Lorraine
Sackler, Olivia
Shirley, Luke
Voges, Amanda
Wilkinson, Johnsie

Table 3. QEP Subcommittees and Their Charge

Subcommittee	Charge
Assessment Subcommittee	Develop an assessment plan to effectively assess student learning in the curricular and co-curricular elements of the QEP, to include: • Development of measurable student learning outcomes; • Appropriate measures and performance targets; • Development of an assessment process; • A plan for disseminating assessment results to promote continuous improvement. Assist in creating and maintaining a culture of assessment around the QEP topic, "Sustainability Literacy as a Bridge to Addressing 21st-Century Problems." Motivate faculty and staff in all steps of the assessment process. Collaborate with institutional assessment committees as appropriate, including the Deans' Assessment Committee (DAC), the Administrative Assessment Committee (AAC) and the Faculty Senate committee on assessment of institutional effectiveness.
Awareness and Marketing Subcommittee	Develop a plan to create awareness of the QEP for all campus constituents. Coordinate with relevant campus offices, organizations or individuals to organize awareness events or campaigns. Build brand identification for the selected QEP topic.
Budget Advisory Subcommittee	Develop estimation for the financial, physical and human resources necessary for developing, implementing and sustaining the QEP, including existing resources.
Curricular and Co-Curricular Subcommittee	Identify the actions and the activities (both curricular and co-curricular) to be implemented on campus to bring about the desired enhancement of student learning. Develop initial suggestions on how to implement curricular and co-curricular elements of the QEP.
Research, Literature Review, Best Practices and Writing Subcommittee	Review best practices of other institutions in collaboration with the other subcommittees, as appropriate. This may include a site visit to other institutions, conference or workshop attendance. Align to the College's goals and strategic planning processes. Demonstrate evidence of need and ensure the QEP provides evidence of systematic analysis of the institutional context in which goals will be implemented. Write sections of the QEP, in collaboration with relevant subcommittees. Research potential external QEP evaluators in consultation with the QEP director, QEP Steering Committee co-chairs, and SACSCOC liaison. Prepare the Executive Summary to be submitted with the QEP.
Student Advisory Subcommittee	Provide feedback on the student perspective for curricular and co-curricular elements of the QEP. Provide feedback on the assessment plan for the QEP.

Implementation Committee	Provide assistance with implementation of QEP activities to include training, awareness and recruitment of students and faculty to the program. Attend monthly meetings for receiving updates from the QEP director and providing feedback to the QEP director. Provide critical feedback on annual QEP reports and the five-year report developed by the QEP director. Ensure that the SLI and QEP director are adequately scheduling and performing required QEP duties as outlined in QEP document, especially in regards to generating assessment data for annual reports and the five-year report. Use established rubrics to help select recipients of summer research proposals, Triple Bottom Line teaching proposals, student solution of the year winner (graduate and undergraduate teams), and student art expression of the year winner.



Promotion and Communication

A variety of communication to and with various campus constituents provided updates and information on the work of QEP subcommittees and announced important opportunities for trainings and for becoming involved with the process of developing the QEP.

"Train Your Brain to Sustain" Slogan and Graphic Element. The marketing team developed the phrase, "Train Your Brain to Sustain," in an effort to provide the campus and the larger community with a way to easily identify the sustainability literacy aspect of the QEP. To ensure that students, faculty and staff at the College – as well as other audiences – understand and recognize the three major components of sustainability literacy, three representative graphic treatments were developed to visually reflect the nature of the Triple Bottom Line: environmental, economic and social systems. The slogan and these graphic treatments have been used to increase awareness of the QEP in institutional print pieces (*College of Charleston Magazine* and the *Portico* [the College's employee newsletter]), at the back-to-school picnic for faculty and staff, at Patriot's Point and in TD Arena (the College's two major athletics facilities), on campus emails, on "rack cards" distributed to 531 full-time and 364 part-time faculty, on TV screens around campus, and on banners installed at various points on campus.

Online Channels. Beginning in August of 2016, a Yammer page was developed for the QEP, and the director was given special access to the campus-wide faculty and staff email listserv in order to share information and updates about the QEP. A website, sustain.cofc.edu, was also generated with this serving as the online presence for the QEP, with links to resources for sustainability literacy and information about the QEP and informative videos with faculty experts explaining the QEP as it relates to the Triple Bottom Line. A QEP Facebook page was created. An OAKS (learning management system) page was created to help QEP subcommittee members communicate about the project.

Campus Tours. Charleston 40 is a student-led organization housed in CofC's Office of Admissions. Members of Charleston 40 undergo a rigorous three-step training process where students are taught the necessary skills to give campus walking tours to prospective students and their parents. These tours address topics such as admissions, campus history, demographics of the student body, and the benefits of a CofC education. Beginning in January 2017, Charleston 40 volunteers incorporated a 30-second script into their walking tours that briefly explains the QEP topic on sustainability literacy.

Campus Meetings. The QEP director scheduled meetings that occurred from February through December 2016, with deans of all schools, the Halsey Institute, the Cougar Activity Board, the Student Government Association, Residence Life, Student Affairs, Student Advising, and meetings with a variety of institutes, offices and programs around campus, as well as meetings with various departments and department chairs and program directors from different schools on campus. In total, over 50 meetings were held with campus constituents in the planning phase of the project. (See Appendix A.)

These meetings provided an opportunity for the QEP director to gather feedback on the QEP process, and to solicit feedback from various campus constituents on the ongoing formation of the QEP. Updates were provided to the Faculty Senate by various subcommittee members, the QEP director, and SACSCOC liaison. In addition, regular communications in the form of emails, newsletters and presentations were given to the campus community by the president, provost, SACSCOC liaison, QEP director, and subcommittee chairs; and the SACSCOC liaison met individually with each dean to provide updates on the QEP process.

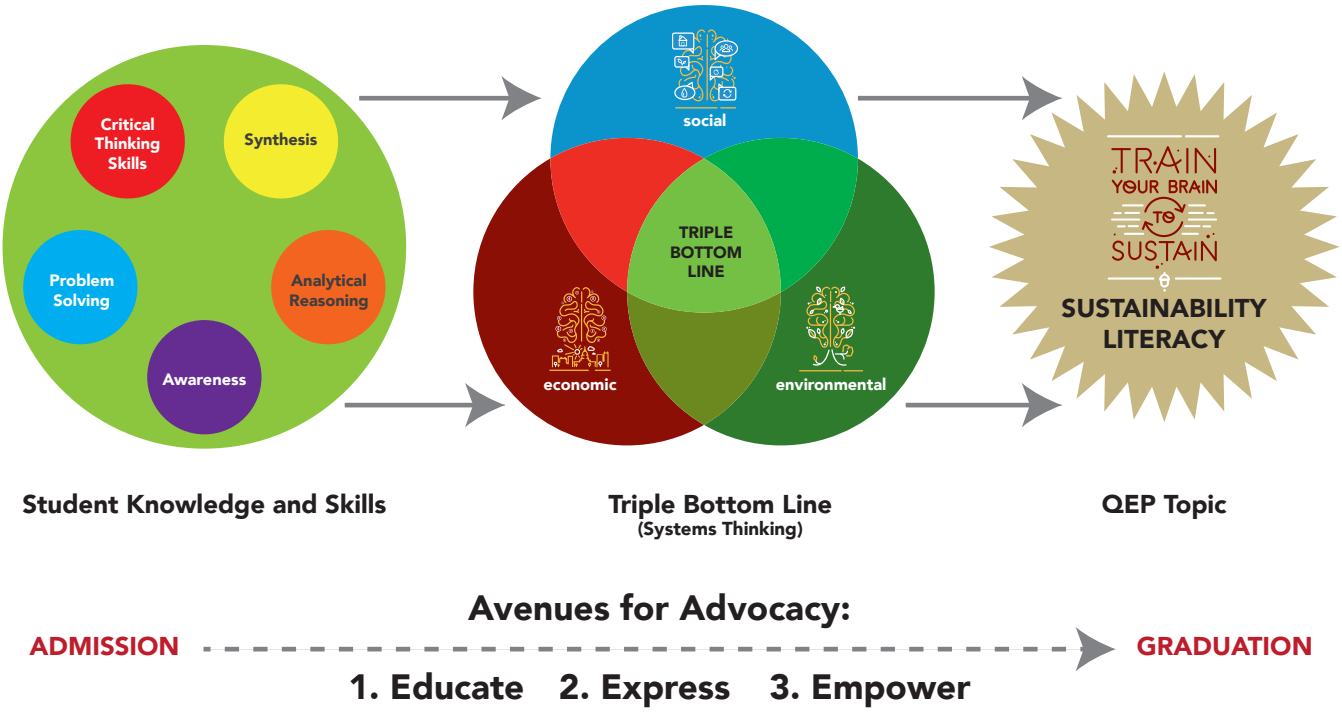
IDENTIFICATION OF THE QEP TOPIC

The learning gap identified by this QEP is proficiency in sustainability literacy; CofC students lack a basic understanding of the interconnected systems (social, economic and environmental) related to the Triple Bottom Line of sustainability and how to advocate for resiliency in interconnected social, economic and environmental systems from individual to international levels. In order to address this gap, CofC students will be presented with learning opportunities to become better problem-solvers and to think in terms of systems as they relate to the Triple Bottom Line (social, economic and environmental).

The College defines sustainability literacy as having the knowledge and skills to advocate for resilient social, economic and environmental systems.

Sustainability literacy requires a core set of competencies that the QEP is designed to provide to undergraduate students, with limited exposure to graduate students, in order to enhance their learning at the College. These include cultivating competencies and skills that foster sustainability literacy: building awareness, critical thinking skills, problem solving, the ability to synthesize knowledge, analytical reasoning and systems thinking. While these skills are not the sole domain of sustainability literacy, the College recognizes that developing these skills and aptitudes is central to the successful student learning structured by this QEP (see Figure 3). An added benefit of such learning is that these skills are transferable and applicable beyond sustainability literacy.

Figure 3. Student Knowledge and Skills for Sustainability Literacy



Implementing this QEP has many potential benefits. First, it will provide opportunities for greater interdisciplinary collaboration as students are encouraged to think about problem solving from the perspective of multiple domains (social, economic and environmental). Second, as the QEP is institutionalized, it could lead to integrating a sustainability framework into the College's curriculum. Third, as students become more sustainably literate, there should be a stronger, more engaged student ethos. Fourth, the College should see improvements in College and community dynamics. Finally, successful implementation could lead to a transformation of the vision of higher education in a time of system challenge.

Alignment with College Mission and Strategic Plan

The Mission of the College of Charleston reads: "This community, founded on the principles of the liberal arts tradition, provides students the opportunity to realize their intellectual and personal potential and to become responsible, productive members of society." This QEP topic is aimed at helping to achieve this mission.

Besides enhancing the College's existing Mission, Core Purpose and Guiding Value of the College, the QEP addresses CofC's current operational Strategic Plan. The College's Strategic Plan presents an envisioned future with overarching goals of where the College wants to be in 2020. Through an annual calendar of curricular and co-curricular activities – such as summer research opportunities, alternative breaks, a day of service, scholars program – this QEP will provide opportunities for experiential learning (Strategic Plan, Goal 1). Teaching a systems thinking approach to instill sustainability literacy is central to goal three of the College's Strategic Plan. The variety of campus events and workshops devoted to sustainability literacy and the CofC Sustains/Solves theme of the year will directly impact promotion of a vibrant campus life (Strategic Plan, Goal 4). Additionally, the QEP will support the core purpose of the College, a key guiding value of the plan, and two other operational goals as outlined in the plan:

Core Purpose of the College: "To pursue and share knowledge through study, inquiry and creation in order to empower the individual and enrich society."

Guiding Value of the College: College of Charleston values, "The history, traditions, culture and environment of the Lowcountry that foster distinctive opportunities for innovative academic programs and relationships that advance our public mission in the city of Charleston, the state of South Carolina and the world."

Three operational goals from the College's Strategic Plan:

1. Provide students a highly personalized education based on a liberal arts and sciences core and enhanced by opportunities for experiential learning. (Strategic Plan, Goal 1)
2. Provide students the global and interdisciplinary perspectives necessary to address the social, economic, environmental, ethical, scientific and political issues of the 21st century. (Strategic Plan, Goal 3)
3. Establish and promote a vibrant campus-life atmosphere dedicated to education of the whole person through integration of curricular and co-curricular or extracurricular activities. (Strategic Plan, Goal 4)

Therefore, the selection process of this particular QEP topic fits within this larger institutional Strategic Plan, and especially its core purpose, guiding value, and three of the operational goals of the College.

In addition, in an April 2016 address to the College Faculty Senate, the president outlined five key priorities that he would like the institution to focus on by 2020:

1. Become a nationally preeminent undergraduate-centered, student-focused liberal arts and sciences university with outstanding professional programs in business and education;
2. Address ongoing enrollment trends and broaden recruitment;
3. Successfully pass the institution's 10-year reaccreditation;
4. Increase diversity on campus; and
5. Embrace sustainability in all forms on campus.

The fifth priority is directly related to this QEP, which should greatly enhance the College's ability to demonstrate achievement of this priority. In addition, the fourth priority, increasing campus diversity, will also make positive contributions to the institutional context of this QEP. This is because issues of diversity (race, class, sexual identity) are sustainability literacy issues that campuses must take seriously in order to create a more inclusive, resilient, sustainable campus culture and welcoming student experience (Gurin, Nagda, and Lopez 2004; Bowman 2011).

Existing Learning Gap and Need for Selected Topic

Given complex 21st-century problems such as climate change, institutional racism and the pay wage gap and how these will affect individuals, institutions, professional opportunities, communities and countries, the College is beholden by its institutional mission, core purpose, guiding values and Strategic Plan to address them. A key way to do this is to equip students with the skills and knowledge to become advocates for sustainable solutions.

The five goals of the QEP are to improve students' ability to solve 21st-century problems. These problems are complex, interdisciplinary, "wicked" problems involving multiple interconnected systems and that therefore require multiple constituents and timescales to attempt to solve (Weber and Khademian 2008). Having this ability is important because students are entering an increasingly complex world once they graduate. Sustainability literacy, which is grounded in systems thinking and creative problem solving, is one effective method for improving students' ability to solve these kinds of problems and prepare them for the future (Martin 2002; Mumford et al. 2000).

Institutional Surveys. Data from multiple surveys were reviewed and evaluated to help determine current student learning gaps for College of Charleston students. The surveys outlined below are as follows: an internally created Sustainability Survey, the Cooperative Institution Research Program (CIRP) Freshman Survey, an internally created faculty and staff survey to gather feedback about the QEP topic, the National Survey of Student Engagement (NSSSE) and employer feedback data.

2011 Sustainability Survey. Data from a campus-wide survey of students, faculty and staff, in late 2011 (n=932; response rate=10%) demonstrated that the College community highly prioritizes sustainability; students believe in sustainability, make decisions based on sustainability and would like to see more courses, projects and opportunities on sustainability through the College of Charleston. (Source: Fisher, Brian P. & McAdams, Erin. (2015). "Gaps in Sustainability Education: The Impact of Higher Education Coursework on Perceptions of Sustainability." *International Journal of Sustainability in Higher Education*, 16(4), 407–423.)

CofC 2013 CIRP Freshman Survey. The 2013 CIRP Freshman Survey also demonstrates clear and strong student support for protecting the environment and environmental sustainability as:

- 81% (N=1,925, n=1,559) of freshman CofC students indicated that it is at least "somewhat important" to

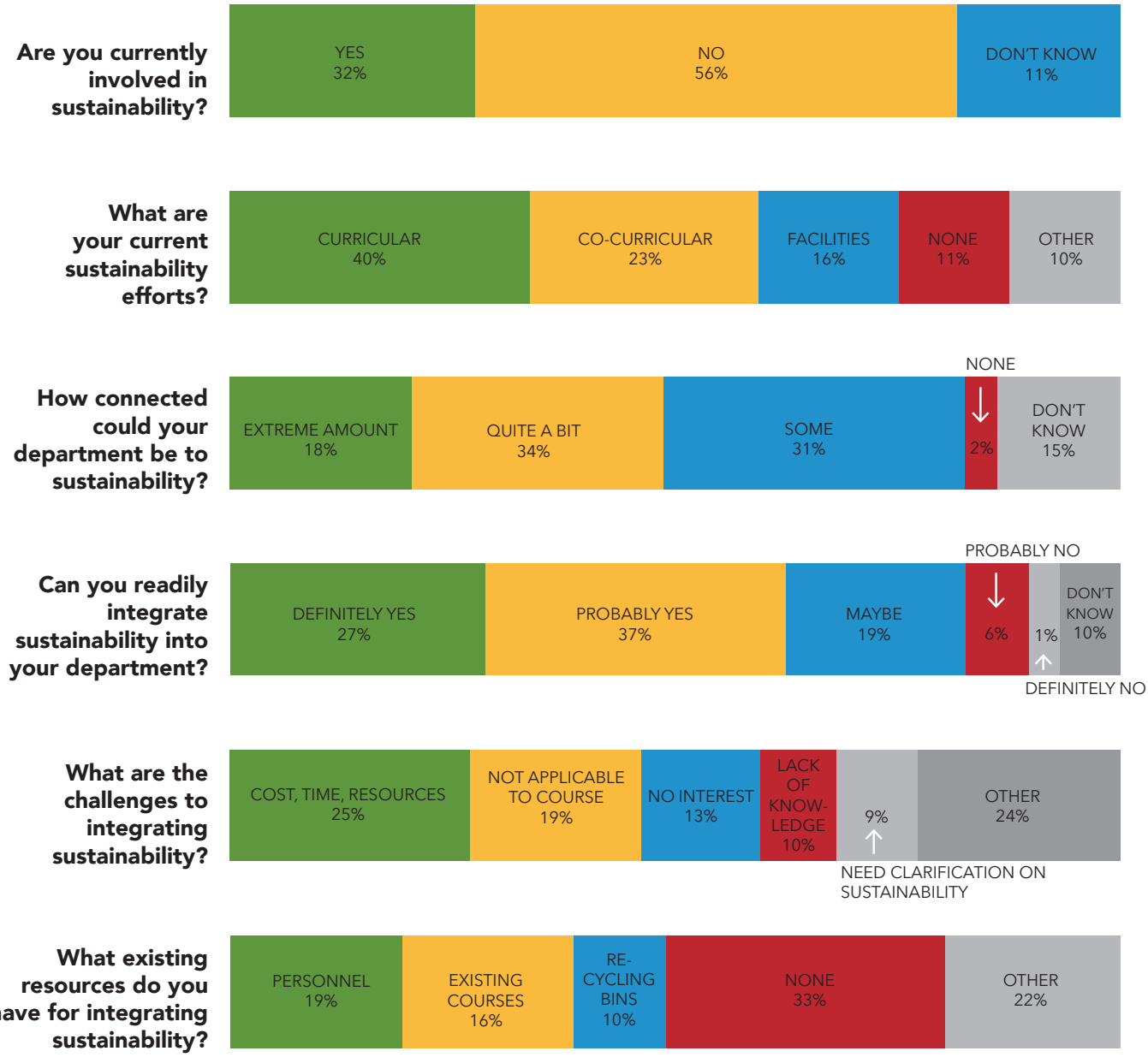
adopt “green practices” to protect the environment, with 38% (n=732) of the total saying that it’s “very important” or “essential.”

- 74% (N=1,921, n=1,421) of freshman CofC students indicate that it is at least “somewhat important” to become involved in programs to clean up the environment, with 28% (n=538) indicating that it is “very important” or “essential.”

In both surveys, the data are comparable to data at other institutions and are representative of national data. Nationally, it is seen in higher education where the Association for the Advancement of Sustainability in Higher Education’s (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) program has 791 participating institutions (as of 2016), of which 547 are AASHE members, including the College of Charleston. This builds on higher education focusing on sustainability, where, in 2008, over 500 campuses had institution-wide committees devoted to sustainability (Elder and MacGregor 2008). Contemporary sustainability curricula at the higher-education level are diverse and numerous – with most campuses now having majors in sustainability-related domains. These data points indicate that sustainability is a strong priority for Generation Z (the current generation of undergraduate students). This priority demonstrates not only a need for the campus, but a necessary pathway to attract new students and to increase student retention. It also demonstrates the College’s commitment to preparing students for the 21st-century job market, where sustainability literacy skills will be in high demand.

2015 Faculty and Staff Survey. A campus-wide Office for Institutional Effectiveness and Strategic Planning survey to solicit feedback on the selected QEP topic was distributed to all faculty and staff in November 2015. Of the 154 respondents (95 faculty and 59 staff), only 32% (n=50) were involved in sustainability efforts/ activities on campus. Of the respondents, 83% (n=128) overwhelmingly recognized that their department could be connected to sustainability principles and efforts and 64% (n=99) expressed confidence that they could readily integrate sustainability principles into their department. When asked about sustainability literacy initiatives on campus, a majority of survey responses indicated that it was “important” to enhance existing sustainability-related courses through professional development (70%, n=109); develop new sustainability-related and -centered courses (68%, n=106); create a trans-disciplinary hub (53%, n=83); and build an institutional sustainability network around sustainability literacy (63%, n=98). (See Figure 4.)

Figure 4. Campus-wide QEP Topic Feedback Survey, 2015 (N=154)



This feedback from faculty and staff informed the QEP action items outlined in the Actions to be Implemented section.

National Survey of Student Engagement (NSSE). The NSSE data from the 2016 administration revealed that seniors' perceptions of how much the institution contributed to their ability to think critically and analytically was significantly lower than the College's designated peer institutions (see Table 4). This indicates that there are opportunities for the College to contribute to students' sustainability literacy critical thinking skills and development through both curricular and co-curricular activities.

Table 4. 2016 NSSE Results in Critical and Analytical Skills (Seniors)

		Frequency Distributions[a]								Statistical Comparisons[b]			
										Your seniors compared with			
		CofC		CofC Peers		Southeast Public		South Carolina		CofC	CofC Peers	Southeast Public	South Carolina
Item wording or description	*Response options (Values[c])*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Mean*	*Mean*	*Mean*	*Mean*
How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?													
Thinking critically and analytically	Very Little (1)	13	3	15	2	842	3	83	2				
	Some (2)	52	11	105	12	4,131	13	458	11				
	Quite a bit (3)	179	39	328	32	11,216	35	1,425	34	**3.3**	3.4 * ▿	3.3	3.4
	Very much (4)	231	48	557	55	15,149	48	2,222	52				
	Total	475	100	1,005	100	31,338	100	4,188	100				

a. Column percentages are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Percentages may not sum to 100 due to rounding. Counts are unweighted; column percentages cannot be replicated from counts.

b. All statistics are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Means calculated from ordered response options (e.g., Very often, Often, Sometimes, Never) assume equal intervals and should be interpreted with caution. Unless otherwise noted, statistical comparisons are two-tailed independent *t*-tests. Exceptions are the dichotomous High-Impact Practice items (11a to 11f) which are compared using a *z*-test.

c. These are the values used to calculate means. For the majority of items, these values match the codes in the data file and codebook. For items estimating number of papers and hours per week, the values represent actual units using the midpoints of response option ranges and an estimate for unbounded options.

▿Your students' average was significantly lower ($p < .05$).

NSSE data from 2016 illustrate that College of Charleston seniors were significantly less likely to use integrative learning skills by combining ideas from different courses when completing assignments than the selected CofC peer institutions (see Table 5).

Table 5. 2016 NSSE Results in Interdisciplinary and Systems Thinking (Seniors)

		Frequency Distributions[a]								Statistical Comparisons[b]			
										Your seniors compared with			
		CofC		CofC Peers		Southeast Public		South Carolina		CofC	CofC Peers	Southeast Public	South Carolina
Item wording or description	*Response options (Values[c])*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*	*Mean*	*Mean*	*Mean*	*Mean*
During the current school year, about how often have you done the following?													
Combined ideas from different courses when completing assignments	Never (1)	18	3	15	1	1,277	4	117	2				
	Sometimes (2)	129	23	251	21	9,562	26	1,266	26				
	Often (3)	233	40	500	41	14,671	39	1,964	40	**3.0**	3.1 ** ▿	3.0	3.0
	Very often (4)	195	34	458	37	11,841	31	1,534	31				
	Total	575	100	1,224	100	37,351	100	4,881	100				

a. Column percentages are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Percentages may not sum to 100 due to rounding. Counts are unweighted; column percentages cannot be replicated from counts.

b. All statistics are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Means calculated from ordered response options (e.g., Very often, Often, Sometimes, Never) assume equal intervals and should be interpreted with caution. Unless otherwise noted, statistical comparisons are two-tailed independent *t*-tests. Exceptions are the dichotomous High-Impact Practice items (11a to 11f) which are compared using a *z*-test.

c. These are the values used to calculate means. For the majority of items, these values match the codes in the data file and codebook. For items estimating number of papers and hours per week, the values represent actual units using the midpoints of response option ranges and an estimate for unbounded options.

▿Your students' average was significantly lower ($p < .05$).

The most recent assessment of sustainability education from the 2016 National Survey of Student Engagement (NSSE) Sustainability Education Consortium (SustainEC) revealed more specific data relevant to addressing complex, interdisciplinary problems. Table 6 presents a summary of key questions from the SustainEC and color codes the CofC responses; red for responses that are lower than the other SustainEC institutions and green for responses that are higher than SustainEC institutions. Note: generally there is a preponderance of red in the table, indicating that the College is overwhelmingly lower on measures of sustainability literacy than the other participating institutions. Of the College's seniors who participated in the 2016 NSSE Sustainability Education Consortium, 43% (n=184) reported "often" or "very often" to altering their behavior to become more sustainable (see Table 6).

About half (48%) of senior respondents said that much of their coursework emphasized understanding the complex relationships between economic, social, and ecological systems. Only 34% of seniors said they "often" or "very often" completed an assignment that evaluates the sustainability of some activity. Questions that address the extent to which the College emphasizes sustainability issues (taking responsibility for the welfare of local communities, learning about sustainability, and understanding local economies and/or ecosystems) were the three most significant deficiencies compared to the other NSSE institutions that participated in NSSE SustainEC. This clearly suggests a gap in the education the College offers and a need for improvement, which this QEP is positioned to address. It also suggests that the College is underperforming compared to the rest of the country – such that CofC students do not have sustainability literacy skills and knowledge when compared to other college graduates. The NSSE data also suggests that CofC students have an interest in gaining sustainability literacy, but the institutional support to provide them with the desired skills and knowledge of sustainability literacy is currently lacking. This QEP addresses this student demand for sustainability literacy by directly institutionalizing such support.

Table 6. NSSE 2016 Sustainability Education Consortium

National Survey of Student Engagement (NSSE)
NSSE 2016 Sustainability Education Consortium
Frequencies and Statistical Comparisons
College of Charleston (CofC)

Note: Red font indicates target areas where the College underperforms compared to other NSSE SustainEC institutions; Green font indicates target areas where the College performs better than other NSSE SustainEC institutions.

In your experience at your institution during the current school year, about how often have you done each of the following?	**CofC Often/Very often**		**SustainEC Often/Very often**	
	FY	**SR**	**FY**	**SR**
Completed an assignment that evaluates the sustainability of some activity.	36%	34%	40%	43%
Integrated knowledge from multiple academic disciplines in working on a project.	61%	75%	58%	73%
Completed an assignment that evaluates our responsibilities to future generations.	35%	37%	36%	43%
During the current school year, about how often have you done each of the following?	**CofC Often/Very often**		**SustainEC Often/Very often**	
	FY	**SR**	**FY**	**SR**
Participated in a campus or community sustainability project.	14%	19%	18%	18%
Altered your behavior to become more sustainable.	35%	43%	38%	39%
During the current school year, how much has your coursework emphasized the following mental activities?	**CofC Quite a bit/ Very much**		**SustainEC Quite a bit/ Very much**	
	FY	**SR**	**FY**	**SR**
Understanding the complex relationships between economic, social and ecological systems.	41%	49%	45%	53%
Evaluating the moral dimensions of social or environmental problems.	45%	51%	48%	56%

Comprehending ways in which human activities may exceed the carrying capacity of systems that support us.	37%	42%	41%	47%
To what extent does your institution emphasize each of the following?	**CofC Quite a bit/ Very much**		**SustainEC Quite a bit/ Very much**	
	FY	**SR**	**FY**	**SR**
Taking responsibility for the welfare of your communities.	47%	38%	52%	50%
Learning about sustainability.	47%	40%	50%	50%
Understanding local economies and/or ecosystems.	37%	37%	43%	44%
To what extent has your experience at this institution contributed to your knowledge, skills and personal development in the following areas?	**CofC Quite a bit/ Very much**		**SustainEC Quite a bit/ Very much**	
	FY	**SR**	**FY**	**SR**
Articulating a vision of a just and sustainable society.	34%	38%	43%	46%
Understanding the economic dimensions of sustainability.	35%	35%	41%	44%
Acquiring the skills to help organizations become more sustainable.	36%	37%	41%	68%
Understanding issues of social justice.	46%	52%	49%	54%

Student Focus Groups. In the fall of 2015, the Office for Institutional Effectiveness and Strategic Planning (OIEP) conducted a series of five student focus groups to collect data on student perceptions of the QEP topic, "Sustainability Literacy as a Bridge to Addressing 21st-Century Problems," including knowledge of sustainability initiatives and opportunities available for students as well as their opinions on how sustainability could be integrated into the student curricular and co-curricular experience. Five focus group sessions were held between November 13, 2015 and November 19, 2015. Three focus group times/sessions were available to the general student population, and two focus groups were held with specific groups of students, including students who at that time were Office of Sustainability interns and members of the Student Government Association and the Graduate Student Association (see Table 7).

Table 7. Focus Group Participation Summary

Groups	Number of focus groups held	Participation Size	Total Participation Size
General sessions	3	4, 2, 9	15
Student Leadership (SGA & GSA)	1	7	7
Office of Sustainability Interns	1	6	6
Total	5	28	28
Programs represented: astrophysics, biology, business administration, communication, elementary education, English, international studies, physics, political science, psychology, public health, studio art, urban studies, M.A. communication, M.B.A., M.P.A., M.E.S.			

A qualitative analysis of the focus group data revealed that though connections to other topics were made, many students largely view sustainability in terms of resource use, "being green," or in terms of physical processes such as recycling or composting. Students typically struggled to connect sustainability principles to coursework; thus, the QEP topic may have potential to generate increased understanding amongst students

about sustainability literacy by allowing students to engage in curricular and co-curricular offerings that expand the discussion of sustainability beyond just environmental issues. Awareness of sustainability and sustainability opportunities on campus was generally higher in students who were Office of Sustainability interns or have previously taken a sustainability course. The focus group guide and full report can be provided to the on-site committee upon request.

Employer Feedback. Employers recognize the value of sustainability literacy because companies have been recognizing that addressing complex, systemic problems is necessary for maintaining competitiveness. PricewaterhouseCoopers' latest Global CEO survey found that 76% of CEOs agree that in the 21st-century, success can only be achieved by seeking more than just profits, that is, companies need to create social and/or environmental benefits as well (PwC 2016). An indicator of this is sustainability reporting by major firms around the world. According to a recent KPMG study, nearly three out of four of the largest 100 companies in 45 countries (4,500 companies) and more than nine in ten of the 250 largest companies across the globe report their sustainability performance (KPMG 2015). Among the Fortune 500 companies, 89% report sustainability performance (GreenBiz.com 2016). More generally the U.N. International Labour Organization concluded that a greener economy, in which countries "can achieve economic benefits (in particular employment gains) and environmental improvements at the same time" (ILO 2013), could lead to a net gain of up to 60 million jobs worldwide. So whereas in previous advancements, such as switching from paper to electronic documents (which required knowledge of basic office programs) or moving customer engagement to social media (which required basic knowledge of social media), both of which were skills students excelled at upon graduation, sustainability literacy is not something graduates have when they enter the job market.

Based on data from the U.S. Bureau of Labor Statistics, Ruedig and Metzger (2013) concluded that "the growing presence of sustainability programs in public and private organizations has created new staff positions for individuals who can manage, coordinate, communicate and measure sustainability-related initiatives." This is due in part to a 5% increase in "the number of people employed in Green Goods and Services" in 2013. They describe sustainability staff as "coordinators, conveners and communicators for sustainability-related activity across functions and departments. They rely on many colleagues to both implement and measure progress related to sustainability, creating an indirect route to metrics that indicate sustainability performance" (Ruedig and Metzger 2013). This demonstrates the value of interdisciplinary and critical thinking, in addition to the basic literacy of sustainability, all of which will be enhanced in students at CofC through this QEP. According to Wanted Analytics, a firm that tracks hiring data, sustainability jobs in the U.S. have more than doubled in the past four years. O*Net, an occupational network database published by the Department of Labor, projected 100,000 or more job openings for chief sustainability officers between 2014 and 2024.

A recent report from *Peterson's* (*College Guide*) states that "as the concept of 'sustainability' grows in popularity throughout the world, an ever-increasing number of environmental jobs emerge. Sustainability will continue to be a burgeoning industry with great career potential as resources and energy become more scarce and expensive" (2013). Arizona State University, a leader in sustainability education, conducted a study regarding the interest in hiring graduates with a concentration in sustainability. They reviewed 100 job ads and interviewed 200 managers and found that 65% of small companies and 87% of large companies they talked to "would consider a sustainability concentration when making a hiring decision." Nearly all (97.5%) of the large firm executives that they spoke to "said they would value the concentration" (ASU 2011). This suggests that implementing this QEP will enhance graduates' marketability.

In addition to the general global trends, data from Burning Glass Technologies (a company that provides job/

labor market data) was reviewed by using 27 search terms. The search terms were based in part on the tasks, knowledge, skills and attributes relevant for certification as a sustainability professional with the International Society of Sustainability Professionals (ISSP 2016). Results show a great demand both nationally and regionally. For example, a search of job descriptions within the ten metropolitan statistical areas (MSA) within or connected to South Carolina revealed 26,881 jobs, including 4,366 in the Charleston/North Charleston MSA in the year beginning November 1, 2015, and ending October 31, 2016. Nationally, between December 1, 2015, and November 30, 2016, there were 521,524 job postings that included one or more of the search terms. The top jobs appear to be in business (e.g., business analyst, marketing manager) and computer programming (e.g., graphic design, software development engineer), two major programs at CofC. A search nationally for job descriptions including the word "sustainability" revealed 170,906 job openings in the one year period examined. The top industries in this report were: architecture, engineering and related services (16,650); colleges, universities and professional schools (13,411); traveler accommodation (10,955); and special food services (7,065). Twenty-one other industries had at least 1,000 job openings posted.

Overall, the global, national and regional trends suggest that there is currently a large demand for graduates with the skills related to and knowledge of sustainability literacy; thus, it is a valuable effort for CofC to close the gap in terms of sustainability literacy.

Institutional Assessment Data. In an important study on student learning in higher education, Arum and Roksa (2011) argued empirically that, "growing numbers of students are sent to college at increasingly higher costs, but for a large proportion of them the gains in critical thinking, complex reasoning and written communication are either exceedingly small or empirically nonexistent." Currently, it appears many of the College's students are not prepared to address the intergenerational "wicked" problems recognized in the formation of this QEP.

Educational Testing Services (ETS) Proficiency Profile. Several sources of institutional data led the College to believe that sustainability literacy critical thinking skills could be enhanced. One is the assessment of high-level knowledge, through the ETS Proficiency Profile, administered at the College most recently in 2015. The results from this standardized test that measures students' attainment of critical thinking competencies revealed low scores (10% proficient) for critical thinking (see Table 8). While these scores are higher than averages for the comparable Carnegie class (8%), there is still much need for improvement, given that more than half (53%) of the senior students at the College who completed the ETS Proficiency Profile scored "not proficient" in critical thinking.

Table 8. 2015 ETS Proficiency Profile Senior Proficiency Classifications in Reading and Critical Thinking (N=608)

	Proficiency Classification					
	Proficient		Marginal		Not Proficient	
Skill Dimension	CofC	Carnegie Class	CofC	Carnegie Class	CofC	Carnegie Class
Reading, Level 1	**84%**	71%	**9%**	17%	**6%**	13%
Reading, Level 2	**59%**	42%	**18%**	20%	**22%**	38%
Critical Thinking	**10%**	8%	**37%**	21%	**53%**	71%

Review of Academic Assessment Reports. The College of Charleston assesses 99 undergraduate programs annually (including stand-alone minors). Of those, only 10 assessed programmatic goals that related to

sustainability literacy. Thus, only 10% of our current academic programs include sustainability literacy and its key concepts. Further, a mere 40% of those programs were meeting the performance expectations set for the learning outcomes (see Table 9). This further indicates the potential to increase the breadth of offerings for CofC undergraduates.

Table 9. Assessment Summary from 2015-2016 Academic Programs

Program	Outcome assessed	Target Met
Anthropology BS	Culture and biological diversity	Yes
Environmental and Sustainability Studies Minor	Interdisciplinarity of Triple Bottom Line	Yes
German Studies Minor	Integrative learning	No
Global Logistics and Transportation Minor	Integrative learning	Partially
Historic Preservation & Community Planning BA	Triple Bottom Line as it applies to urban planning and policy	No
Hospitality and Tourism Management BS	Triple Bottom Line in business ethics	No
International Studies BA	Interdisciplinary analysis	Partially
Linguistics Minor	Cultural diversity	Yes
Public Health BS	Social and behavioral theories to address population and intervention contexts	Partially
Women and Gender Studies BA	Social advocacy	Yes

Audit of Existing Courses. A benchmark study of existing courses supports the above data by revealing that interdisciplinary sustainability thinking is included in very few courses. To examine this, QEP subcommittee members took an inventory of three categories of curricular offerings as listed in the 2015-2016 CofC undergraduate course catalog:

- sustainability-focused (SF) and sustainability-related (SR) classes
- classes that have “systems thinking” listed in the course description
- classes that have “problem solving” listed in the course description

Following the guidelines from the Association for the Advancement of Sustainability in Higher Education (AASHE), the leading membership organization for supporting the growth of sustainability in higher education, the College defines the following:

1. Sustainability-focused courses are those that are:
    a. Foundational courses in which the primary and explicit focus is on sustainability as an integrated concept having social/cultural, economic and environmental dimensions.
    b. Courses in which the primary and explicit focus is on the application of sustainability within a field. As sustainability is an interdisciplinary topic, such courses generally incorporate insights from multiple disciplines.
    c. Courses in which the primary focus is on providing skills and/or knowledge directly connected to understanding or solving one or more major sustainability challenges. Such courses do not necessarily cover “sustainability” as a concept, but should address more than one of the three dimensions of sustainability (i.e., social/cultural wellbeing, economic prosperity and environmental health).
2. Sustainability-related courses are those that are:
    a. A course that is primarily focused on a topic other than sustainability, but incorporates a unit

or module on sustainability or a sustainability challenge, includes one or more sustainability-focused activities, or integrates sustainability issues throughout the course. As an example: While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered to be inclusive of sustainability unless the concept of sustainability or a sustainability challenge is specifically integrated into the course.

In 2013, a list of sustainability-related and -focused courses was generated by a student for her master's thesis in the environmental studies master's program based on course descriptions in the 2012-2013 course catalog (see Table 10).

In an effort to build on these previous course audits and to get an accurate and up-to-date account of current sustainability course offerings, the Reaffirmation Leadership Team sent a request to all academic deans and department chairs and program directors to vet and update the 2013 list of SF and SR courses. An ad-hoc course review committee consisting of members of the QEP Research, Literature Review, Best Practices and Writing and Curricular and Co-Curricular Subcommittees assessed the responses and made further refinements based on communication with individual faculty members and a close reading of the catalog descriptions. Focus was kept at the level of course description and not syllabi for courses as multiple faculty may teach the same course in different ways so that the most consistent data point was at the level of catalog description. The course review committee also removed special topics and honors courses in order to focus on a consistent count. The 2015-2016 list of SF and SR courses totals 226 out of 1,491 total undergraduate course offerings, so that 6.6% of total undergraduate courses at the College engage sustainability literacy as defined by AASHE. Table 10 shows the potential for increasing the number of SF and SR courses in each school at the College. Best practices in higher education suggest that infusing sustainability literacy across the curricula is one of the most effective means to equipping students with the skills and knowledge to understand theTriple Bottom Line and to advocate for resiliency (Barlett and Chase 2013). Creating many more course offerings devoted to sustainability literacy is one of the current institutional curricula needs this QEP aims to address.

Table 10. Undergraduate Sustainability-focused courses offered at the College

	Number of Sustainability-Focused Courses		Number of Sustainability-Related Courses	
Academic School	2012-2013	2015-2016	2012-2013	2015-2016
School of the Arts	0	1	5	5
School of Business	3	4	20	21
School of Education, Health, and Human Performance	0	0	11	11
School of Humanities and Social Sciences	7	10	66	69
School of Languages, Cultures, and World Affairs	0	0	7	7
School of Sciences and Mathematics	9	13	83	85
Total	19	28	192	198

The 2015-2016 review of courses also found no classes with "systems thinking" listed, while 13 courses with "problem solving" as part of their catalog description resulted in the data shared in Table 11. There also exist

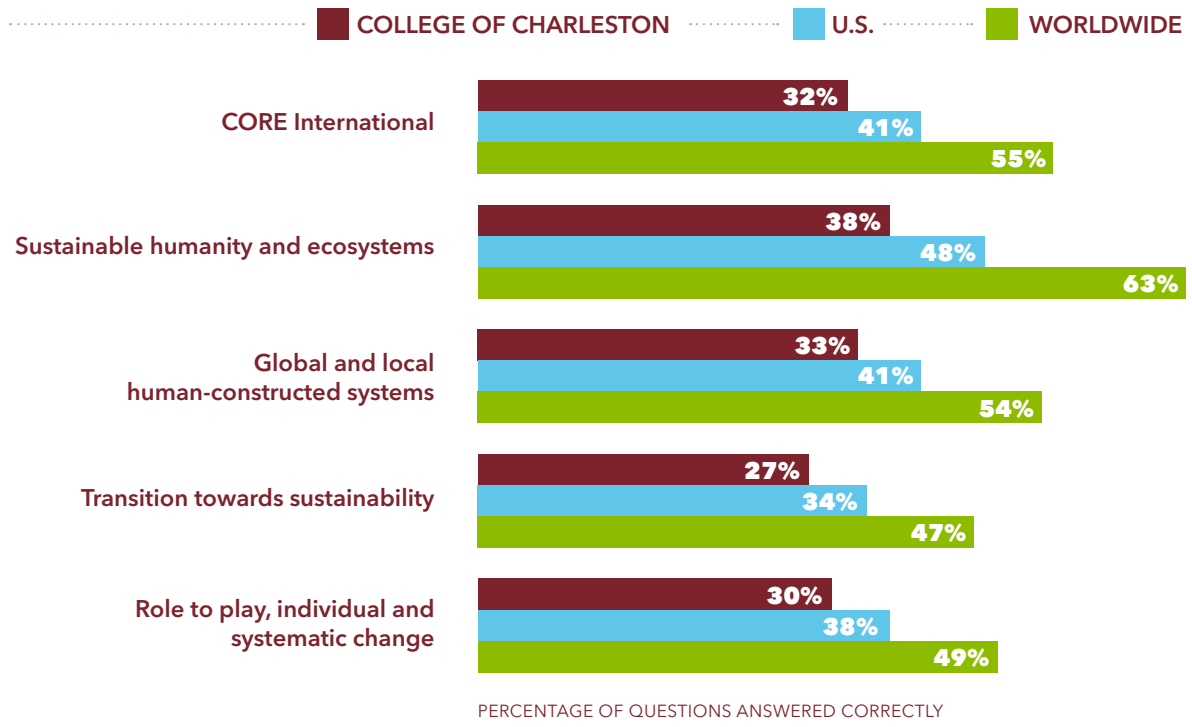
two programs within schools that have “Problem Solving” in their description. While the College recognizes that such skills and knowledge may be listed on syllabi, and activities from this QEP will target the teaching of such skills and knowledge through SF and SR courses, the overall descriptor of courses in the catalog suggests these skills are not a central focus at the meta-level of the majority of current curricular offerings.

Table 11. Undergraduate courses and programs with “problem solving” offered at the College (2015-2016)

Academic School	Number of Courses with Problem Solving in their description	Number of Programs with Problem Solving in their description
School of Education, Health, and Human Performance	3	0
School of Humanities and Social Sciences	2	0
School of Business	2	1
School of the Arts	2	1
School of Languages, Cultures, and World Affairs	0	0
School of Sciences and Mathematics	4	0
Total	13	2

Pilot Study of U.N. Sustainability Exam. In the fall of 2016 OIEP conducted a pilot test of the sustainability literacy test offered by the United Nations (Sulitest.org). All students enrolled in a First Year Experience (FYE) course in the fall of 2016 were encouraged to take the test; participation was not mandatory nor was credit given. Of the 1,350 students enrolled in FYE, 98 students completed the test (7%).

Figure 5. Results of U.N. Sustainability Literacy Exam by Theme (N=98)



As Figure 5 demonstrates, College of Charleston freshmen scored well below both the U.S. benchmark and the world benchmark. This most recent assessment data indicates an existing learning gap for College of Charleston students that can be addressed through the proposed activities of this QEP.

Pilot Administration of Baseline Sustainability Literacy Survey – Fall 2016. In the fall of 2016, a convenience sample of 100 students were surveyed with an online survey to gauge current perceptions of sustainability literacy concepts. The questions included in the survey were a subset of a longer online survey to be administered in the College's residence halls early in spring 2017 (see appendix B for survey instrument).

Results from the survey indicate that almost half of the student respondents thought that the three legs of sustainability were "reduce, reuse, recycle," indicating a common misconception of boiling down sustainability to "green" practices. Only 23% of student respondents answered correctly the three legs of sustainability were "economic, equity/equality, environment" (see Table 12). This data informs the strategy of building basic awareness around the three systems of sustainability (QEP Goal 1): what it is, its three systems and how these systems interrelate. Additionally, 55% of respondents were interested in learning about sustainability literacy in future academic coursework at the College of Charleston, which informed the strategy to develop campus-wide course infusion related to sustainability literacy and the Triple Bottom Line.

Table 12. Student Perceptions of the Best Description of the Three Legs of Sustainability (N=100)

Answer	%
Reduce, reuse, recycle	42%
Economy, equity/equality, environment	23%
Legislative, executive, judicial	2%
All of the above	29%
None of the above	4%
Total	100%

In addition, 37% of respondents reported that they had never heard of the Triple Bottom Line and another 29% had heard of it, but couldn't really explain it. Of 100 CofC student respondents, a vast majority self-reported that they were unable to define or explain the complexities of many Triple Bottom Line subsystems. This QEP is aimed precisely at enhancing student learning so that sustainability literate students at CofC can define and explain the complexities of these topics, which require an understanding of the Triple Bottom Line to advocate for solutions and resiliency.

Student Clubs and Organizations. In the last 10 years, the College has seen an increase in student-led groups devoted to a wide range of complex social, economic and environmental problems, providing evidence of increased student interest in using sustainability literacy to address these complex issues. These clubs include: Student Farm and Garden Club, Green CofC (now merged with Alliance for Planet Earth), Students for Social Innovation, CofC Clean Eats, ENACTUS, Vegan Club, Outdoors Club, Waterkeeper Club, Microfinance Club, Historic Preservation and Community Planning Club, Nourish International, Spoon University, United

States Green Building Council Student Organization and the Pulsera Project. It should be noted, however, that membership in these groups fluctuates each year, averaging from 10 to 50 students per organization, so overall student membership in these sustainability literacy-related organizations represents a very small percentage of the entire student body. While these organizations exist, and have active memberships, they tend to remain in the "silos" of the schools that host them, typically populated by students in those schools. These clubs are also not in dialogue together around sustainability literacy and resiliency.

DESIRED STUDENT LEARNING OUTCOMES

Given the gap in students' ability to use the three domains (social, economic and environmental) of sustainability to solve complex problems, five goals – each with associated student learning outcomes that will help measure and assess student learning related to sustainability literacy – have been developed. These goals target the College's undergraduate student body and build on one another so that by the end of a four-year degree, CofC students are exposed to and develop competencies in sustainability literacy in the following ways:

1. Build Awareness – it is recognized that CofC students must first be able to identify the three systems of the Triple Bottom Line of sustainability (social, economic and environmental) and how these three systems are related to one another. This will require interdisciplinary knowledge and systems thinking competencies.
    a. This goal will be assessed through the following two student learning outcomes:
        i. Students identify the three systems of sustainability and the relationship between them (social, economic and environmental).
        ii. Students identify key ways to be more sustainable in their personal life and on campus.
2. Synthesize and Integrate Knowledge – in order to cultivate sustainability literacy as a student, it is recognized that CofC students must be better able to think across disciplinary lines and must develop fluency in systems thinking. This will require pedagogical practices that expose students to various policies and practices that have led to unsustainability, while also requiring CofC students to synthesize knowledge from two of the three systems of the Triple Bottom Line in order to address a sustainability problem.
    a. This goal will be assessed through the following two student learning outcomes:
        i. Student identify policies and practices that have led to unsustainability.
        ii. Student synthesize knowledge from two or more systems to address a sustainability problem.
3. Skill Building and Competency Learning – once students are exposed to sustainability literacy through the Triple Bottom Line and can begin to recognize policies and practices that lead to unsustainability, they will be asked to demonstrate the impact of production and consumption practices on economic, environmental and/or social systems. This will require systems thinking, interdisciplinary acumen and creative problem-solving knowledge and skills.
    a. This goal will be assessed through the following student learning outcome:
        i. Students demonstrate the impact of production/consumption practices on social, economic and/or ecological systems.
4. Experiential and Learning Practice – this goal is focused on active learning, which will enhance student learning around sustainability literacy by helping students design solutions to various sustainability problems. Such experiential design and practice will help the institution achieve the fifth QEP goal.
    a. This goal will be assessed through the following student learning outcome:

        i. Students design a solution to a given sustainability problem.
5. Change Agents for Resiliency – goals one through four build upon one another so that a sustainability-literate CofC student will be able to advocate for resiliency at the individual, institutional, community, national or international level. This advocacy will be built upon an interdisciplinary understanding of some of the varied systemic interactions of the Triple Bottom Line and problem-solving leverage points in these linked systems and how acting on these leverage points can lead to resiliency.
    a. This goal will be assessed through the following learning outcome:
        i. Students advocate for resiliency at the individual, institutional, community, national or international level.

In total, these five goals and their corresponding student learning outcomes will address the current gap in student learning at the College of Charleston in regards to sustainability literacy. The goals recognize that "Sustainability issues … are holistic, bound neither by disciplinary boundaries nor by cognitive performance" (Shrivastava 2010), while overall, they are long-term goals that should be embedded as an integral part of being a sustainability-literate College of Charleston student (Haugh and Talwar 2010).

LITERATURE REVIEW AND BEST PRACTICES

This section provides a synopsis of the key concepts that guide this QEP on sustainability literacy. It focuses on the concepts of sustainability, resiliency, systems thinking, creative problem solving and interdisciplinary synthesis.

A responsible, productive member of society in the 21st century must be able to recognize and help solve 21st-century problems, from local to global levels. This is recognized by the United Nations Foundation, which powerfully claims that "The great challenges of the early 21st century are global in nature – issues that transcend the capabilities and resources of any one nation or sector. Former U.N. Secretary-General Kofi Annan labeled them 'problems without passports' and we are focused on bringing together all the parties – individuals, foundations, corporations, other organizations – to help foster global, lasting change." Producing such members of society is the core purpose of the College, where pursuing and sharing knowledge through study, inquiry and knowledge creation should empower the individual and enrich society; advocating for sustainability literacy to address these 21st-century problems is directly related to enriching society.

Sustainability

Sustainability, often used interchangeably with sustainable development, has been defined in at least 100 ways (Marshall and Toffel 2005; Wu 2013). Despite this diversity, most definitions include aspects of what is often referred to as the "Triple Bottom Line," which includes the environment, economy and social systems – elsewhere called "planet, profit and people" (Wu 2013).

The most widely cited definition of sustainability is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987). This is often referred to as the Brundtland definition (named after the lead author of the United Nations–commissioned report in which it appears, Gro Harlem Brundtland). Like the vast majority of definitions developed subsequently, the definition of sustainability and sustainability literacy for the QEP builds on the need to use present resources equitably and in ways that will not cause hardships for people in the future. In this QEP, sustainability is defined as the ability to integrate economic, social and environmental systems in

ways that allow for individual, institutional, community, regional and planetary resilience. This QEP definition acknowledges the need to integrate the Triple Bottom Line and also integrates the idea of resiliency.

Resiliency

Resiliency recognizes that humans exist in multiple nested and mutually interacting biological and social systems that have boundaries and parameters where these systems are often unstable, especially over time. Given that systems are an emergent structure of various interacting relationships amongst component parts, "Resilience determines the persistence of relationships within a system and is a measure of the ability of these systems to absorb changes of state variable, driving variables, and parameters, and still persist" (Holling 1973). This early and oft-cited effort by Holling to define resilience was subsequently updated by Holling to read "Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (Holling et al. 2004). Therefore, a resilient system is one that can withstand or rebound from stress or misfortune, while continuing to make progress on addressing problems among and between the various components of the system. As sustainability is a normative goal focused on sustaining the flourishing of social, economic and environmental systems for justice, equity and health for both present and future generations, it is important that humans manage these Triple Bottom Line systems for resiliency. Management of these systems should strive to keep these systems from tipping into new system regimes that are unhealthy (economic recession, wage disparity), unjust (institutional racism, institutional sexism) or maladaptive (climate change, loss of biodiversity). Helping to understand resiliency in an academic context can occur from having students envision a more sustainable future and then describing how to get there; by engaging in collaborative decision-making that empowers local action and participation in civic activities; by assigning projects that have students trace connections between social justice, the environment and economy at various levels; by having students reflect on how sustainability actions relate to their lives and values and what skills they can gain to incentivize these values and actions; and by using the campus or city as a "metabolism" to understand urban ecology and how the campus or city can withstand future threats to the Triple Bottom Line (Redman and Larson 2011; Kurlan et al. 2010; Wells 2013). In order to manage Triple Bottom Line systems for resiliency and to therefore address 21st- century problems related to sustainability literacy, students will need interdisciplinary problem-solving skills that incorporate systems thinking competencies.

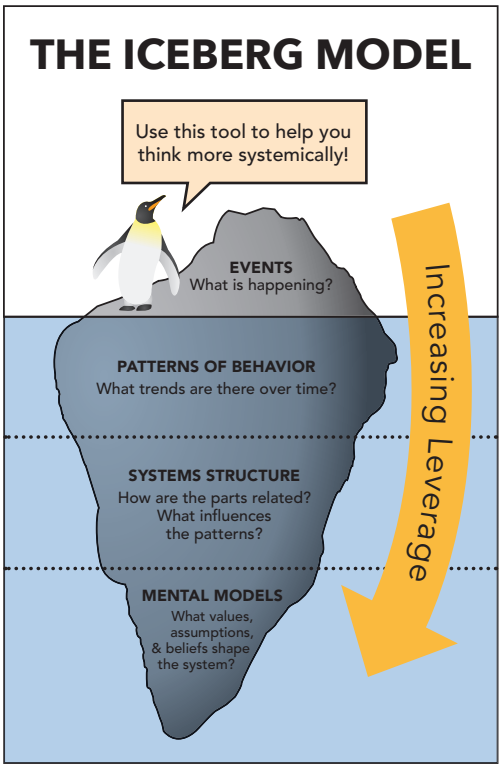
Systems Thinking

One of the key competencies needed to solve 21st-century problems is the ability to think in terms of systems. This was communicated to the QEP subcommittees by Furman University sustainability experts and by David Orr and by William Throop. Systems competencies are also covered in most all introductory sustainability textbooks and form the core sustainability competencies at leading institutions in higher education, including Arizona State University (https://schoolofsustainability.asu.edu/what-you-will-learn/) and the University of Michigan (http://www.snre.umich.edu/degrees/masters/sustainable_systems/overview). Systems thinking as a core competency is defined by Connell, Remington and Armstrong as "a problem-solving skill that works to understand the whole by examining multiple perspectives and interrelationships [and] is considered a fundamental learning outcome for sustainable development" (2012).

As Wiek, et al. explain, higher-education sustainability goals and "sustainability education should enable students to analyze and solve sustainability problems, to anticipate and prepare for future sustainability challenges, as well as to create and seize opportunities for sustainability. Because sustainability problems and challenges have specific characteristics (different from problems addressed in other fields), analyzing and

solving sustainability problems requires a particular set of interlinked and interdependent key competencies" (2011). A system can be defined as "a set of things – people, cells, molecules, or whatever – interconnected in such a way that they produce their own pattern of behavior over time" (Meadows 2008). Because systems "are connected not just in one direction, but in many directions simultaneously" (Meadows 2008), the ability to understand and shape systems requires interdisciplinary knowledge and understanding leverage points, key actors, and how the stocks and flows of systems interact over space and time.

Figure 6. Conceiving of Leverage Points and Systems



Courtesy of the Academy for Systems Change; Original Design: Sarah Parkinson

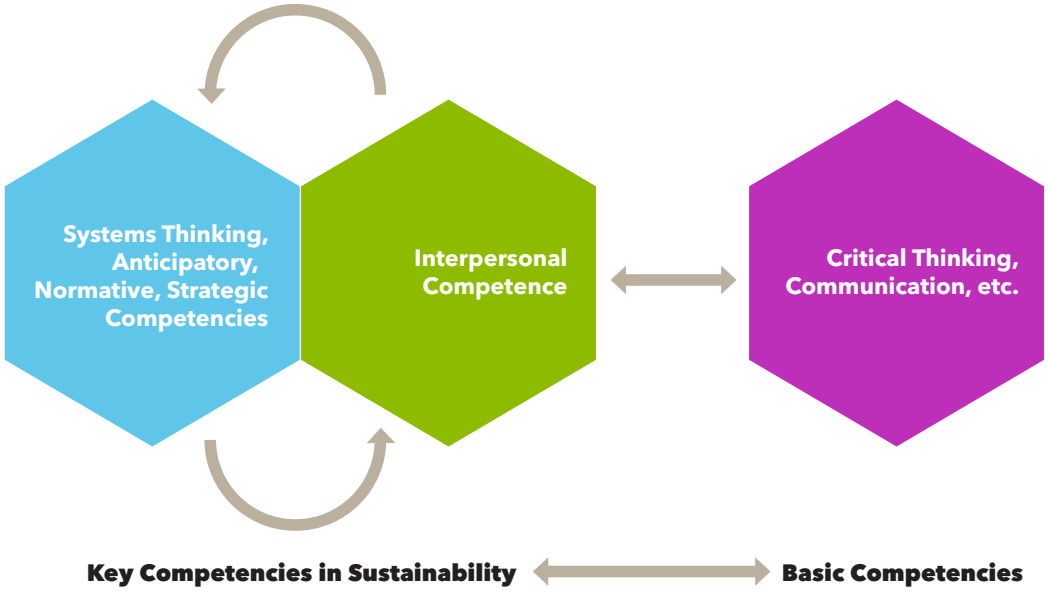
At their core, systems are a fluid mix of both biological and social parts that are constantly interacting. This is seen in the "Iceberg Model" (see Figure 6), where social and environmental events are a result of patterns of behavior. These behaviors are built upon hidden or backgrounded systems that provide the structure within which behaviors occur, while the structures are designed around existing mental models. Addressing systems problems, defined as "undesirable behaviors characteristic of the system structures that produce them" (Meadows 2008), requires the ability to understand both the biological and social components of 21st-century problems and how they interact and mutually shape one another. For example, a harmful, poorly designed system for the Triple Bottom Line is the production of coffee for commodity export. Such production typically occurs in monocultures of chemically-sprayed coffee fields, with the product shipped and refined using fossil fuels and low-wage labor. The production of a cup of coffee thus impacts social, economic and environmental systems at local to global scales. A more salubrious designed system for the Triple Bottom Line would be organic, shade grown, biodiverse coffee varietals grown by fair-trade labor and shipped and processed using

renewable forms of energy. This system design for coffee will have very different impacts on the Triple Bottom Line systems that are utilized when producing a cup of coffee.

Systems thinking also requires looking for leverage points at the level of events, behaviors or mental models where systems can be shifted, shaped and redesigned. Existing data summarized in the needs section that formulated the need for this QEP suggests that a majority of CofC students do not understand systems thinking and how "Systems are influenced by the larger systems in which they are embedded, and in turn influence those systems" (Barlow and Stone 2011).

Cultivating systems-thinking competencies, including thinking across scales, understanding multiple leverage points and actors in systems, and recognizing system flows and boundaries, provides students with an entryway into understanding these functions and leverage points so they can enhance their understanding of sustainability literacy by being taught how "Effective change usually requires acting simultaneously at several scales" (Barlow and Stone 2011) of nested systems. Systems thinking competencies will aid CofC students and their ability to conceptualize and address 21st-century problems, while having the added benefits of preparing them for the emerging job market – where systems thinking competencies will be in ever-increasing demand.

Figure 7. Systems Thinking and Sustainability Education



A layered set of competencies in academic sustainability education, linking basic competencies and key competencies in sustainability, as well as recognizing interpersonal competence as cross-cutting key competence in sustainability (Wick et al 2011)

As Figure 7 suggests, systems thinking is the practice of enhancing the understanding of how and why social (society and economy) and ecological systems behave the way they do by seeing their component parts (or sub-systems) in the context of relationships with each other and with other systems, rather than in isolation.

Understanding the context of such relationships also requires interdisciplinary thinking. Systems thinking focuses on cyclical rather than linear cause and effect, and is applicable at any scale of human activities and contexts. Interdisciplinary thinking in terms of systems, specifically of the Triple Bottom Line, helps create the context for creatively addressing 21st-century problems. Systems thinking is facilitated by best practices, including finding examples from everyday life that illustrate a lack of systems thinking; tracing the various systems processes that are involved in creating an object students use in their everyday life (such as coffee); and generating Systems maps and Multiple-cause diagrams (Strachan 2009; Morris and Martin 2009).

Creative Problem Solving

Sustainability expert William Throop, during the faculty training he gave on teaching sustainability literacy in September 2016, shared that "educating for sustainability involves using sustainability as a systems framework for conceptualizing and motivating problem solving." This statement recognizes that the ability to think in terms of systems and to integrate different perspectives into active problem solving is a hallmark of sustainability literacy: "The field's development is a response to existing and anticipated complex problems including climate change, desertification, poverty, pandemics, war – all featuring high degrees of complexity, damage potential, and urgency, and all having no obvious optimal solution. To solve these and other wicked sustainability problems, the field generates, integrates and links use-inspired knowledge to transformational action in participatory, deliberative, and adaptive settings" (Wick et al. 2011). By making complex problem solving (for example: what is the most sustainable way to generate a cup of coffee for all involved, both now and in the future?) a focus of enhancing student learning around sustainability literacy, the College is able to cultivate in students "the competencies considered essential for sustainability that have not been the focus of traditional education and therefore require special attention" (Wick et al. 2011). The focus on sustainability literacy creates precisely this context for enhanced student learning via creative problem solving. For example, the Washington Center and Evergreen State University have created curriculum integration around a "keystone idea" (sustainability idea) to form a campus-wide dialogue, with assignments and readings related to that sustainability idea and various problems associated with that idea. This example is similar to CofC choosing a sustainability literacy theme of the year. Other ways to cultivate creative problem solving include incorporating all stakeholders impacted by the stocks and flows of a system so they can help solve problems (Nabavi, Daniell, and Huain 2016); undertaking strategic questioning about a sustainability problem, like CofC's problem of the year focus (Ferreira and Blomfield 2016); and asking students to participate in reflective practice on their personal habits and how these habits contribute to or can help solve sustainability problems (Ferreira and Blomfield 2016). By enhancing student learning around addressing 21st-century problems, students will be exposed to the tools and mindset needed to bring about positive systemic change (Senge, et al. 2008).

Interdisciplinary Dialogue and Institutional Capacity Building

Sustainability literacy requires being able to think about and understand multiple systems and how they interact. This requires learning about a variety of content areas. As William Throop (during his visit to the College in 2016) explained, each discipline provides an entryway into sustainability literacy. Advocating for resiliency of social, economic and environmental systems from individual to international levels will require that CofC students develop skills and knowledge about the natural sciences, the humanities, the social sciences, public health, art and languages. This can be done by assigning students case studies and problem sets that require knowledge of various disciplines to discuss and help solve; unifying a campus discussion around a "keystone idea" or sustainability big idea; and training faculty to assign interdisciplinary assignments and to actively participate in interdisciplinary dialogue with students and faculty around sustainability (Fry, Blaney, and Middlecamp 2015; Washington State; MacGregor 2005; Barlett and Chase 2012). The ability to synthesize

data, theories, and content knowledge from these various disciplines will be a central learning activity of this QEP, as outlined in QEP goals two, three and four.

Best practices from other campuses that have embraced sustainability/sustainability literacy across their curricula include the creation of a campus-wide, interdisciplinary/transdisciplinary learning "hub" that provides a centralized space from where learning about sustainability literacy occurs. This best practice informs the creation of the Sustainability Literacy Institute (SLI) by the College. The SLI will be modeled on similar interdisciplinary institutes, including the University of Florida's Center for Adaptive Innovation, Resilience, Ethics & Science; Yale's Sustainability Research Centers; UC Davis' sustainability research partnerships; University of Michigan's Graham Sustainability Institute; the Portland State University Institute for Sustainable Solutions; Furman University's Shi Center for Sustainability; and the Arizona State Julie Ann Wrigley Global Institute of Sustainability. Overall, the creation of the SLI mirrors current best teaching practices in higher education for sustainability (Beynaghi, et al. 2015; O'Byrne, Dripps and Nicholas 2015; Furman site visit) and allows the College to build a "culture of collaboration" around sustainability literacy with students, faculty and staff using the SLI as a focal point (Rivilla and Dominguez 2014).

Advocacy in the context of this QEP is defined as the actions necessary to learn and implement knowledge about sustainability literacy in order to prepare citizens to live in communities capable of addressing 21st-century problems. As William Throop explained during his on-campus sustainability literacy faculty training held in September 2016, "The way problems are framed, the choice of scales at which to address a problem, the stakeholder values that affect viable solutions, and the goals a solution aims to achieve require creative normative work." This normative element of advocacy is reflected in how this QEP is developed to allow students to learn about sustainability literacy via the Triple Bottom Line in ways that enable them to reflect upon how their actions today will impact the future. There are three avenues into advocacy for sustainability literacy that help structure this QEP: to empower, to educate and to express.

Avenues for Advocacy of Sustainability Literacy

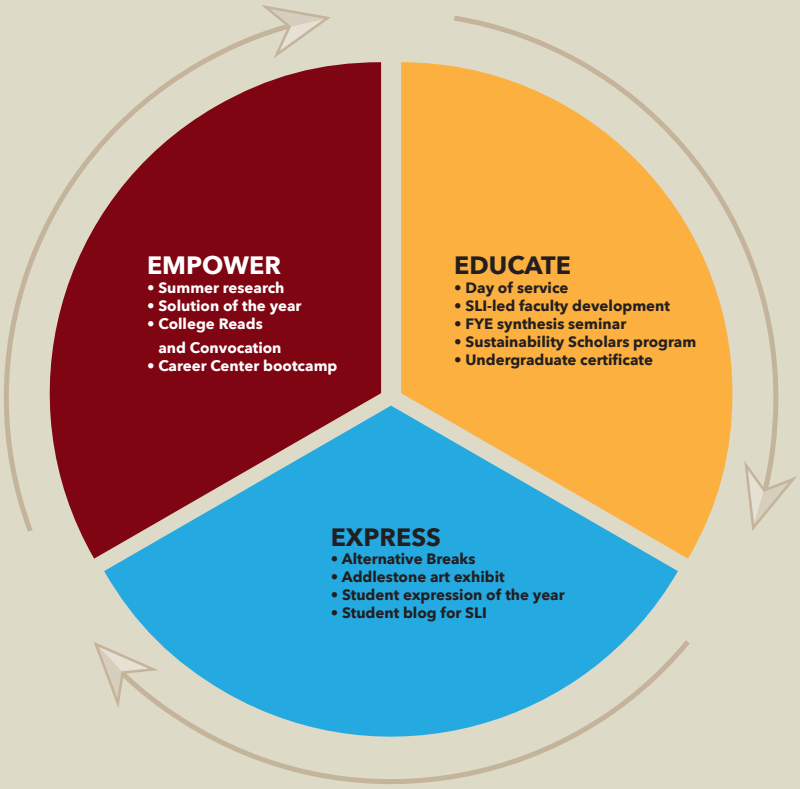
The QEP is structured in such a way that multiple stakeholders of the College will be empowered to advocate with helping address 21st-century problems through the cultivation of sustainability literacy. Three key avenues for engaging sustainability literacy will be used: educate, express and empower.

Educate. The literature supports the use of a variety of educational strategies in order to engage students, faculty, staff and community partners in sustainability literacy (Barlett and Chase 2012). Internationally, this is seen in the United Nations Educational, Scientific and Cultural Organization (UNESCO) Framework for A Draft International Implementation Scheme:

> Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity of all communities … The vision of education emphasized a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behavior, and lifestyles. (UNESCO 2003)

Educating for sustainability literacy draws from and merges multiple disciplines, including the natural sciences, social sciences, humanities, business and arts (O'Bryne et al. 2014; Gosselin et al. 2013). These diverse academic subjects are drawn together by necessity to address problems that arise at the dynamic interface of human and environmental systems (Clark and Dickson 2003).

ADVOCATING FOR RESILIENCY



The College's commitment to fostering sustainability literacy begins with establishing three avenues of advocacy that will be key in developing a more resilient community – education, empowerment and expression.

Education will take place primarily within the classroom, where students can take sustainability-focused or sustainability-related classes. In addition, students can also apply to become Sustainability Scholars, enroll in FYE synthesis seminars, participate in service days and pursue an undergraduate certificate in sustainability. And faculty can attend development sessions led by the Sustainability Literacy Institute.

Empowerment may involve students participating in summer research projects, the College Reads program and convocation and the Career Center's bootcamp on sustainability literacy.

Expression can take many forms. Students can participate in the Alternative Break Program, the Addlestone art exhibit, the student expression of the year project or they may blog for the SLI, for example.

Express. The knowledge and attitudes underpinning sustainability literacy are all mediated through communication and thus this process of thinking through complex problems (and eventually advocating for change) is done through the expression of what has been learned by students (Clammer 2014). Such expression can be functional, emotional and normative.

The functional expression of sustainability is most commonly seen in areas such as design and architecture (Guy and Farmer 2001). The expression of sustainability literacy can also evoke an emotional response that can engender questions, conversations and engagement (Rose 2008). Lastly, expression can be used to help students imagine a world that is fair, equitable and resilient by advocating for sustainability as a norm. Specifically, students will express a shift in norms from those that currently focus on hierarchical relations and conspicuous consumption to ones that express and actively foster values of social justice, equality, ecological responsibility, conscious consumption and creativity (Clammer 2014).

Empower. Gutierrez states that empowerment is "the process of increasing personal, interpersonal, or

political power so that individuals ... and communities can take action to improve their situations" (1995). Sustainability literacy invites CofC students, faculty, staff and community networks to recognize the urgent and immediate need to redesign society along a healthy, resilient balance of the Triple Bottom Line given 21st-century problems. Therefore, this third and final avenue of engagement carries with it a normative element for enhancement of student learning: creating empowered problem-solvers who can advocate for resiliency at the interface of social, economic and environmental systems. An empowered student is one who can reflect on how his/her choices as an individual ripple out to impact his/her community.

Through the focusing mechanism of "CofC Sustains/Solves" (see section Themes: "CofC Sustains/Solves" in Co-Curricular Activities), the entire campus community will be invited to consider how education and campus activities relate to resiliency. The shared exploration of sustainability literacy via a focused theme creates a context of advocacy that will empower the entire campus community to enter into vibrant discussions around one of sustainability's "Big Ideas." This shared space will create a context out of which empowered individuals can emerge while empowering the institution as a whole to generate top-down and bottom-up support for sustainability literacy (Barth 2013).

Gathering and Disseminating Best Practices from the Field

In March 2016, the QEP director, along with various subcommittee chairs and members, went on a site-visit to Furman University, located outside of Greenville, S.C., to share best practices regarding sustainability literacy. This trip included a visit with the staff of the Shi Center for Sustainability and a question-and-answer session with past president David Shi, who was the leader behind Furman's embrace of sustainability across its curricula (see sidebar).

QEP TEAM MEMBERS VISIT FURMAN'S SHI CENTER

Furman University integrates sustainability across its curricula (approximately 68% of courses have sustainability content) by incentivizing faculty to develop sustainability-related or -focused courses and by creating a campus "hub" that provides the focal point for Furman's sustainability curricula initiatives. The authority of a top-down vision of sustainability was driven by past Furman president David Shi. The Shi Center actively recruits faculty participation in the form of a Sustainable Faculty Program.

On July 27, 2016, Professor David Orr of Oberlin College visited the College for a consultation on the QEP. Professor Orr is one of the leading experts on sustainability in higher education, and during his day-long visit, he met with members of the QEP subcommittees, deans, the QEP Steering Committee, the Reaffirmation Leadership Team, the president, the provost, the associate vice president of strategic planning, and various members of the Board of Trustees.

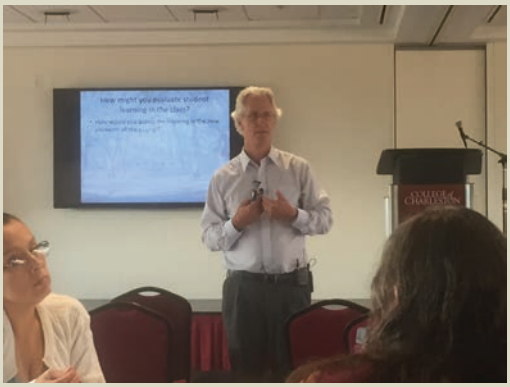
In order to address the insights about best practices from other institutions and to systematically enhance understanding of sustainability literacy with faculty and staff under the auspices of this QEP, two key trainings

SUSTAINABILITY EXPERT PROFESSOR DAVID ORR VISITS CAMPUS

Sustainability expert Professor David Orr of Oberlin College encouraged the College to focus on cultivating faculty engagement with sustainability literacy as a key way to help embed such literacy across the curricula. He shared the success of the Oberlin Project and encouraged the College to pursue active relationships with regional sustainability groups working at various interfaces of the Triple Bottom Line (social, economic, environmental) and to use these relationships as a chance to provide students with learning opportunities via internships.

were organized for the campus. The first was a panel led by faculty with expertise on the social, economic and environmental dimensions of the Triple Bottom Line, held on September 22, 2016. It was attended by more than 50 students, staff and faculty. The second was a faculty training on teaching sustainability literacy, led by Professor William Throop of Green Mountain College, held on September 30, 2016.

PROFESSOR WILLIAM THROOP VISITS THE COLLEGE TO TRAIN FACULTY



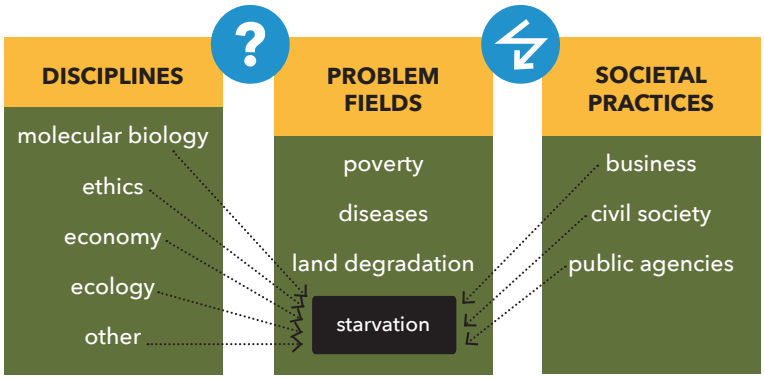
More than 50 facutly and staff members attended Professor William Throop's three-hour training sessions on integrating sustainability into the curricula. He shared that sustainability is inherently interdisciplinary and that teachers who can bring regional challenges into the classroom and link them to resilience will effectively help meet the goals of the QEP. Throop's overarching theme was that sustainability literacy is a problem-solving framework that requires the ability to engage with multiple stakeholders and to creatively address complex problems over multiple spatial and time scales.

"I just loved today's discussion and input on sustainability. I am inspired for the changes I can make to my syllabus, but, more importantly, the teaching and learning experience of my students when I next teach the healthcare delivery system course this spring. I understand what is meant now by 'sustainability.' Thank you very much. Bill Throop was incredible. Many thanks to you and all the staff for sharing him with us."

— Nancy Mueller, Ph.D.
Director and Associate Dean
Lowcountry Graduate Center

This QEP's focus on sustainability literacy as a bridge to addressing 21st-century problems directly addresses these shared, wicked problems and helps equip CofC students with the knowledge and skills to help solve them (see Figure 8). In order to generate such sustainability literacy knowledge and skills, this QEP will expose CofC students to interdisciplinary problem solving, critical thinking skills around sustainability problems and the cultivation of integrated systems thinking acumen. The importance of developing interdisciplinary problem-solving skills as a method for addressing 21st-century problems builds on the recognition that "transdisciplinary research addresses a problem field by identifying the diverse dimensions of the question at issue, and investigates their complexity, dynamics and variability with regard to how they can be transformed in a more sustainable way" (Hadorn et al. 2006). Understanding the complex, nested, interconnected systems that have led to these problems is essential if they are to be solved. This is seen in Figure 8 (Hadorn et al. 2006), which highlights the interdisciplinary problem solving and focused social practices needed to address 21st-century problems, such as starvation.

Figure 8. Interdisciplinary Problem Solving



Problem solving: understanding the complexity of issues and considering related practices with regard to the common good and the precautionary principle.

ACTIONS TO BE IMPLEMENTED

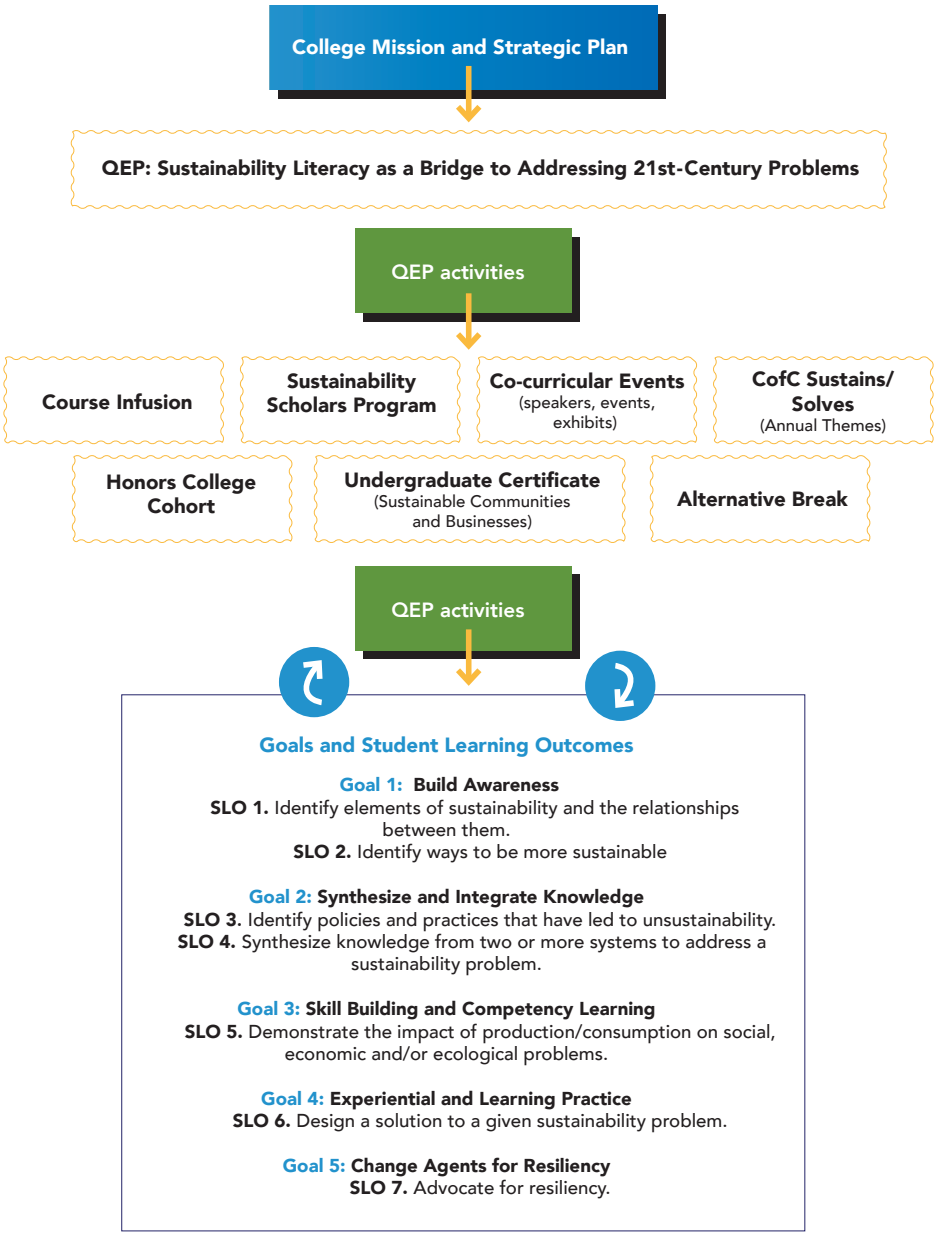
The actions described in this section were developed by the Curricular and Co-curricular Subcommittee with input offered by other QEP subcommittees, the QEP Steering Committee and insights gleaned from sustainability literacy experts at Furman University, David Orr and William Throop. Key curricular actions for this QEP consist of:

- creating and staffing a Sustainability Literacy Institute at the beginning of Year One;
- developing a First Year Experience synthesis seminar based on the "CofC Sustains/Solves" theme of the year beginning in Year One;
- facilitating faculty and professional development on sustainability literacy, beginning in Year One.
- course infusion of sustainability-focused (SF) and sustainability-related (SR) courses, beginning in Year One;
- offering a Sustainability Literacy Scholars Program to all undergraduate students, beginning in Year Two;
- generating an undergraduate certificate related to sustainable literacy and business practices, beginning in Year Three;

- forming the Honors College sustainability literacy cohort beginning in Year Two; and
- supporting student research with faculty, student solutions to sustainability problems and student expressions of resiliency.

Figure 9 provides a meta-map of the QEP, visually demonstrating the alignment of the QEP to the College's Mission and Strategic Plan, the QEP goals and corresponding student learning outcomes, and the QEP activities.

Figure 9. Meta-map of QEP



The QEP curricular and co-curricular activities are designed to have broad-based participation by College of Charleston students. The College estimates that the QEP will impact at least 3,500 students a year: 2,500 students will be enrolled in First Year Experience classes; at least 300 students will enroll in 15 new sustainability literacy special topics courses each year; and at least 800 students will enroll in 40 SR classes. The number may increase over time as additional new or modified courses are offered. In addition, students involved in Alternative Break and other co-curricular activities (not counted here) will be impacted by the QEP. This means that over the next five years, all CofC freshmen via the FYE will be exposed to the QEP, while at least 1,500 students will matriculate into a SF class and 4,000 will matriculate into an SR class. Table 13 outlines the curricular and co-curricular activities with associated budget costs (not an exhaustive budget) and the number of students each intervention is expected to impact. As they support multiple goals, the curricular and co-curricular activities appear multiple times in Table 13; however, their associated budget cost and number of students impacted are not repeated after the first occurrence.

Table 13. Linking Goals with Activities and Associate Budget with Total Student Impact over Five Years

QEP Goal	Curricular and co-curricular activities as described in the Activities to be Implemented section	Five-year budget outlay per intervention	
		Total budget for activities: $873,000	**Total students impacted:** 154,970
Build Awareness SLO 1: Students can identify various elements of sustainability and the relationships between them (social, economic and environmental). SLO 2: Students can identify key ways to be more sustainable in personal life and on campus.	<u>*Curricular:*</u> 1. FYE synthesis seminar 2. TBL course infusion 3. Sustainability Literacy Scholars program 4. Undergraduate certificate 5. Honors College sustainability literacy cohort <u>*Co-curricular:*</u> 1. SLI-sponsored events 2. SLI outreach to student organizations 3. SLI-sponsored service learning opportunities in the Charleston area 4. Art expression of the year 5. Addlestone art exhibit for CofC Sustains/Solves theme of the year 6. CofC Sustains/Solves annual theme 7. College Reads/convocation 8. Faculty/student research 9. Career Center informational events 10. Cougarpalooza, Beyond George St. <u>*SLI:*</u> 1. Faculty training and exchanges/ May workshop 2. Marketing 3. Hosting events 4. Workshops at convocation and convocation events	<u>*Curricular:*</u> 1. No budget outlay 2. $79,000 3. $30,000 (beginning Year Two) 4. $15,000 (beginning Year Three) 5. $16,500 (beginning Year Two) <u>*Co-curricular:*</u> 1. $250,000 2. No budget outlay 3. $25,000 (part of overall Alternative Break budget) 4. $10,000 5. $20,000 6. No budget outlay 7. $12,500 8. $70,000 9. No budget outlay <u>*SLI:*</u> 1. $12,500 2. $25,000 3. $250,000 4. $12,500	<u>*Curricular:*</u> 1. 15,000 2. 5,800 3. 300 4. 70 5. 30 <u>*Co-curricular*</u>: 1. 5,000 2. 750 3. 250 4. 20,000 5. 25,000 6. 55,000 7. 15,000 8. 80 9. 500 <u>*SLI:*</u> 1. 2000 2. N/A 3. 5,000 4. 5,000

Synthesize and Integrate Knowledge SLO 3: Students can identify policies and practices that have led to unsustainability. SLO 4: Students can synthesize knowledge from two or more systems to address a sustainability problem.	*Curricular*: 1. FYE synthesis seminar 2. TBL course infusion 3. Sustainability Literacy Scholars program 4. Undergraduate certificate 5. Honors College sustainability literacy cohort *Co-curricular:* 1. SLI-sponsored events 2. Alternative Breaks 3. Art expression of the year 4. Student solution of the year 5. CofC Sustains/Solves annual theme 6. College Reads/convocation 7. Faculty/student research *SLI:* 1. Faculty training and exchanges/May workshop 2. Hosting events 3. Workshops at convocation and convocation events	*Co-curricular:* 2. $25,000 4. $20,000	*Co-curricular:* 2. 150 5. 40
Skill Building and Competency Learning SLO 5: Students can demonstrate the impact of production/consumption practices on social, economic and/or ecological systems.	*Curricular:* 1. FYE synthesis seminar 2. TBL course infusion 3. Sustainability Literacy Scholars program 4. Honors College sustainability literacy cohort *Co-curricular:* 1. SLI-sponsored events 2. Alternative Breaks and SLI-sponsored service learning opportunities in the Charleston area 3. Student solution of the year 4. Addlestone art exhibit for CofC Sustains/Solves theme of the year 5. CofC Sustains/Solves annual theme 6. Faculty/student research *SLI:* 1. Faculty training and exchanges/ May workshop 2. Hosting events		

Experiential and Learning Practice SLO 6: Students can design a solution to a given sustainability problem.	*Curricular:* 1. TBL course infusion 2. Sustainability Literacy Scholars program 3. Undergraduate certificate 4. Honors College sustainability literacy cohort *Co-curricular:* 1. Alternative Breaks 2. Art expression of the year 3. Student solution of the year 4. Addlestone art exhibit for CofC Sustains/Solves theme of the year 5. CofC Sustains/Solves annual theme 6. Faculty/student research *SLI:* 1. Faculty training and exchanges/ May workshop 2. Hosting events		
Change Agents for Resiliency SLO 7: Students can advocate for resiliency at the individual, institutional, community, national or international level.	*Curricular:* 1. TBL course infusion 2. Sustainability Literacy Scholars program 3. Undergraduate certificate 4. Honors College sustainability literacy cohort *Co-curricular:* 1. SLI-sponsored events 2. Alternative Breaks and SLI-sponsored service learning opportunities in the Charleston area 3. Student solution of the year 4. Addlestone art exhibit for CofC Sustains/Solves theme of the year 5. CofC Sustains/Solves annual theme 6. College Reads/convocation 7. Faculty and student research *SLI:* 1. Faculty training and exchanges and May workshop 2. Hosting events		

The Sustainability Literacy Institute (SLI)

The SLI will function as a physical, pedagogical, virtual and institutional hub for sustainability literacy efforts at CofC for the duration of this QEP and beyond. The creation of the SLI will provide CofC students with a physical location, providing resources and training to further engage with the QEP. Importantly, the SLI will connect existing initiatives and encourage more efficient and synergistic activities on campus related to sustainability literacy, helping to advance the profiles of these initiatives so students become aware of further

avenues of advocacy for sustainability literacy. SLI interaction with student clubs, student sustainability literacy research projects, information about sustainability literacy course offerings (SF and SR courses listed on the SLI website for students), faculty sustainability literacy fellows, open-campus sustainability literacy presentations, generation of grants and research, and other activities related to the QEP will be organized by this institute. The SLI will manage and oversee a virtual presence of the QEP, located at sustain.cofc.edu. This website will contain a faculty resource section; FAQs on the QEP and on sustainability literacy; will list sustainability-focused and sustainability-related curricula offerings; have an events calendar; and will contain various documents that will allow faculty and staff to apply for SLI resources that will help them enhance student learning around sustainability literacy. The SLI will conduct faculty training for sustainability literacy course development, as well, helping facilitate faculty knowledge about the Triple Bottom Line so that CofC faculty can more effectively teach sustainability-focused and -related courses to CofC students. Faculty who teach SF and SR courses and who adopt QEP SLOs for their classes will be considered SLI faculty affiliates and will be invited to SLI-sponsored events, to generate blog entries for sustain.cofc.edu, and will be encouraged to be active faculty participants in advancing the pedagogy of sustainability literacy on campus by emails, invitations to contribute to the resources page of sustain.cofc.edu, asked to share sustainability research at campus-wide talks, and invited to relevant SLI-sponsored trainings.

Four newly created SLI Faculty Fellow positions will aid the QEP director, who will also be the SLI director, in facilitating the implementation of the QEP. These positions are an outreach fellow, faculty development fellow, innovation fellow, and a student engagement fellow and their duties are articulated in the Organizational Structure section.

SLI EXTERNAL ADVISORY BOARD (INVITED)

BOARD MEMBER	PROFESSIONAL ROLE
Dana Beach	*Executive Director, Coastal Conservation League*
Stuart Williams	*Social Entrepreneur in Residence, College of Charleston; Director, Be Earth Foundation*
Jamee Haley	*Executive Director, Lowcountry Local First*
Bryan Cordell	*Executive Director, The Sustainability Institute*
Carolee Williams	*Project Manager, Green Business Challenge, City of Charleston*
Bill Stanfield	*CEO, Metanoia*
George Greene III	*CEO, Water Missions International*

An external advisory board will be populated by regional sustainability experts who will provide consultation advice to the SLI and who will help create regional connections for the SLI. The creation of the SLI advisory board allows the College to cultivate working relationships with leading sustainability experts in the Charleston region. The board is constructed of municipal, for-profit, and non-profit members who are subject matter experts in the three systems of the Triple Bottom Line. Members also have administrative experience and will be asked to share their expertise on how the SLI can strategically engage with the campus and larger Charleston communities. Board members will be asked to attend bi-annual SLI meetings, will provide feedback

(oral or written) on SLI initiatives and planned events, will recommend events the SLI can organize, and will offer their expertise to the four SLI Faculty Fellows on an as-needed basis. Board members will be asked to consider internship opportunities for Sustainability Literacy Scholars, and will be asked to help generate partnerships with other regional groups (municipal, for-profit, non-profit) working on sustainability initiatives where these partnerships will benefit CofC student learning opportunities. Lastly, the advisory board will endeavor to hold the SLI director and the SLI to standards required by the SLI's vision and mission statements and will review annual budgetary spending.

SUSTAINABILITY LITERACY INSTITUTE (SLI)

The SLI will be guided by the following vision, mission and core values:

I. VISION

SLI envisions positive social, economic and environmental change from a sustainability literate College of Charleston community.

II. MISSION

The SLI supports teaching, learning and research in sustainability literacy at the College of Charleston and the communities with which it interacts.

III. CORE VALUES

Education The Institute supports established pedagogical practices that teach sustainability literacy, and facilitates teaching faculty such practices.

Engagement The Institute actively fosters interdisciplinary collaboration about sustainability literacy amongst faculty, and between faculty and staff, faculty and students, and the larger community.

Expression The Institute advocates for and supports the expression of sustainability literacy at individual, campus, local, regional, national and international levels.

The creation of the SLI recognizes that sustainability literacy in higher education will require "creating synergies and collaborative structures, and of developing the resilient capacities to innovate. To do so requires both rejecting the disciplinary silos that so hinder our capacity to prepare students for complex problems, and refusing to be bound by the enervating divisions between tenurable and nontenurable, university and community, teacher and learner, young and old" (Curtis 2011). It also recognizes that changing the culture of a campus so there is more interdisciplinary exploration and teaching around sustainability literacy requires "greater integration, collaboration, and … a team relationship" (Kurland, et al 2010). The SLI is expressly structured around interdisciplinary collaboration and team building so that faculty will be incentivized to engage in such behaviors for the learning benefit of CofC students.

In order to develop a more thorough understanding of how to embed sustainability literacy on campus so

the QEP can be successful, two key QEP capacity building events that involve the SLI are scheduled for fall of 2017. The first is a training from Professor Bobbi Paterson from Emory University that will be hosted by the SLI. Professor Patterson will give a campus-wide faculty training based on using Charleston and the Lowcountry as a "living laboratory" for teaching sustainability literacy and the systems thinking and problem-solving competencies related to such literacy. The second capacity building event will consist of the QEP director and four SLI Fellows, as well as a staff member of the Career Center, attending the annual Association for the Advancement of Sustainability in Higher Education (AASHE) conference to be held in October 2017.

QEP Activities

Annual Themes: "CofC Sustains/Solves." To help create a shared focus for the entire campus community, the QEP will focus on a specific, unifying theme for each academic year where advocating for resiliency is centered around this theme. This practice mirrors best practices in sustainability in higher education, broadly (MacGregor 2005; Washington Center). Each year will have a different theme so that CofC students will be exposed to a variety of 21st-century sustainability literacy problems and be provided learning opportunities around how to address these problems over the course of their career. This means that a student, for example, who becomes a sustainability literacy scholar as a sophomore, will have an opportunity to receive skills and knowledge about sustainability by engaging with an in-depth focus on at least three 21st-century sustainability problems. The changing annual theme will be advertised by the SLI as the "CofC Sustains/Solves" theme of the year and will act as an anchor for that year's academic calendar and all QEP curricular and co-curricular activities scheduled for that year.

The theme of the year for the first three years was determined by vote in the Curricular and Co-curricular Subcommittee using MacGregor's list of "Sustainability Big Ideas" (2005) to determine the initial list. This vote resulted in the following themes for Years One through Three:

- Water Quality and Quantity
- Social Justice and Fair Distribution
- Food Security

These topics were then approved by the QEP Steering Committee and the Reaffirmation Leadership Team. It was decided that voting for these first three CofC Sustains/Solves themes would help certain campus programs to begin planning for future themes, as some campus members plan their calendar of events one to two years out. The themes for Years Four and Five will be decided by a campus-wide vote, facilitated by the QEP director, allowing for student participation in the selection process.

The annual CofC Sustains/Solves theme is an important co-curricular intervention that will help the College address a sustainability literacy learning gap: by building awareness around sustainability literacy; by helping students identify practices that have led to unsustainability as these relate to each theme, thus helping students synthesize and integrate knowledge; by having shared discussions about how certain consumption and production practices impact the Triple Bottom Line; by providing shared discussions about designing solutions to that year's theme, thereby helping with experiential and learning practice; and by providing students with the opportunity to effectively advocate for resiliency in regards to that year's theme, whether that advocacy is individual, institutional, regional, national or international.

Marketing and Communications Campaign*.* The awareness generation plan was devised by the QEP Awareness and Marketing Subcommittee, which consists of representatives from across campus. The plan was developed during the spring of 2016 and implementation began in mid-April. This is a three-phase plan

intended to increase awareness gradually over five years, with the main emphasis during the initial year. The plan includes the development of a tagline ("Train Your Brain to Sustain") and a series of identifying graphic elements. The goal is to reach all members of the campus community, including students, faculty, staff and some measure of regular campus visitors. The detailed marketing and communications campaign can be provided to the on-site committee upon request.

Curricular Activities. The planned activities in this section aim to enhance student learning around sustainability literacy. The NSSE survey, U.N. Sustainability Test and on-campus pilot survey highlight this gap: a gap in understanding the complex relationships between economic, social and ecological systems; a below-average understanding of the local context of resiliency and sustainability; and a stated student desire to learn more about sustainability. To remedy these gaps, faculty must cultivate in CofC students' knowledge of sustainability literacy by exposing them to systems thinking competencies, modeling interdisciplinary learning, and creating contexts for students to creatively problem solve around sustainability issues. Overall, these curricular activities recognize that "students learning experiences must allow them to develop the leadership capacity to be able to understand and address complex sustainability problems holistically, the ability to ask critical questions and understand diverse perspectives, to participate in finding solutions, and to develop personal connections to the places in which their biological, social, and economic lives are grounded" (Burns 2011). The College's needs analysis suggests that current learning experiences do not provide students with these opportunities often enough, consistently enough, or across the curricula. The key curricular activities of this QEP address this gap in student learning around sustainability literacy and each is intended to help meet multiple QEP goals. These activities are informed by current best practices in higher education related to creating time and space for faculty to collaborate around developing new sustainability-themed courses; building key sustainability literacy competencies such as systems thinking, stakeholder engagement, action-orientation and understanding interconnectedness by focusing on case studies, sustainability problems, and Systems mapping and design; and curricular innovation around sustainability literacy (Aktas 2015; Redman and Larson 2011; Morris and Martin 2009; Barlett and Chase 2012).

FYE Synthesis Seminar. The First Year Experience offers an ideal opportunity to build awareness of sustainability literacy within the student body at CofC (goal 1 of the QEP). This idea was supported by the director of Peer Education and Support Programs, a Curricula and Co-Curricular Subcommittee member, and also by the director of the First Year Experience (FYE). FYE courses are required of freshmen, and each FYE course has a peer facilitator attached to it, where this undergraduate student receives training from the Center for Excellence in Peer Facilitation and the First Year Experience to lead weekly units that help freshmen transition into college life and institutional expectations. Student peer facilitators will be trained to introduce all freshmen to sustainability literacy in a 50-minute module centered around the "CofC Sustains/Solves" theme of the year and how this relates to sustainability literacy. There will also be a front/back insert on the QEP and CofC Sustains/Solves theme of the year that will be included in the FYE handbook all freshmen receive when they matriculate into an FYE course, which will help build awareness about sustainability literacy.

Faculty Development. The QEP, coordinated through the SLI, will build on existing faculty expertise in sustainability literacy by:

- aiding in the facilitation of SF and SR course development by hosting training seminars that will be organized and led by the QEP/SLI director, SLI Fellows and other faculty experts in sustainability literacy
- connecting faculty across disciplines
- offering incentives to teach sustainability literacy courses, including financial incentives and access to SLI resources, networks and expertise that will aid in teaching sustainability literacy courses

- hosting an annual faculty retreat every May on developing sustainability literacy as a professional educator
- and helping assess QEP SLOs.

The QEP, as coordinated through the SLI, will facilitate faculty development of sustainability literacy and the ability to teach it. SLI's support of faculty development in sustainability literacy recognizes that "Educators can begin embedding sustainability competencies and associated pedagogy slowly, while progressing and adapting towards a new way of educating in light of changing situations and opportunities" (Frisk and Larson 2011), informed by the ever-shifting field of higher education. Using various assessment methods, faculty development provided through the SLI will be overseen by an Implementation Committee, which consists of faculty and staff from various schools, and student representatives (see section on Organizational Structure).

Faculty Exchanges. To encourage interdisciplinary learning in CofC students, faculty involved with the Sustainability Literacy Institute, whether the four Faculty Fellows or faculty members affiliated with the SLI (open to all faculty who teach sustainability literacy courses via the SLI) will be asked to participate in exchanges between classrooms. Participating faculty will exchange lectures with each other's respective class, or will offer guest lectures related to a faculty member's sustainability literacy content expertise. These exchanges will be facilitated by the Faculty Development Fellow with a target of five faculty exchanges per semester year with participating faculty coming from different schools (see Table 14).

By sharing lectures and expertise, faculty will help foster interdisciplinary student knowledge about sustainability literacy across disciplines. This will also facilitate interdisciplinary faculty collaboration, modeling such behavior for CofC students who will benefit from being exposed to interdisciplinary dialogue and problem solving. These exchanges mirror best practices (Rivilla and Dominguez 2014; Barlett and Chase 2012; Washington Center) and will help meet QEP goal 2 – by hearing from a faculty member in another domain of study, students will be able to synthesize and integrate knowledge from two or more systems to address a sustainability problem.

Table 14. Faculty Exchanges

Academic Year	Students Impacted*
Year One: 2017-18	10 exchanges x 40 students per exchange = 400 students
Year Two: 2018-19	10 exchanges x 40 students per exchange = 400 students
Year Three: 2019-20	10 exchanges x 40 students per exchange = 400 students
Year Four: 2020-21	10 exchanges x 40 students per exchange = 400 students
Year Five: 2021-22	10 exchanges x 40 students per exchange = 400 students
Total students impacted	2,000

** note: 1 exchange = 2 faculty at 20 students each, for 40 students per exchange*

Course Infusion and New Courses. A 2013 campus-wide audit of sustainability-focused (SF) and sustainability-related (SR) courses was updated by a 2016 campus-wide audit that identified current SF and SR course offerings. These courses will be tracked and updated annually through the SLI website. Faculty who commit to including one of the seven QEP SLOs in existing courses can have those courses count as SF or SR courses. SF and SR course-embedded assessment will be used to assess student gains. These courses will also count for the Sustainability Scholars program, and many will count for the proposed undergraduate certificate in Sustainable Businesses and Community Development. These courses are intended to be the key campus-

wide intervention that will help infuse sustainability literacy via systems thinking, creative problem solving, and interdisciplinary dialogue across all schools at the College. They will target all undergraduate students, with many of the courses focusing on select upper-level students, so that sustainability literacy skills and knowledge will be a core part of upper-level curricula at the College. Course infusion for sustainability literacy is the most common strategy adopted by institutions in higher education for educating students about sustainability (Barlett and Chase 2012; AASHE). (See Appendix C for QEP Course Proposal Form.)

Special Topics Courses. Based on the definitions of sustainability-focused (SF) and sustainability-related (SR) courses that guide this QEP, taken from the Association for Advancement of Sustainability in Higher Education (AASHE) Sustainability, Tracking, Assessment and Rating System (STARS), it was decided that the most effective way to enhance student learning around sustainability literacy was through course infusion. New courses at the College must be proposed by departments or programs to the Faculty Senate and go through a review process (which can take months). However, departments and programs can offer a special topics course up to three times before taking it through the formal review process. Because SF courses will be focused on the annual CofC Sustains/Solves theme, and to facilitate a rapid infusion of sustainability literacy across the curricula, incentivizing SF special topics courses allows for the most flexibility for faculty to teach sustainability literacy beginning immediately in Year One of the QEP.

Through the use of financial incentives and faculty trainings, the SLI will facilitate the development of 10 SF special topics courses per academic year. Proposed SF special topics courses will be interdisciplinary and will largely target upperclassmen. A variety of upper-level SF courses will relate to discussing and advocating for solutions to that year's theme, and will include assignments related to designing solutions to 21st-century problems.

Learning Communities. Upper- and lower-level SF interdisciplinary special topics courses taught by two faculty from different schools/departments in the form of a learning community will also be supported. These learning communities will be united around a shared interdisciplinary exploration of the CofC Sustains/Solves theme of the year, where systems thinking and creative problem-solving skills will be cultivated in both classes associated with the learning community. Learning communities will be populated by a cohort of students who will be required to take both courses so that all students in a learning community will be required to co-register for both SF classes. This sustained dialogue and exploration afforded by a learning community presents an opportunity for in-depth exploration of specific 21st-century problems. Two such interdisciplinary SF learning communities will be supported per semester with the content of that learning community related to the CofC Sustains/Solves theme of the year.

Existing SF and SR Courses. Also included in the QEP are existing SF and SR courses that will adopt at least one QEP SLO. Through the use of incentives, the SLI will solicit proposals to modify existing courses, such that they meet the requirements of the SR designation. Up to 20 proposals will be accepted per semester for faculty wishing to develop SR coursework from an existing course that is not related to sustainability (see Table 15).

All SF, SR and Learning Community course offerings for 2017-18 (Year One) are posted on the website – sustain.cofc.edu.

Table 15. Sustainability Literacy Course-Infusion

Type of Curricular Course Infusion	Students Impacted per academic year	Total Students Impacted in 5 Years by new and expanded course offerings
Creation of new SF course (special topics, or altering an existing course so it becomes an SF course)	10 courses x 20 students per course = 200	1,000 students will matriculate into an SF special topics course
Creation of a SF learning community	8 courses (2 communities per semester) x 20 students per course = 160	800 students will matriculate into an interdisciplinary SF learning community
Modify existing course content so it is SR	40 courses (20 per semester) x 20 students = 800	4,000 students will matriculate into an SR course
Total	1,160 per year beginning in Year One	Maximum 5,800/five years

Each May the QEP director and SLI staff will organize and implement a two-day workshop on teaching sustainability literacy. Participants will be faculty who proposed a SR, SF or learning community course for the next academic year's CofC Sustains/Solves theme. Participants who have completed the training and taught SF or SR courses will become a faculty affiliate of the SLI. The workshop will cover the following content:

- The Triple Bottom Line of sustainability
- Systems thinking and how to teach systems thinking
- Interdisciplinary problem solving
- Assessment of SF and SR courses.

This content will be addressed by discussing shared readings; engaging in small- and large-group discussions; lectures from the QEP director and SLI Fellows and faculty experts in sustainability education; and (beginning in Year Two) presentations from SLI faculty affiliates who have already taught QEP-related courses.

Undergraduate Sustainability Literacy Scholars Program. This program will create an undergraduate interdisciplinary cohort of exemplary students focused on sustainability literacy. Guided by a paradigm of resilience and building upon a holistic foundation of environmental, economic and social sustainability literacy, the Sustainability Literacy Scholars Program will help prepare students and faculty mentors to be forceful advocates for, and innovative future leaders towards, a sustainable existence. The program will require students to reflect on their personal habits and self-participation in sustainability problems; understand system dynamics and tracing system interconnections between human and natural components as related to the Triple Bottom Line via various SF and SR courses; and engage in interdisciplinary explorations of sustainability problems (Kurlan et al. 2010; Nabavi and Husain 2016). A fully-detailed description of the criteria for admittance and program requirements can be provided for the on-site review committee upon request.

The SLI director and Student Engagement Fellow will recruit faculty and staff participants to mentor and work with these scholars. The SLI will serve as the focal point for organizing such participation, where faculty and staff who participate in the scholars program will:

- study, work with or teach sustainability.
- participate as a mentor to student applicants.
- demonstrate sustainability literacy.
- attend sustainability-related events.

The Sustainability Literacy Scholars program will be administered through the SLI and managed by the Student Engagement Fellow. The program will be developed in 2017-18 and become available for student matriculations beginning in 2018-19, as outlined in Table 16.

Table 16. Sustainability Scholars Program Development and Implementation

Academic Year	Expected Student Enrollment
Year One: 2017-18	0
Year Two: 2018-19	25
Year Three: 2019-20	50
Year Four: 2020-21	100
Year Five: 2021-22	100
Five-Year Total	275

By Year Five of the QEP, the goal is to have a sustained community of 275 students. One important benefit of this QEP intervention for CofC students is the opportunity to have a variety of faculty mentors (faculty affiliated with the SLI) and a meeting place (the SLI) to discuss sustainability problems and solutions with other scholars. Ongoing discussions on sustainability literacy that target ways to be more sustainable in personal life and on campus, policies and practices that have led to unsustainability, synthesizing knowledge from multiple disciplines, and creatively designing solutions to sustainability problems via a focused portfolio will help these scholars become change agents for resiliency.

Undergraduate Certificate. Another key enhancement of student learning will commence in Year Three (2019-20), when the College will begin offering an undergraduate certificate in "Sustainable Businesses and Communities." The certificate equips students with sustainability literacy and interdisciplinary problem-solving skills in the realm of business practices. The certificate recognizes that more regional employers will require their staff to develop sustainability literacy and will also be looking to hire undergraduates with fluency in the business element of sustainability. This QEP intervention will for the first time provide the opportunity to receive a continuing education certificate that focuses on sustainability literacy. The certificate will be developed and administered by the School of Professional Studies (SPS), allowing for continuing adult education students from around the Charleston region to be able to earn the certificate in addition to CofC students.

The certificate caters to multiple audiences, although SPS projects that 80% of those earning the certificate will be permanently enrolled CofC undergraduates, with the other 20% populated by adult continuing education students who are looking to diversify their career options or who are incentivized by current employers to gain skills and knowledge about sustainability literacy for their current job duties or promotional opportunities.

The certificate will require 12 credit hours of coursework at the College. Six of these hours will come from forthcoming QEP-sponsored special topics courses; ENVT 200, Introduction to Environmental and Sustainability Studies; along with an integrated capstone (yet to be created). The other six hours will consist of SF and SR courses offered by the College. It is projected that initial enrollment will be approximately 20 students per year. The development of the certificate is outlined in Table 17.

Table 17. Undergraduate Certificate

Academic Year	Action Item/Students Impacted
Year One:2017-18	Feasibility study led by dean of SPS, including creation of curricula for a capstone course/0
Year Two: 2018-19	Approval of finalized certificate requirements by Faculty Senate/0
Year Three: 2019-20	certificate offered/20
Year Four: 2020-21	20
Year Five: 2021-22	30

Honors College Sustainability Literacy Cohort. The Honors College will develop a lower-level SF course, taught by the same faculty member one time a year over the course of three years. This faculty will also assume the duties of advising a 30-student sustainability literacy themed cohort. The Honors-taught SF course will help build awareness, synthesize and integrate knowledge, and discuss skill building and competency learning. The cohort model will empower students in the cohort to be advocates for resiliency via sustained discussion about the impact of production/consumption practices on social, economic and ecological systems, and how to design solutions for the sustainability problems triggered by practices that have led to unsustainability.

Co-Curricular Activities. Enhancing student learning around sustainability literacy is not solely the purview of curricular activities. In order to successfully meet the QEP goals of building awareness of sustainability literacy, synthesizing and integrating knowledge from the three Triple Bottom Line systems (social, economic and environmental), skill building and competency, experiential and learning practices that will help students address 21st-century sustainability problems, and creating change agents for resiliency, co-curricular activities are also needed. These activities will help students engage with various stakeholders, better understand the College's urban ecology and threats to its resiliency, and individually and collectively participate in civic activities related to sustainability literacy and resiliency (Wells 2013; Redman and Larson 2011; Washington Center). These activities include:

- Hosting sustainability literacy events, exhibits and speakers;
- Generating sustainability literacy-focused Alternative Breaks that will focus on addressing problems and solutions using the three systems of the TBL;
- Advocating for sustainability literacy opportunities;
- Cultivating institutional capacity for offering career development for students;
- Engaging the campus and larger Charleston community around sustainability literacy;
- Generating an annual "CofC Sustains/Solves" theme;
- Introducing students to sustainability literacy at orientation;
- Focusing on sustainability literacy via the annual College Reads selection and convocation.

Speakers, Events, Exhibits. A variety of sustainability literacy–related speakers, exhibits and other events, organized under the auspices of the SLI, in collaboration with other campus constituents such as student groups, will be hosted annually. In conjunction with the Division of Marketing and Communications, the QEP director and the SLI Outreach Fellow will be responsible for planning and advertising these QEP events. Students will be encouraged to attend and participate in events by faculty (especially students in SF and SR courses) and staff (especially Residence Life and their involvement with students living on campus). Attendance at six sustainability literacy–related events will be required for the Sustainability Literacy Scholars program, while SLI Fellows and affiliated faculty will also be required to participate in a certain number of events.

An outline of events is seen in Table 18, where events will focus on the CofC Sustains/Solves theme of the year.

Table 18. Annual Co-Curricular Events Calendar, Modeled on Year 2017-18

Event	Date/Location	Number of Students
Back to School Welcome Week events: convocation, Student Organizations Fair, documentary	August, first week of class: (1) convocation in the Cistern Yard; (2) Student Organizations Fair at TD Arena; (3) documentary at Science Building or Cistern	1,000
Student art exhibit – winner of competition related to CofC Sustains/Solves theme	August, second week of class at Addlestone Library Rotunda or Simons Center for the Arts	50 for unveiling/>4,000 over the year will see the installation
Presentation on CofC Sustains/Solves theme of year to student organization leaders	September (scheduled for either the first or second Saturday)	150
Three guest speakers related to CofC Sustains/ Solves theme of year	(1) August, second week of class at Science Building auditorium (2) second week of class in January at Wells Fargo Auditorium, Beatty Center (3) mid-April at Science Building or Sottile Theatre	(1) 350 (2) 150 (3) 450 total: 950
Day of Service related to CofC Sustains/Solves theme of year	February at homecoming/Lowcountry	50
SLI and Career Center “bootcamp”	February at the Career Center	50
SLI and Career Center “sustainability literacy skills seminar”	March at Wells Fargo Auditorium	50
Solutions Event	mid-April/Addlestone Library Rotunda	50 at event; >2,000 student visitors to library during finals week will see the display
Permanent Art Exhibit related to upcoming CofC Sustains/Solves theme of next academic year	curated and installed at end of April	>5,000 students will see the permanent exhibit over the course of an academic school year

The final category of shared events co-sponsored with other programs and institutes will begin in 2017-18 with planned workshops, co-hosted lectures and other events related to that year’s theme. An application for QEP funds to help host events related to each year’s CofC Sustains/Solves theme will help facilitate these partnerships. This application, available through the sustain.cofc.edu website, will create opportunities for faculty, staff and students to generate events related to the QEP that are not part of the above annual calendar.

Alternative Breaks. The College of Charleston’s Alternative Break Program includes domestic and international service immersion trips designed to empower students to progress from members of their community to active citizens through social issue–focused education, direct service and reflection. Based on current numbers of students participating in Alternative Break, approximately 30 students will participate in new annual sustainability literacy–themed Alternative Breaks, for 150 students over five years, with a focus on QEP goals

related to integrating and synthesizing knowledge, building skills and competencies, experiential and learning practice, and becoming change agents for resiliency. By visiting actual sites where groups and organizations are attempting to generate resiliency at the interface of the Triple Bottom Line, CofC students will receive exposure to how various systems intersect in order to generate unsustainability, and how the groups they are working with are attempting to redesign these systems in order to generate solutions to 21st-century problems.

Student Advocacy for Resiliency. The Sustainability Literacy Institute (SLI) will support student advocacy for resiliency in three ways. First, the SLI will provide financial support to faculty-student summer research projects in their area of expertise (as these may relate to the next year's CofC Sustains/Solves theme of the year). Faculty will propose to collaborate with up to four students, either graduate or undergraduate, and the faculty member will help guide student participation in the research.

Second, there will be a campus-wide call for interdisciplinary student teams, at both undergraduate and graduate levels, to propose a solution to that year's CofC Sustains/Solves theme. Teams will research and design a solution to a sustainability problem related to the theme and their solutions will help advocate for resiliency. In order to design this solution, students will synthesize knowledge from two or more systems and their design will demonstrate the impact of production/consumption on the three dimensions of the Triple Bottom Line. The Implementation Committee and SLI Fellows will decide upon the winning solution, and both the winning undergraduate and graduate teams will each receive $2,500 towards presenting their proposed solution at an academic sustainability-themed conference. All proposed solutions from each student team will be shared with the campus during a "Solutions Fair," to be held in April of each year.

Third, there will be a campus-wide call for student art pieces that express the forthcoming year's CofC Sustains/Solves theme. Students will use art to express that theme and the process of proposing and generating an art expression will help raise awareness, while focusing on practices that have led to unsustainability and artistically addressing possible solutions to sustainability problems.

Student Organizations and Peer-to-Peer Learning. The Student Engagement Fellow will organize the enhancement of student exposure to sustainability literacy through targeted and regular communication with student organizations, such as residence halls, Cougar Activities Board, Student Government Association, student clubs, and fraternity and sorority life. This will include:

- the annual Student Organization Summit (attendance is required for all student clubs);
- having a QEP-table at convocation events, Cougarpallooza, and Beyond George Street, the three leading student events on our annual calendar;
- and generating a day of service with fraternity and sorority life and various clubs each year during homecoming week;
- the Student Engagement Fellow will also participate in the annual Student Organization Fair, where a QEP table and information on SLI will be made available.

These activities will help meet QEP goal 1 of raising awareness so that students can identify various elements of sustainability and ways to be more eco-efficient in their own personal lives on campus.

Links to Community Sustainability. The QEP director, the Student Outreach Fellow and the Innovation Fellow will encourage student, faculty and staff participation in sustainability efforts on and off campus through the following strategies:

- updates and links shared on Yammer (CofC web-based communication system)
- emails from faculty affiliated with the SLI
- links and data about events shared on the QEP Facebook page and events calendar posted on sustain.cofc.edu, and flyers distributed at QEP events.

Accepted Student Weekend and Orientation. During Accepted Student Weekend, held each March, the QEP director and/or SLI Fellows will have an information table present at the Information Session for accepted students. Over 1,000 accepted students will learn about sustainability literacy and interdisciplinary problem solving at the College during this event, with this exposure helping to recruit students to the College. Once students commit to attending the College, they are required to attend one of 10 orientation sessions held during the summer before their freshmen year. During these orientation sessions, the QEP director and Sustainability Literacy Institute (SLI) Fellows will introduce the QEP and upcoming CofC Sustains/Solves theme of the year. Students at these sessions also receive their copy of the College Reads selection, which may be based on the CofC Sustains/Solves theme of the year.

College Reads and Convocation. Given the importance of convocation for the campus, this event serves as a desirable foundation upon which to present sustainability literacy topics. Each year CofC's College Reads selects a book that all incoming freshmen read and then discuss during convocation. Events related to the book are scheduled throughout the year, and the author is brought to campus to discuss the book with various student constituents. The College Reads committee has agreed to solicit possible book titles from the campus community related to each year's CofC Sustains/Solves theme. By focusing its book selection on the CofC Sustains/Solves theme of the year, convocation may embed content directly related to sustainability literacy so that students become aware of sustainability literacy as an issue the College takes seriously. More so, incoming freshmen are the target audience of College Reads and between the FYE synthesis seminar training and the College Reads selection, all freshmen will be initiated into a campus-wide discussion about systems thinking, active problem solving, sustainability literacy, and how they can become active change agents by using CofC's resources to become advocates for resiliency. Students during fall convocation will be invited to attend a sustainability literacy information-based "boot camp" on the QEP, with this one-hour session organized by the SLI. The SLI director, fellows and affiliates will introduce the TBL, discuss resiliency and systems thinking, briefly describe 21st-century problems and provide examples of ways students can become engaged with sustainability literacy as they progress through their career at the College. This will help raise awareness, introduce students to ways they can be more sustainable and help students begin to gain key sustainability skills and knowledge.

TIMELINE

The QEP activities are summarized in Table 19. This table represents the actions taken in 2016 and 2016-17 as a lead-up to the March 2017 SACSCOC on-site visit. It then provides a detailed outline of the various planned activities that will begin after the SACSCOC site visit, when they are to occur, and who will be responsible for performing each intervention. The key duties for most of the planned QEP curricular and co-curricular activities will reside with the SLI. It is noted that the QEP will begin implementation in the fall semester of academic year 2017-18 (QEP Year One), and 2021-22 will be Year Five of the QEP.

Table 19. Five-Year Timeline of QEP Activities

Timeframe	Strategies	Responsible Parties
Spring 2016	Furman site visit (March)	QEP Steering Committee
	Portico (campus-wide employee newsletter) feature	Awareness and Marketing Subcommittee
Summer 2016	*College of Charleston Magazine* feature, Q&A with QEP director	Awareness and Marketing Subcommittee
2016-17 (Year 0)		
Fall 2016	In-house audit of Triple Bottom Line (TBL) classes (July)	deans; Research, Literature Review, Best Practices and Writing Subcommittee; and QEP director
	David Orr campus visit (July)	QEP director and OIEP
	Roll-out sustain.cofc.edu website (August)	Awareness and Marketing Subcommittee
	Meetings with CAB and SGA to discuss QEP (August)	QEP director and Student Advisory Subcommittee
	Locating faculty interested in creating a Living Learning Community; Addlestone exhibit space (August-September)	QEP director
	College of Charleston Magazine feature; discussion of QEP and introduction of graphic elements	Awareness and Marketing Subcommittee
	Generating official description/call for four Sustainability Literacy Institute (SLI) Fellow positions (September)	Curricular and Co-curricular Subcommittee
	TBL Faculty Panel (September)	OIEP and QEP director
	William Throop campus visit (September)	OIEP and QEP director
	Locating faculty interested in sustainability-focused (SF) and sustainability-related (SR) courses (September-November)	QEP director
	Soliciting suggestions for College Reads! 2019-20 theme	QEP director and College Reads (Academic Experience)
	Campus call for Year One sustainability-focused/-related courses and Summer Research Fellows (September-November)	QEP director and Curricular and Co-curricular Subcommittee
	Planning for Addlestone Library exhibit (September-December)	QEP director and Addlestone Library and ANTH 319
	Pilot test of U.N. Sustainability Literacy test (November)	FYE and Assessment Subcommittee
	QEP woven into school newsletters/calendars/social media (November-March)	Awareness and Marketing Subcommittee
	Pilot test sustainability literacy survey (December)	OIEP and Assessment Subcommittee

Spring 2017	Campus call for SLI Faculty Fellows (February)	QEP director and provost
	Video roll-out (February)	Awareness and Marketing Subcommittee
	Sustainability literacy information is included in College walking tours (January)	Charleston 40
	Campus-wide poster/flyer/digital signage campaign (January-March)	Awareness and Marketing Subcommittee
	Appoint SLI Faculty Fellows (March)	QEP director and QEP Steering Committee
	Campus-wide call for student art exhibit and student solution for CofC Sustains/Solves 2017-18 theme (February)	QEP director and Curricular and Co-curricular Subcommittee
	Addlestone Library exhibit on CofC Sustains/Solves 2017-18 theme (February-April)	QEP director and Marketing and Addlestone Library
	Webpage slider with link on homepage (January–April)	Awareness and Marketing Subcommittee
	QEP woven into school newsletters/calendars/social media (January-April)	Awareness and Marketing Subcommittee
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	Plan events and speakers for 2017-18 theme of year (Goals 1 to 4) (April-August)	QEP director, SLI, Student Affairs and Residence Life
	Faculty workshop (May)	QEP director and SLI
Summer 2017	Include sustainability literacy information in orientation sessions (June-August)	Orientation director and QEP director
	Plan events and speakers for 2017-18 theme of year (Goals 1 to 4) (April-August)	QEP director, SLI, Student Affairs and Residence Life
	Move into SLI (August)	QEP director, AVP OIEP and SLI affiliates
2017-18 (Year One)	**CofC Sustains/Solves Theme for Year One: Water Quality and Quantity**	
Fall 2017	"SustainFest" (Convocation, Student Organization Fair, welcome back event) (August)	SLI, Awareness & Marketing, Implementation Committees and Student Affairs
	Campus call for Year Two sustainability-focused/-related courses and approval (September-November)	QEP director, SLI and Implementation Committee
	Campus call for Year Two Summer Research Fellows and approval (September-November)	QEP director, SLI and Implementation Committee
	Bobbi Patterson campus visit (September)	QEP director and SLI
	Student Organization Summit (September)	QEP director and assistant director of student life
	Association for the Advancement of Sustainability in Higher Education (AASHE) conference (October)	SLI Fellows, QEP director and Career Center staff
	U.N. Sustainability Literacy Test (October)	QEP Assessment Team and OIEP
	Solicit suggestions for College Reads! 2018-19 theme	QEP director and College Reads (Academic Experience)
	Keynote speakers related to CofC Sustains/Solves theme of year (November)	SLI
	Alternative Break (November)	Center for Civic Engagement

Spring 2018	Campus announcement to students, faculty and staff about Sustainability Literacy Scholars Program (February)	QEP director and Curricular and Co-curricular Subcommittee
	Keynote speakers related to CofC Sustains/Solves theme of year (February, April)	SLI
	Alternative Break (March)	Center for Civic Engagement
	Begin preparing for 2018-19 theme of social justice and equity	QEP director, SLI and Implementation Committee
	Sustainability literacy survey (January)	QEP Assessment Team and OIEP
	QEP assessment workshop (April)	QEP Assessment Team and OIEP
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	Accept SL Scholars for 2017-18 academic year (April)	SLI and Student Outreach Fellow
	Rubric-based assessment of curricular artifacts (May)	QEP Assessment Team
Summer 2018	Annual Impact Report (July)	QEP director, Implementation Team and Advisory Committee
2018-19 (Year Two)	**CofC Sustains/Solves Theme for Year Two: Social Justice and Equity**	
Fall 2018	"SustainFest" (Convocation, Student Organization Fair, welcome back event) (August)	SLI, Marketing and Awareness, Implementation Committees and Student Affairs
	Honors sustainability literacy cohort (August)	SLI, Implementation Committee and Honors College
	Student Organization Summit (September)	QEP director and assistant director of student life
	Campus-wide call for student art exhibit and student solution for CofC Sustains/Solves 2018-19 theme (October)	SLI and Implementation Committee
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (October)	SLI, FYE and peer facilitators
	U.N. Sustainability Literacy test (October)	QEP Assessment Team and OIEP
	Campus votes on CofC Sustains/Solves Year Four theme (2020-21) (October)	students, faculty and staff
	Alternative Break (November)	Center for Civic Engagement
Spring 2019	Proposal to Faculty Senate for School of Professional Studies (SPS) certificate (January)	SLI and SPS dean
	Sustainability literacy survey (January)	QEP Assessment Team and OIEP
	Career Center "boot camp" and skills fair (March)	SLI and Career Center
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (March)	SLI, FYE and peer facilitators
	Alternative Break (March)	Center for Civic Engagement
	QEP Assessment workshop (April)	QEP Assessment Team and OIEP
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	Rubric-based assessment of curricular artifacts (May)	QEP Assessment Team
	Faculty training for SF/SR courses (May)	QEP director, SLI and Implementation Committee
	Solutions Fair and keynote speaker on CofC Sustains/Solves theme of year (May)	SLI, Implementation and Student Affairs
Summer 2019	Annual Impact Report (July)	QEP director, Implementation Team and Advisory Committee

2019-20 (Year Three)	CofC Sustains/Solves Theme of the Year: Food Issues	
Fall 2019	"SustainFest" (August)	SLI, Awareness and Marketing, Implementation Committees and Student Affairs
	Honors Sustainability Literacy Cohort (August)	SLI and Honors College
	Student Organization Summit (September)	QEP director and assistant director of student life
	Campus call for Year Three sustainability-focused/-related courses and summer research fellows (September)	QEP director, SLI and Implementation Committee
	Curricular approval for three classes for certificate in School of Professional Studies (September)	SLI and SPS dean
	Solicit suggestions for College Reads! 2019-20 theme	QEP director and College Reads (Academic Experience)
	Campus-wide call for student art exhibit and student solution for CofC Sustains/Solves (October)	SLI and Implementation Committee
	U.N. Sustainability Literacy Test (October)	QEP Assessment Team and OIEP
	Campus-wide call for CofC Sustains/Solves theme for 2020-21(October)	SLI and Implementation Committee
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (October)	SLI, FYE and peer facilitators
	Campus votes on CofC Sustains/Solves Year Five theme (2021-22) (October)	students, faculty and staff
	Keynote speakers related to CofC Sustains/Solves theme of year (November)	SLI
	Alternative Break (November)	Center for Civic Engagement
Spring 2020	Market and recruit for undergraduate certificate (January)	Division of Marketing & Communications and School of Professional Studies
	Sustainability Literacy Survey (January)	QEP Assessment Team and OIEP
	Day of Service (February)	QEP director and Center for Civic Engagement
	Appoint Outreach Fellow and Student Engagement Fellow for 2019-20 and 2020-21 years (February)	SLI and Implementation Committee
	Campus-wide call for student art exhibit and student solution for CofC Sustains/Solves 2019-20 theme (February)	SLI and Implementation Committee
	Addlestone Library Exhibit on CofC Sustains/Solves theme (February-April)	QEP director, Awareness and Marketing Subcommitee and Addlestone Library
	Career Center "boot camp" and skills fair (March)	SLI and Career Center
	Keynote speakers related to CofC Sustains/Solves theme of year (February, April)	SLI
	Alternative Break (March)	Center for Civic Engagement
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (March)	SLI, FYE and peer facilitators
	Accept Scholars for 2020-21 academic year (April)	SLI and Student Outreach Fellow
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	QEP Assessment workshop (April)	QEP Assessment Team
	Rubric-based assessment of curricular artifacts (May)	QEP Assessment Team
	Solutions Fair (May)	SLI, Implementation and Student Affairs
	Faculty training for SF/SR courses (May)	QEP director, SLI and Implementation Committee
Summer 2020	Annual Impact Report (July)	QEP director, Implementation Team and Advisory Committee

2020-2021 (Year Four)	CofC Sustains/Solves Theme of Year: Determined by Campus Vote in Year Two	
Fall 2020	"SustainFest" (August)	SLI, Division of Marketing & Communications, Implementation Committee and Student Affairs
	Undergraduate certificate begins (August)	SPS Dean and SLI
	Honors Sustainability Literacy Cohort (August)	SLI and Honors College
	Campus-wide call for Faculty Development and Innovation Fellows (September)	SLI and Implementation Committee
	Student Organization Summit (September)	QEP director and assistant director of student life
	Campus call for Year Five sustainability-focused/-related courses and summer research fellows (September-November)	QEP director, SLI and Implementation Committee
	Solicit suggestions for College Reads! 2020-21 theme	QEP director and College Reads (Academic Experience)
	Campus-wide call for CofC Sustains/Solves theme for 2021-22 (October)	SLI and Implementation Committee
	Keynote speakers related to CofC Sustains/Solves theme of year (November)	SLI
	Alternative Break (November)	Center for Civic Engagement
Spring 2021	Sustainability Literacy Survey (January)	QEP Assessment Team and OIEP
	Day of Service (February)	QEP director and Center for Civic Engagement
	Addlestone Library Exhibit on CofC Sustains/Solves 2019-20 theme (February-April)	QEP director, Division of Marketing & Communications and Addlestone Library
	Keynote speakers related to CofC Sustains/Solves theme of year (February, April)	SLI
	Alternative Break (March)	Center for Civic Engagement
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	Accept Scholars for 2021-22 academic year (April)	SLI and Student Outreach Fellow
	QEP Assessment workshop (April)	QEP Assessment Team
	Rubric-based assessment of curricular artifacts (May)	QEP Assessment Team
	Faculty training for SF/SR courses (May)	QEP director, SLI and Implementation Committee
Summer 2021	Annual Impact Report (July)	QEP director, Implementation and Advisory Committees
2021-2022 (Year 5)	**CofC Sustains/Solves Theme of Year: Determined by Campus Vote in Year 3**	
Fall 2021	"SustainFest" (August)	SLI, Division of Marketing & Communications, Implementation Committee and Student Affairs
	Undergraduate certificate begins (August)	SPS and SPS dean
	Honors Sustainability Literacy Cohort (August)	SLI and Honors College
	Campus-wide call for Outreach Fellow and Student Engagement Fellow (September)	SLI and Implementation Committee
	Student Organization Summit (September)	QEP director and assistant director of student life
	Campus call for Year Five sustainability-focused/-related courses; finalize (September-November)	QEP director, SLI and Implementation Committee
	Solicit suggestions for College Reads! 2021-22 theme	QEP director and College Reads (Academic Experience)
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (October)	SLI, FYE and peer facilitators
	Alternative Break (November)	Center for Civic Engagement
	Keynote speakers related to CofC Sustains/Solves theme of year (November)	SLI

Spring 2022	Sustainability Literacy Survey (January)	QEP Assessment Team and OIEP
	Campus-wide call for student art exhibit and student solution to CofC Sustains/Solves 2021-22 theme (February)	SLI and Implementation Committee
	Addlestone Library Exhibit on CofC Sustains/Solves theme 2021-22 (February-April)	QEP director, Division of Marketing & Communications and Addlestone Library
	SACSCOC Fifth-Year Interim Report: QEP Impact Report (March)	ALL
	Career Center "boot camp" and skills fair (March)	SLI and Career Center
	CofC Sustains/Solves and TBL discussion; QEP rack card included in FYE book (March)	SLI, FYE and peer facilitators
	Alternative Break (March)	Center for Civic Engagement
	Keynote speakers related to CofC Sustains/Solves theme of year (April)	SLI
	Portfolio presentations for Year Six graduating scholars (March)	SLI
	Accept Scholars for 2022-23 academic year (April)	SLI
	QEP Assessment workshop (April)	QEP Assessment Team
	Recruit faculty scholars to be mentors for the Sustainability Scholars Program (April)	SLI and Student Outreach Fellow
	Solutions Fair (May)	SLI, Implementation Committee
	Prepare and host May faculty training for SF/SR courses (May)	QEP director, SLI and Implementation Committee
	Rubric-based assessment of curricular artifacts (May)	QEP Assessment Team
	Faculty workshop (May)	QEP director and SLI
Summer 2022	Annual Impact Report (July)	QEP director, Implementation and Advisory Committees

ORGANIZATIONAL STRUCTURE

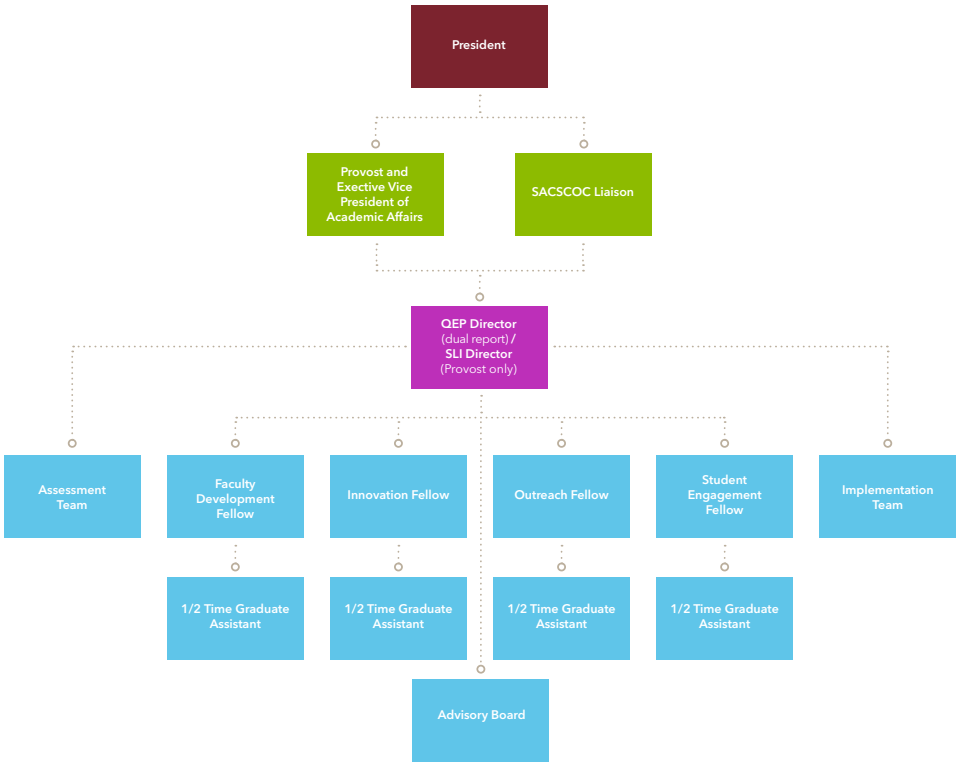
This QEP will be will be overseen by a QEP director (see Figure 10). The QEP director will also be the director of the Sustainability Literacy Institute. The institute will be housed under the provost and reside in the Division of Academic Affairs; the SLI director will report to the provost on issues related directly to the SLI and specific SLI duties. The QEP director will be overseen by both the provost and the SACSCOC liaison and will report to both on issues related to the QEP and QEP duties. A QEP Implementation Team has been created, will help oversee the implementation of the QEP and will work closely with the four SLI Faculty Fellows. Each Faculty Fellow will be a mentor to and will receive support from a graduate assistant. An external advisory board, consisting of local sustainability literacy experts, will help provide consulting advice to the SLI.

QEP Director

In early January 2016, a call was sent to all faculty, inviting applications for an interim QEP director. Three candidates applied, and each was interviewed by the Reaffirmation Leadership Team. After careful consideration, Todd LeVasseur was appointed interim director on February 15, 2016, and then permanent director in May 2016 for a five-year term. Professor LeVasseur's qualifications include various peer-reviewed publications and presentations focused on sustainability; serving as program director of the environmental and sustainability studies minor; and being an active member of Association for Environmental Studies and Sciences (AESS).

The College of Charleston's Quality Enhancement Plan for Sustainability Literacy will be administered by the QEP director in consultation with an Implementation Committee. The director will report to the associate vice president for institutional effectiveness and strategic planning as well as the provost and executive vice president of academic affairs. (For a full list of QEP director duties, see Appendix D.)

Figure 10. Organizational Structure



QEP IMPLEMENTATION COMMITTEE

This committee will work in close concert with the QEP director and the Sustainability Literacy Institute and the four faculty fellows of the institute. The function and duties of the Implementation Committee is of importance to the overall success of implementing the planned activities outlined in this QEP document.

Todd LeVasseur	*Chair, QEP Director*
Jeri Cabot	*Dean of Students*
Tim Callahan	*Professor, Geology*
Burton Callicott	*Librarian*
Dan Dickison	*Director of College Marketing*
Renard Harris	*Diversity officer; Professor, Teacher Education*
David Hansen	*Associate Professor, Management and Marketing*
Sam Jones	*Vice President of Fiscal Services*
Andrew Sobiesuo	*Associate Provost; Professor, Spanish; Associate Dean, LCWA*
Nandini McCauley	*Director of Marketing and Communications, SOA*
Robert Mignone	*Chair, Mathematics*
Deborah Mihal	*Director of Disability Services*
Valerie Morris	*Dean, School of the Arts*
Olivia Sackler	*Student*
Luke Shirley	*Student*
William Veal	*Professor, Teacher Education*
Liza Wood	*Temporary employee*
Jen Wright	*Professor, Psychology*
Karin Roof	*Director of Academic Assessment and Strategic Planning*

SLI Faculty Fellows

The success of the SLI in implementing the Sustainability Literacy QEP is dependent in part on the activities of the Faculty Fellows. The four fellow positions are as follows: an Outreach Fellow, a Faculty Development Fellow, an Innovation Fellow and a Student Engagement Fellow. Appendix E provides a sample position announcement for the Student Engagement Fellow.

RESOURCES

Budget

Year Zero Budget (2016-17)

Description	Year Zero 2016-17
Assessment	$ --
Course Infusion	$ --
Events	$ --
Marketing	$ 10,000
Operating	$ --
Personnel	$ 20,000
Professional Development	$ --
Student Incentives	$ --
Sustainability Expert Consultations	$ 4,500
TOTAL	$ 34,500

Budget over Five Years by Category

Description	Year One 2017-18	Year Two 2018-19	Year Three 2019-20	Year Four 2020-21	Year Five 2021-22	Five-Year Total
Assessment	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Course Infusion	$ 10,800	$ 10,800	$ 10,800	$ 10,800	$ 10,800	$ 54,000
Events	$ 62,500	$ 62,500	$ 62,500	$ 62,500	$ 62,500	$ 312,500
Marketing	$ 5,000	$ 5,000	$ 6,500	$ 6,500	$ 5,000	$ 38,000
Operating	$ 14,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 30,000
Personnel	$ 62,500	$ 74,500	$ 88,000	$ 88,000	$ 64,000	$ 397,000
Professional Development	$ 21,500	$ 12,000	$ 9,500	$ 9,500	$ 9,500	$ 54,000
Student Incentives	$ 36,800	$ 46,800	$ 46,800	$ 46,800	$ 46,800	$ 224,000
Sustainability Expert Consultations	$ --	$ --	$ --	$ --	$ --	$ 12,500
TOTAL	$ 218,100	$ 220,600	$ 233,100	$ 233,100	$ 207,600	$1,112,500

The overall budget for Years One through Five of this QEP is $1,112,500. A variety of resources will support the successful implementation of this QEP. These resources represent a significant investment of staff and faculty workload, as well as financial operating budget. The largest investment is in the creation and maintenance of

the Sustainability Literacy Institute, with a $2,000 annual operating budget and $20,000 a year for a ½-time administrative assistant. The SLI will be supported in its programmatic goals by the hiring of four Faculty Fellows. Fellows will be rostered, tenured faculty and will receive a course release per semester, representing a commitment of 10 working hours per week for SLI duties. They will also be compensated an annual $2,000 summer stipend to cover summer work as such work is necessitated. Each fellow will be assisted by a ½-time graduate assistant (GA), who will work 10 hours per week as stipulated by their contract, for $6,200 per year per GA. The SLI will also create a "QEP Assessment Team," consisting of four faculty members paid $1,000 per year who will help assess various rubrics for the QEP goals and SLOs (see Assessment section). The QEP Assessment Team, SLI Fellows and GAs will work under the SLI director, who will receive two course releases per semester as well as a stipend. The SLI director will be responsible for writing annual reviews and reports. Each school will receive funds to hire two adjuncts spread out over five years to offset the teaching load of faculty offering SR of SF courses. A $5,000 per annum marketing budget will help the SLI advertise events, student learning opportunities and faculty and staff engagement opportunities. The Center for Civic Engagement will receive $5,000 per year to help cover travel expenses and faculty stipends for SLI-related alternative breaks. The SLI director will receive $2,000 per year to cover travel expenses accrued by attending and participating in sustainability in higher education conferences or trainings.

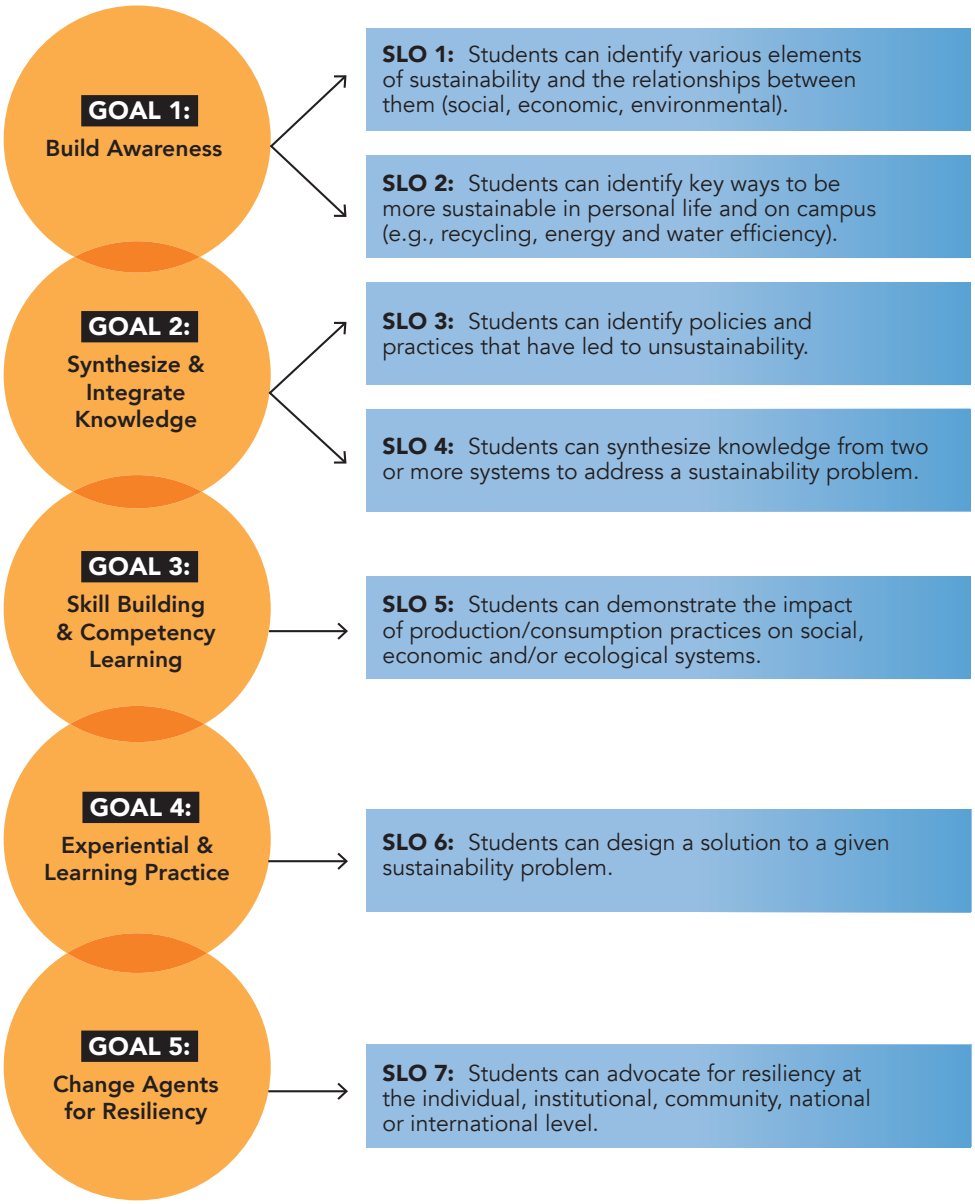
The Office for Institutional Effectiveness and Strategic Planning will provide assessment support and training to the SLI director, Fellows, GAs and QEP Assessment Team. The assessment plan will be assessed as part of the institutional effectiveness (IE) assessment process. As part of this process, the Administrative Assessment Committee (AAC) for Academic Affairs will review plans and results of the SLI and QEP and provide feedback to improve student learning and operations. OIEP staff will also contribute to faculty training at the May SLI-sponsored faculty workshop on teaching sustainability literacy. Faculty members will commit to embedding and assessing no less than one QEP student learning outcome in their SR or SF courses and will provide assessment results to the QEP director and QEP Assessment Team, which will consist of faculty and staff who will be paid a stipend for conducting assessment.

ASSESSMENT

The assessment of the Sustainability Literacy QEP includes the evaluation of process (operational) and student learning outcomes designed to assess the impact of the QEP activities. The assessment plan is intended to be both formative and summative, as the College learns from the assessments about areas which can be improved as well as determining the extent to which the College is achieving the QEP goals (see Figure 11). The narrative below summarizes methods used to assess process outcomes and the assessment of student learning outcomes aligned to the QEP goals.

Assessment results will be gathered annually and reviewed by the QEP Assessment Team and the QEP Implementation Committee. Recommendations based on the assessment results will be incorporated to improve QEP activities.

Figure 11. Alignment of QEP Goals and Student Learning Outcomes



Process Outcomes

The Sustainability Literacy Institute (SLI) is responsible for QEP implementation. The QEP director will oversee all SLI activities, and will hire, work with and evaluate the Faculty Fellows, QEP Implementation Committee and SLI administrative assistant and student workers. The assessment measures include simple counts and demographic analyses. The QEP director, who also serves as the SLI director, will report to the QEP Implementation Team on any required revisions to the SLI plan and the impact of those revisions on QEP implementation. The QEP director will be assisted in this work by the QEP Implementation Committee and the four faculty members of the QEP Assessment Team.

Assessment of the SLI. Assessment will track progress by noting whether the following questions can be answered affirmatively. If not, the QEP director will report to the QEP Leadership Team on any required revisions to the SLI plan and their impact on QEP implementation.

- Has the institute been approved, funded and rendered operational according to the timeframe articulated in the Timeline section?
- Have the Faculty Fellows been hired?
- Has the Sustainability Literacy Institute External Advisory Board been appointed and convened?
- Has administrative capacity been addressed through the hiring of an administrative assistant and four graduate assistants?

Once the SLI has been established, the efficacy of the institute will be assessed through a separate assessment plan, which assesses outcomes related to research, outreach and education. See Table 20 for outcomes and measures below.

Table 20. SLI Outcomes and Measures

Outcomes	Measures with Performance Targets
The SLI will promote and facilitate research opportunities related to positive social, economic and environmental change for College of Charleston faculty and students.	Measure 1. Track the number of faculty-student research collaborations. Performance target: Four funded research projects. Measure 2. At an event highlighting faculty-student research, a panel of faculty judges will rate the research projects using a rubric. Performance target: Set to baseline. Measure 3. SLI staff and affiliated faculty present at conferences or publish in the discipline. Performance target: Set to baseline.
The SLI will facilitate community public service both for the College community and for the community beyond the College.	Measure 1. Develop community partnerships related to sustainability literacy. Performance target: Set to baseline. Measure 2. Facilitate student internships. Performance target: Set to baseline.
College of Charleston faculty and staff who participate in professional development activities through the SLI will be able to incorporate the principles of sustainability literacy in their curricular and co-curricular activities.	Measure 1. Track the number of professional development opportunities offered and number of participants at each. Performance target: The SLI will offer at least one training a year with a minimum of 30 attendees. Measure 2. A pre-post questionnaire will be administered to all attendees to assess knowledge of sustainability literacy principles and perceptions of how to incorporate these principles into their professional practice. Performance target: Set to baseline. Measure 3. Track the number of sustainability-related and sustainability-focused courses offered. Performance target: 10 sustainability-focused courses and 40 sustainability-related courses offered.

SLI outreach. The SLI is the central vehicle for increasing the QEP's outreach to College of Charleston students, faculty and staff. The SLI will support opportunities for programming, student involvement and research, and activities that impact not just the campus but the wider Lowcountry community and students' use of sustainability literacy in the community. Assessment measures will track the following:

- Development of a for-credit Sustainability Literacy Certificate through the School of Professional Studies' Center for Continuing Education: Has a certificate been developed and approved according to the timeframe articulated in the Curricular Activities section?
- Number of centers, institutes and facility sites on- and off-campus that have agreed to partner with SLI on programs, activities and collaborative student research fostering sustainability literacy; number of such activities; number of students involved.

SLI Faculty Fellows. The success of the SLI in implementing the Sustainability Literacy QEP is dependent in part on the activities of four Faculty Fellows, described in "SLI Faculty Fellows" section. Each Faculty Fellow's responsibilities align with specific Process Outcomes in support of QEP implementation. Assessment measures will be collected by the SLI director and will track the following:

- Outreach Fellow: number of QEP events and number of students attending; implementation of the College's annual CofC Sustains/Solves exhibit as described in the "Themes" and "Co-Curricular Activities" sections and the number of students viewing the exhibit; number of undergraduate and graduate students participating in annual CofC Sustains/Solves research competitions.
- Faculty Development Fellow: number of training seminars on sustainability-focused (SF) and sustainability-related (SR) courses; number of SF and SR courses, number of and demographic analysis on students in SF and SR courses.
- Innovation Fellow: number of classroom, extracurricular and community sustainability problem-solving projects, number of and demographic analysis on students engaged in projects; number of research proposals and research conducted through SLI, number of and demographic analysis on students engaged in collaborative research.
- Student Engagement Fellow: development of the Sustainability Literacy Scholars Program; number of and demographic analysis on Literacy Scholar students; number of student clubs that have generated a QEP-themed event; number of faculty mentors.

Student Learning Outcomes

The QEP has seven learning outcomes that align to the five overarching goals; these are previously provided in Figure 11. Details of outcomes and assessment methods are described below.

QEP Goal 1: Build Awareness

1. Student Learning Outcome 1: Students can identify various elements of sustainability and the relationships between them (social, economic and environmental).

a. Measure 1.1 (Direct measure): The United Nations Sustainability test (sulitest.org) will be administered to incoming freshmen in all FYE courses (fall 2016) to provide baseline data and will subsequently be administered to seniors in senior capstone courses beginning 2017-18. The data in this direct measure will be collected, tabulated and tracked longitudinally by OIEP and reported to the SLI director to analyze for inclusion in the annual QEP assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in spring 2017.
b. Measure 1.2 (Direct measure): Students will complete a "signature assignment" in a sustainability-focused (SF) or sustainability-related (SR) course addressing elements of sustainability. A rubric (see

Appendix F) will be used to assess the work. This direct measure of student learning will begin fall 2017. Results will be reported by faculty members teaching the courses to the SLI faculty evaluators for tabulation, longitudinal tracking and analysis for inclusion in the yearly QEP assessment reporting. Performance target is set to baseline so that data driven targets can subsequently be implemented.

c. Measure 1.3 (Direct and indirect measures): A survey will be administered (see Appendix B) to students in College residence halls and subsequently via email, which will provide both direct and indirect measures for building awareness of sustainability literacy. The initial survey will be administered in fall 2016 to provide baseline data for the QEP program. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data driven targets can subsequently be implemented in fall 2017.
d. Measure 1.4 (Indirect measure): Administer a survey to attendees at SLI events to measure self-reported increase in awareness of sustainability issues (see Appendix G for survey instrument). The survey will be administered at all sustainability literacy events beginning fall 2017 (see Appendix G for survey instrument). Data will be collected, tabulated and tracked longitudinally by the Sustainability Literacy Institute Outreach Fellow and the analysis will be reported in the yearly assessment results. Performance targets will initially be set to baseline so that data driven targets can subsequently be implemented.
e. Measure 1.5 (Indirect measure): Administer the NSSE survey, which includes the sustainability module questions to freshmen and seniors (see Appendix H for sustainability module instrument). The survey is administered by the Office for Institutional Effectiveness and Strategic Planning every third year. Baseline data was collected spring 2016, and these survey results will be compared with survey results obtained in the 2018-19 survey implementation. NSSE Survey sustainability module results will be reported to the SLI director for analysis and inclusion in the annual QEP assessment reporting.
f. Measure 1.6 (Indirect measure): Administer a survey to attendees at the Student Organization Leadership summit (see Appendix G for survey instrument). The initial survey will be administered fall 2017 to provide baseline data for the QEP program. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2018.
g. Measure 1.7 (Indirect measure): Administer a survey to attendees at the Career Center “boot camp” (see Appendix G for survey instrument). The initial survey will be administered in spring 2018 to provide baseline data for the QEP program. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2019.
h. Measure 1.8 (Indirect measure): Administer a survey to attendees at the sustainability literacy “boot camp” held during convocation (see Appendix G for survey instrument). The initial survey will be administered in fall 2017 to provide baseline data for the QEP program. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2018.
i. Measure 1.9 (Indirect measure): A count of students in attendance during QEP informational presentations presented by the SLI director and SLI Fellows during accepted student weekend each March, and orientation sessions each summer.

2. Student Learning Outcome 2: Students can identify key ways to be more sustainable in their personal life and on-campus.

a. Measure 2.1 (Direct measure): Administer a sustainability pre- and post-test (see Appendix I) to incoming freshman class, which will provide a measure of students' understanding of ways they can be more sustainable in their personal lives. The test will be administered during all First Year Experience classes following a sustainability teaching module in fall 2016/spring 2017, and the post-test will be administered at the end of the semester and used as baseline data. Data will be collected and tabulated by the Center for Excellence and Peer Education and then tracked longitudinally by the SLI director and the analysis will be reported in the yearly assessment results. Performance targets will initially be set to baseline so that data-driven targets can subsequently be implemented.
b. Measure 2.2 (Direct measure): Students will complete a signature assignment in a sustainability-focused (SF) or sustainability-related (SR) course addressing elements of sustainability. A rubric (see Appendix F) will be used to assess the work. This assessment of student learning will begin fall 2017. Results will be forwarded to faculty evaluators in SLI for tabulation, longitudinal tracking and analysis for inclusion in the yearly QEP assessment reporting. Performance target is set to baseline so that data-driven targets can subsequently be implemented.
c. Measure 2.3 (Direct measure): Students in the Sustainability Literacy Scholars Program will complete a portfolio of work, which is submitted to the program director in the students' senior year. The portfolio will be evaluated using a rubric (see Appendix J). This assessment is expected to begin in 2018-19. Data will be collected, tabulated and tracked longitudinally by Faculty Fellows in the SLI and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2019.

QEP Goal 2: Synthesize and Integrate Knowledge

1. Student Learning Outcome 3: Students will identify policies and practices that have led to unsustainability.

a. Measure 3.1 (Direct measure): Students will complete a signature assignment in a sustainability-focused (SF) or sustainability-related (SR) course addressing elements of sustainability. A rubric (see Appendix F) will be used to assess the work. This assessment of student learning will begin fall 2017. Results will be forwarded to faculty evaluators in SLI for tabulation, longitudinal tracking and analysis for inclusion in the yearly QEP assessment reporting. Performance target is set to baseline so that data-driven targets can subsequently be implemented.
b. Measure 3.2 (Direct measure): Rubric review of journals and portfolios from study-abroad trips, Alternative Break trips and Sustainability Literacy Scholars portfolios (see Appendix J). This assessment will begin in spring 2018 and will be completed by SLI Faculty Fellows. Performance target is set to baseline so that data-driven targets can subsequently be implemented.

2. Student Learning Outcome 4: Students will synthesize knowledge from two or more systems to address a sustainability problem.

a. Measure 4.1 (Direct measure): Students will complete a signature assignment in a sustainability-focused (SF) or sustainability-related (SR) course addressing elements of sustainability. A rubric (see Appendix F) will be used to assess the work. This assessment of student learning will begin in fall 2017. Results will be forwarded to evaluators in SLI for tabulation, longitudinal tracking and analysis for inclusion in the yearly QEP assessment reporting. Performance target is set to baseline so that data-

driven targets can subsequently be implemented.

b. Measure 4.2 (Indirect measure): The SLI director will track the number of submissions to the "College Sustains/Solves" solution of the year program each year. (Direct measure): Submissions will be assessed by a jury using selection criteria which will be posted on sustain.cofc.edu.
c. Measure 4.3 (Direct measure): Student-faculty collaborative research will be evaluated using a rubric adapted from the AAC&U Integrative Learning Rubric (see Appendix K). The students completing this work will be incentivized to engage with the SLI to participate in sustainability-focused research. A committee of SLI Fellows and Faculty Associates will evaluate the student artifacts. This assessment will begin in spring 2018. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis will be reported in the yearly assessment results. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.
d. Measure 4.4. (Direct measure): Student expression of the year entries will be evaluated using a rubric (see Appendix F).

QEP Goal 3: Skill Building and Competency Learning

1. Student Learning Outcome 5: Students will demonstrate the impact of production/consumption practices on social, economic and/or ecological systems.

a. Measure 5.1 (Direct measure): The United Nations Sustainability test will be administered to incoming freshmen in all FYE courses in fall 2016 to provide baseline data and will subsequently be administered to seniors in senior capstone courses beginning 2017-18. The data in this direct measure will be collected, tabulated and tracked longitudinally by OIEP and reported to the SLI director to analyze for inclusion in the annual QEP assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in spring 2017.
b. Measure 5.2 (Direct measure): Students will complete a signature assignment in a sustainability-focused (SF) or sustainability-related (SR) course addressing elements of sustainability. A rubric will be used to assess the work (see Appendix F). This assessment of student learning will begin in fall 2017. Results will be forwarded to evaluators in SLI for tabulation, longitudinal tracking and analysis for inclusion in the yearly QEP assessment reporting. Performance target is set to baseline so that data-driven targets can subsequently be implemented.
c. Measure 5.3 (Direct measure): Students in the Sustainability Literacy Scholars Program will complete a portfolio of work, which is submitted to the program director in the students' senior year. The portfolio will be evaluated using a rubric (see Appendix J). This direct measure is expected to begin in fall 2018/ spring 2019. Data will be collected, tabulated and tracked longitudinally by the SLI director and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2019.
d. Measure 5.4 (Direct and Indirect measure): Students participating in experiential learning will complete a journal (service learning, study abroad, internships) or other artifact, which is submitted to the SLI Fellow who will evaluate using a rubric guided by AAC&U Integrative Learning Rubric (see Appendix K). This measure is expected to begin in fall 2017. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis will be reported in the yearly assessment results. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.

QEP Goal 4: Experiential and Learning Practice

1. Student Learning Outcome 6: Students will design a solution to a sustainability problem.

a. Measure 6.1 (Direct measure): Rubric-based assessment of student-faculty research for application of sustainability literacy in sustainability problem solving (see Appendix F).
b. Measure 6.2 (Direct measure): Rubric (see Appendix F) will be used to evaluate essays and assignments in sustainability-focused courses for application of sustainability literacy in sustainability problem solving.
c. Measure 6.3 (Direct measure): Rubrics (see Appendix J) will be used by Sustainability Literacy Scholars' mentors to evaluate student portfolios for application of sustainability literacy in sustainability problem solving.
d. Measure 6.4 (Direct measure): Rubric-based assessment of student competition winners for application of sustainability literacy in sustainability problem solving (see Appendix F).

QEP Goal 5: Change Agents for Resiliency

1. Student Learning Outcome 7: Students are advocates for resiliency at the individual, institutional, community, national or international level.

a. Measure 7.1 (Indirect measure): Track the number of students in the Senior Exit Survey who report sustainability literacy informed their career choice, volunteer activity, community engagement, graduate school choices and/or internships. This assessment will begin in spring 2018. The survey is administered by OIEP. The SLI Fellow will track and evaluate the survey data provided by OIEP and provide analysis to be reported in the annual QEP assessment report. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.
b. Measure 7.2 (Indirect measure): Track alumni employment data and community service data related to sustainability-focus/-related areas. The data will be provided through OIEP's alumni survey. This assessment will begin in fall 2018. The SLI Fellow will track and evaluate the data and provide analysis to be reported in the annual QEP assessment report. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.
c. Measure 7.3 (Direct measure): Students in the Sustainability Literacy Scholars Program will complete a portfolio of work, which is submitted to the program director in the students' senior year. The portfolio will be evaluated using a rubric (see Appendix J). This direct measure is expected to begin in fall 2018/ spring 2019. Data will be collected, tabulated and tracked longitudinally by the SLI director and the analysis reported in the yearly assessment results. Performance target is set to baseline so that data-driven targets can subsequently be implemented in fall 2019.
d. Measure 7.4 (Direct measure): Students participating in Alternative Break will complete a journal or other artifact, which is submitted to the SLI Fellow who will evaluate using a rubric guided by AAC&U Integrative Learning Rubric (see Appendix K). This measure is expected to begin in fall 2017. Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis will be reported in the yearly assessment results. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.
e. Measure 7.5 (Indirect measure): Students participating in the day of service will complete a short survey (see Appendix L). Data will be collected, tabulated and tracked longitudinally by the SLI Fellow and the analysis will be reported in the yearly assessment results. Performance target will initially be set to baseline so that data-driven targets can subsequently be implemented.

Summary of Key Measures

National Survey of Student Engagement. The National Survey of Student Engagement (NSSE) is used by approximately 1,500 four-year colleges and universities in the United States and Canada to document dimensions of quality in undergraduate education. It is intended to provide information to improve student learning. Its primary activity is annually surveying college students to assess the extent to which they engage in educational practices associated with high levels of learning and development. The College of Charleston administers the NSSE every three years to freshman and senior-level students. NSSE allows institutions to identify specific modules that align with their student learning goals and then provides results based on the population of all institutions who have also administered the module. In the spring 2016, the College took part in the NSSE Sustainability Education Consortium and collected baseline data on students' engagement in sustainability-related academic and co-curricular activities. Comparisons will be made between these findings to NSSE results in the spring of 2019 and 2022.

United Nations Sustainability Literacy Test. The world's first online test of sustainability literacy was launched at the United Nations Environment Assembly (UNEA) in Nairobi, Kenya, on May 25, 2016. The purpose of the test is to create and nurture an awareness of both global and local sustainability challenges. Using the information gleaned from several years of pilot testing, the instrument includes country-specific modules. The College will administer the test in the fall and spring of 2016-17 to all freshmen as part of the College's First Year Experience. Results will be treated as baseline, and the College will compare findings with results of seniors enrolled in capstone courses annually, beginning in the fall and spring of 2017-18.

Course Embedded Assessment. The SLI will use rubrics to assess students' mastery of specific learning outcomes. The rubrics will be written to align with the artifacts being assessed as outlined in Table 22. The SLI will use them to assess course-based signature assignments and other work in SF, SR, learning community, Honors College and undergraduate certificate courses, as well as student reflections following co-curricular activities, such as study abroad, Alternative Break and internships. The penultimate QEP Student Learning Goal (Change Advocates for Resiliency) and its associated student learning outcome (Students are advocates for resiliency at the individual, institutional, community, national and/or international level, which measures the extent to which students can use their sustainability literacy to advocate for resiliency), will be assessed by artifacts including capstone projects, theses and collaborative research. This assessment will be done by the Sustainability Literacy Institute. The quality and appropriateness of the rubrics will be guided by AAC&U Integrative Learning Rubric for Civic Engagement (https://www.aacu.org/value/rubrics).

Signature Assignment. Faculty teaching SR and SF courses will implement a signature assignment each year in which students read an article designed to address sustainability literacy and compose an assignment (examples: three- to five-page essay; a performance or artwork accompanied by a narrative or reflection) responding to question prompts that require them to integrate data and theoretical perspectives from the assigned reading. Student work will be assessed by faculty who are selected by the SLI and who receive a stipend for the assessment. Faculty selection will occur early in the 2017-18 academic year. Sample prompts specifically addressing QEP goals and student learning outcomes include the following:

1. What are the specific policies or practices that have led to unsustainability in the case study/studies addressed in the assigned reading? (QEP Goal 2, SLO 3)
2. What are the impact of those policies or practices on social, economic and/or ecological systems? (QEP Goal 3, SLO 5)
3. What is the relationship between these systems (economic, ecological and social) in the case study in

question? (QEP Goal 1, SLO 1)
4. Does the author propose any potential solutions to the problems you address above? (QEP Goal 2, SLO 4)
5. If so, what is your assessment of those potential solutions? If not, are there other potential solutions that you think are worth exploring? Why and how? (QEP Goal 4, SLO 6)

First Year Experience (FYE) Sustainability Module Pre- and Post-test. Beginning in fall 2017, all freshmen enrolled in College-wide, required First Year Experience (FYE) courses will take a three-question test designed to assess their familiarity with the Triple Bottom Line of sustainability. Students will then participate in a 50-minute class on sustainability literacy. At the end of the semester, FYE peer facilitators will administer the test again, and pre-post findings will be analyzed by those peer facilitators and then SLI Faculty Fellows.

Focus Groups. Focus groups will allow us to collect formative assessments from students (and in some cases, faculty) who are impacted by the QEP. Results will be used to inform appropriate stakeholders about the implementation of QEP goals, identify areas for improvement and confirm achievement of both process and student learning outcomes. Focus groups will be used in a number of settings, including:

- Students in building awareness activities, such as FYE classes, students involved in student government and student clubs (QEP Goal 1)
- Students and faculty in SF courses (QEP Goals 1-4) and SR courses (QEP Goals 1-3)
- Student Sustainability Literacy Scholars (QEP Goals 4 and 5)

Other Surveys. In addition to the NSSE Survey and Sustainability Literacy Consortium, the QEP assessment plan includes the creation of special-purpose surveys to evaluate process and student learning outcomes. These include incorporating sustainability literacy items in the graduating senior survey, and sustainability literacy and resilience advocacy questions in surveys of alumni. A survey designed to collect both direct and indirect evidence of student learning sustainability literacy gains will be administered annually in all College residence halls. Faculty teaching SF courses who receive course development monies also will be expected to administer this survey to their students, and individual student score gains will be assessed for those students who encounter the survey prior to and after taking SF coursework.

Table 22 presents the QEP's assessment of student learning for the first five years of the program. The grey shading indicates the year in which each measure will be assessed.

Table 22. QEP Assessment Activities By Goal and Student Learning Outcome

GOAL 1: BUILD AWARENESS							
Activity/Task	'16-17	'17-18	'18-19	'19-20	'20-21	'21-22	Responsible
SLO 1: Students can identify various elements of sustainability and the relationships between them (social, economic and environmental).							
M1.1: United Nations Sustainability test (Direct)							OIEP SLI Director
M1.2: Rubric-based assessment of signature assignment in sustainability-focused (SF) and sustainability-related (SR) courses (Direct)							SF/SR Course Faculty SLI Faculty Evaluators SLI Director

M1.3: Sustainability survey administered to students in College residence halls (Direct and Indirect)							OIEP
M1.4: Event attendee survey (Indirect)							SLI Director
M1.5: NSSE survey (includes sustainability module questions) (Indirect)							OIEP SLI Director
M1.6: Student Organization Leadership Summit (Indirect)							SLI Director
M1.7: Career Center "boot camp" (Indirect)							SLI Director Career Center
M1.8: Sustainability Literacy "boot camp" at convocation (Indirect)							SLI Director SLI Fellows
M1.9: Accepted students weekend and orientation sessions (Indirect)							SLI Director, New Student Programs
SLO 2: Students can identify key ways to be more sustainable in personal life and on campus.							
M2.1: Sustainability pre- and post-test to incoming freshman class. (Direct)							First Year Experience
M2.2: Rubric-based assessment of signature assignment in sustainability-focused (SF) and sustainability-related (SR) courses (Direct)							SF/SR Course Faculty SLI Faculty Evaluators SLI Director
M2.3: Rubric-based assessment of student portfolios from students in the Sustainability Literacy Scholars Program (Direct)							Sustainability Literacy Scholars Director SLI Director

GOAL 2: SYNTHESIZE AND INTEGRATE KNOWLEDGE							
Activity/Task	'16-17	'17-18	'18-19	'19-20	'20-21	'21-22	Responsible
SLO 3: Students can identify policies and practices that have led to unsustainability.							
M3.1: Rubric-based assessment of signature assignment in SF and SR courses (Direct)							SF/SR Course Faculty SLI Faculty Evaluators SLI Director
M3.2: Rubric-based assessment of student journals from Alternative Break (Direct)							Center for Civic Engagement SLI Faculty Evaluators SLI Director
SLO 4: Students can synthesize knowledge from two or more systems to address a sustainability problem.							
M4.1: Rubric-based assessment of signature assignment in SF and SR courses (Direct)							SF/SR Course Faculty SLI Faculty Evaluators SLI Director
M4.2 Number of submissions to "College Solves" program (Indirect)							SLI Director

M4.3: Rubric-based assessment of student-faculty research (Direct)							SLI Faculty Evaluators SLI Director
M4.4: Rubric-based assessment of student art piece (Direct)							SLI Faculty Evaluators SLI Director

GOAL 3: SKILL BUILDING AND COMPETENCY LEARNING							
Activity/Task	’16-17	’17-18	’18-19	’19-20	’20-21	’21-22	Responsible
SLO 5: Students can demonstrate the impact of production/consumption practices on social, economic and/or ecological systems.							
M5.1: United Nations Sustainability test (Direct)							OIEP SLI Director
M5.2: Rubric-based assessment of signature assignment in SF and SR courses (Direct)							SF/SR Course Faculty SLI Faculty Evaluators SLI Director
M5.3: Rubric-based assessment of student portfolios from students in the Sustainability Literacy Scholars Program (Direct)							Sustainability Literacy Scholars Director SLI Director
M5.4: Rubric review of student artifacts from students participating in experiential learning. (Direct and Indirect)							Program Directors SLI Faculty Evaluators SLI Director

GOAL 4: EXPERIENTIAL AND LEARNING PRACTICE							
Activity/Task	’16-17	’17-18	’18-19	’19-20	’20-21	’21-22	Responsible
SLO 6: Students can design a solution to a sustainability problem.							
M6.1: Rubric-based assessment student-faculty research for application of sustainability literacy in sustainability problem solving. (Direct)							Program Directors SLI Faculty Evaluators SLI Director
M6.2: Rubric-based assessment of essays and assignments in SF courses for application of sustainability literacy in sustainability problem solving. (Direct)							Program Directors SLI Faculty Evaluators SLI Director
M6.3: Rubric-based assessment of student portfolios for application of sustainability literacy in sustainability problem solving. (Direct)							SLI Student Engagement Fellow SLI Director
M6.4: Rubric-based assessment of student competition winners for application of sustainability literacy in sustainability problem solving. (Direct)							SLI Faculty Evaluators SLI Director

GOAL 5: CHANGE AGENTS FOR RESILIENCY							
Activity/Task	'16-17	'17-18	'18-19	'19-20	'20-21	'21-22	Responsible
SLO 7: Students are advocates for resiliency at the individual, institutional, community, national or international level.							
M7.1: Track the number of students in the Senior Exit Survey who report sustainability literacy informed their career choice, volunteer activity, community engagement, graduate school choices and/or internships. (Indirect)							OIEP SLI Director
M7.2: Track alumni employment data and community service data related to sustainability-focus/-related areas. (Indirect)							OIEP SLI Director
M7.3: Rubric review of student portfolios from students in the Sustainability Literacy Scholars Program (Direct)							
M7.4: Rubric review of student artifacts from alternative break. (Direct and Indirect)							
M7.5: Survey of Day of Service Participants. (Indirect)							
Note: OIEP: Office for Institutional Effectiveness and Strategic Planning; SF/SR Courses: Sustainability-focused and sustainability-related courses; SLI: Sustainability Literacy Institute							

APPENDICES

Appendix A
Meetings Between QEP Director and Campus Constituents

Department	School	Date
Biology	SSM	9/21
Geology	SSM	11/11
Physics and Astronomy	SSM	11/17
Computer Science	SSM	12/1
Political Science	HSS	10/13
Philosophy	HSS	11/1
English	HSS	11/15
Hospitality and Tourism Management	SB	11/16
Teacher Education	EHHP	11/18
Arts Management	SOTA	12/1
Chairs Meeting	SOTA	4/26
Deans		
Dean Antonio Tillis	LCWA	3/21
Deah Jerry Hale	HSS	3/21
Dean Valerie Morris and Associate Dean Michael Haga	SOTA	3/23
Dean Amy McCandless and Associate Dean Jon Hakkila	Graduate School	3/28
Dean Trisha Folds-Bennett	Honors	6/13
Dean Fran Welch	EHHP	4/13
Dean Godfrey Gibbison	SPS	8/24
Student Groups		
Cougar Activities Board	Student Affairs	3/21
Student Government Association	Student Affairs	1/17
Fraternities and Sororities	Student Affairs	3/17
Divisions, Institutions, Programs, and Offices		
EHHP Partnership and Outreach Team	EHHP	11/29
Graduate School Advisory Board	Graduate School	11/3
Marketing & Communications	Marketing & Communications	12/2
Library Leadership	Academic Affairs	3/16
Mark Berry, Executive Director, Marketing & Communications	Marketing & Communications	3/2
First Year Experience Directors	Academic Experience	multiple
Jill Caldwell, Assistant Director of Student Life	Student Affairs	multiple
Celeste Granger, Assistant Director of Residence Life	Student Affairs	multiple
Marty Perlmutter, Director, Jewish Studies	LCWA	3/23
Lori Kornegay, Curator of Art and Public Engagement, Halsey Gallery	Academic Affairs	3/16
Rénard Harris, Interim Director, Office of Institutional Diversity	President's Office	10/19
Andrew Sobiesuo, Associate Provost, Director of International Education	Academic Affairs	5/17

Barbara Hallberg, Cougar Card Services	Business Affairs	5/23
Lynne Ford, Alicia Caudill, Susan Hartman, Celeste Granger, Melinda Miley, William Fleming, Melantha Ardrey, Jeri Cabot	Student Affairs/Academic Affairs	6/15
Kendra Stewart, Director, Joseph P. Riley Jr. Center for Livable Communities	HSS	7/28
Paul Sandifer, Center for Coastal Environmental and Human Health	SSM	9/9
Fall Faculty Meeting	HSS	9/2
Faculty Senate Update	Faculty Senate	multiple
Brian Fisher, Director, Office of Sustainability	Business Affairs	9/27
Elizabeth Meyer-Bernstein, Associate Dean	Honors College	9/27
Academic Council	Academic Affairs	multiple
Hollis France, Director, Gender & Sexuality Equity Center	President's Office	10/21
Board of Trustees	Board of Trustees	10/21
Stephanie Auwaerter, Director of Orientation	New Student Programs	10/21
Nick Brown, Charleston 40	Admissions	11/9
Jim Allison, Director, Career Center	Student Affairs	11/15

Appendix B
QEP Baseline Survey - Fall 2016 Pilot

Welcome to the Sustainability Literacy Survey! Thank you for agreeing to take part in this important survey measuring sustainability literacy for the College of Charleston's Quality Enhancement Plan (QEP) – Sustainability Literacy as a Bridge to Addressing 21st-Century Problems.

Every 10 years, the Southern Association of Colleges and Schools Commission on Colleges (SACSOCS) requires that member institutions be reaffirmed as accredited institutions. In preparing for this reaffirmation process, colleges and universities are required to develop a Quality Enhancement Plan (QEP). Our campus selected sustainability literacy as the focus of the College's QEP.

Obtaining feedback from students is vital to the review process. The data collected from this survey will be used to capture existing knowledge, skills, and dispositions about sustainability literacy on campus as they are right now.

This survey should take about 5 to 10 minutes of your time. Your responses are voluntary and will be confidential. Responses will not be identified by individual. All responses will be compiled together and analyzed as a group.

If you have any questions or concerns, please contact Todd LeVasseur, Director, Quality Enhancement Plan at levasseurtj@cofc.edu.

Which of the following best describes the three legs of sustainability?

- ❍ Reduce, reuse, recycle. (1)
- ❍ Economy, equity/equality, environment. (2)
- ❍ Legislative, executive, judicial. (3)
- ❍ All of the above. (4)
- ❍ None of the above. (5)

Please use a scale of 1 to 5, with 5 being the highest, to state the extent to which you agree with the

following statements.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I am able to critically analyze sustainability problems and issues.					
I can use the three legs of sustainability to help me understand sustainability problems and issues.					
I can identify personal choices that I might make to alleviate sustainability problems and issues.					
I can identify policy solutions that might help alleviate sustainability problems and issues at a local, national or global scale.					

Please use a scale of 1 to 5, with 5 being the highest, to rate your knowledge on the following topics.

	Never heard of the topic (1)	Have heard of the topic but can't really explain it (2)	Can define/ explain it on a basic level (3)	Can define/ explain some of the complexities of the topic (4)	Can define/ explain the complexities of the topic (5)
Environmental justice					
Fair Trade					
Sense of place					
Triple Bottom Line					
Renewable/alternative energy					
Consumption					
Sustainable food					
Economic growth					
Climate change					
Biodiversity loss					
Ecological footprint					
Human population					

I am interested in learning about sustainability literacy in academic coursework at the College of Charleston.

- ❍ Strongly disagree
- ❍ Somewhat disagree
- ❍ Neither agree nor disagree
- ❍ Somewhat agree
- ❍ Strongly agree

Have you heard of the College of Charleston's next QEP, Sustainability Literacy as a Bridge to Solving 21st-

Century Problems?
- ❍ Yes
- ❍ Maybe
- ❍ No

What is your class rank?
- ❍ Freshman
- ❍ Sophomore
- ❍ Junior
- ❍ Senior
- ❍ Graduate Student

What is your first major?
What is your second major (if applicable)?

THANK YOU FOR YOUR TIME AND INPUT!
Sustainability Literacy – That's Our Goal

Appendix C
QEP Course Proposal 2017–2018

The College of Charleston's next QEP, "Sustainability Literacy as a Bridge to Addressing 21st-Century Problems," invites all faculty to propose course enhancements based on the below definitions for the 2017-18 academic year. These enhancements can be:

- a change to an already existing course so it is either sustainability related or focused,
- a proposal to develop a sustainability-focused special topics course,
- or a proposal for a sustainability-focused learning community.

Proposals can be for

- fall 2017,
- spring 2018,
- or summer (on campus or study away) 2018.

Those selected to develop and offer one of ten **sustainability-focused courses (whether special topics or changing an already existing course)** will receive a stipend of $500, while those selected to **change existing courses so that they become sustainability related** will receive a stipend of $200, and faculty who propose a **sustainability-focused learning community** around the topic of water will receive $350. Faculty whose courses are accepted commit to attending a **two-day workshop** on May 8 and 9, 2017, on teaching and assessing sustainability literacy and commit to assigning a QEP-generated signature learning assignment for assessment of the QEP student learning outcomes and adopting at least one QEP SLO for the course. Faculty are encouraged to teach this special topics course up to three times[1], sharing their assessment results for each time taught.

The "CofC Sustains/Solves" theme of the QEP for the 2017-18 academic year is water quantity and quality. We are particularly interested in upper-level courses that help teach sustainability literacy where the entryway is through the topic of solving the variety of 21st-century problems related to water: availability and conflict over, management of, cleanliness and quality of, cultural views and values of, artistic expressions related to, sources and availability, water justice, and other ways of thinking about the Triple Bottom Line of sustainability

[1] Special topics can be taught three times before they can no longer be taught, or they must become a permanent departmental/program offering.

via the lens of water. However, proposals for lower level courses are also welcome.

The definition of **sustainability** that guides our QEP is the integration of social, economic, and environmental systems in ways that allow for individual, institutional, community, regional and planetary resilience. To be **sustainability literate** one has the knowledge and skills to advocate for resilient social, economic and environmental systems. Proposals that specifically relate to the CofC Sustains/Solves 2017-2018 theme of water should reflect how course content will use this theme to provide sustainability literacy to CofC students. When considering course proposals, please keep in mind the definitions of sustainability-focused and sustainability-related courses provided below. We are seeking submissions for both sustainability-focused and sustainability-related courses for 2017-18. The designation of "focused" vs. "related" comes from the AASHE (Association for the Advancement of Sustainability in Higher Education) STARS system (Sustainability Tracking, Assessment and Rating System):

a) "Sustainability-Focused" courses (contain one of the below, or a mix of the three)

i) Courses in which the *primary and explicit* focus is on sustainability as an integrated concept having social/cultural, economic and environmental dimensions (the Triple Bottom Line).

ii) Courses in which the primary and explicit focus is on the application of sustainability within a field. As sustainability is an interdisciplinary topic, such courses generally incorporate insights from multiple disciplines. Obvious examples include Sustainable Agriculture, Architecture for Sustainability, and Sustainable Business; however, courses may also count if their course descriptions indicate a primary and explicit focus on sustainability within a field.

iii) Courses in which the primary focus is on providing skills and/or knowledge directly connected to understanding or solving one or more major sustainability challenges [which for 2017-2018 is water]. A course might provide knowledge and understanding of the problem or tools for solving it – for example, Climate Change Science, Renewable Energy Policy, Environmental Justice or Green Chemistry. Such courses do not necessarily cover "sustainability" as a concept, but should address more than one of the three dimensions of sustainability (i.e., social/cultural wellbeing, economic prosperity and environmental health).

b) "Sustainability-Related" courses (contain one of the below, or a mix of the two)

iv) A course that includes sustainability is primarily focused on a topic other than sustainability, but incorporates a unit or module on sustainability or a sustainability challenge, includes one or more sustainability-focused activities or integrates sustainability issues throughout the course.

v) As an example: While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered to be inclusive of sustainability unless the concept of sustainability or a sustainability challenge is specifically integrated into the course. Likewise, although specific tools or practices such as GIS (Geographical Information Systems) or engineering can be applied towards sustainability, such courses would not count unless they incorporated a unit on sustainability or a sustainability challenge, included a sustainability-focused activity or incorporated sustainability issues throughout the course.

Please visit sustain.cofc.edu for further relevant information related to the QEP and the call for proposals. Specific questions can be addressed to the QEP Director, Todd LeVasseur, at levasseurtj@cofc.edu. Official proposals should be scanned and sent to the QEP Director, Todd LeVasseur, no later than 5 p.m., Monday, November 7, 2016.

1. Department:
2. Faculty Member:
3. Faculty Member CWID:
4. Is this a _____ new sustainability-focused (SF) special topics course

   _____ change to an existing course so it is sustainability focused (SF)

   _____ change to an existing course so it is sustainability related (SR)

   _____ creation of a SF Learning Community (please specify other faculty involved)

   _____ list here the relevant above criteria from the STARS definition you are using to teach either an SF or SR course (please write for SF, either i, ii and/or iii; for SR either iv and/or v)
5. QEP Course Title:
6. Semester Offered: Fall '17 _____ Spring '18 _____

Signature of Faculty Member
_____ Date: _____

Signature of Department Chair/Program Director
_____ Date: _____

7. Course Description (Please limit to 120 words), related to the 2017-18 theme of water quality and quantity, where this description is for review by the QEP Implementation Committee and will be used to advertise the course online (it is possible to turn in a Word document file of this description):
8. Would you be willing to have REACH students in your course? ____ Yes ____ No
   Note: See reach.cofc.edu for a description of the program. Special training is provided to faculty who choose to have REACH students in their course
9. Please provide a list of assumed learning sources (books, blogs/websites, peer-reviewed articles, videos) you will use in the course, while explaining how these relate to water, sustainability literacy and the Triple Bottom Line, where appropriate.

Appendix D
QEP Director Job Description

The following notice is being sent on behalf of Dr. Brian McGee, Provost and EVP for Academic Affairs, and Dr. Divya Bhati, AVP for Institutional Effectiveness and Strategic Planning and SACSCOC Liaison: As the College continues to develop the next Quality Enhancement Plan (QEP),*Sustainability Literacy as a Bridge to Addressing 21st-Century Problems,* we are conducting an internal search for a QEP Director and invite applications from interested parties. The QEP director will jointly report to Dr. Brian McGee, Provost, and Dr. Divya Bhati, SACSCOC Liaison. The QEP director is a six-year position, responsible for developing the QEP and presenting it to SACSCOC in March 2017, and then directing the QEP for five years through academic year 2021-22. The position includes course releases from two courses per semester, a $20,000 a year stipend, and is considered an 11-month contract.

The director of the QEP provides transformational leadership to support faculty and staff in the development and implementation of the QEP. The position establishes the framework and enacts the QEP to improve student learning and support per the goals of the plan. Executes the QEP program as per the Southern Association of Colleges and Schools Commission on College (SACSCOC) requirements and the College's mission and vision.

Qualified candidates must possess either a master's degree and three or more years of higher education experience or a doctorate and two or more years of higher education experience. Experience with teaching and/or researching sustainability will be required. Strong organizational, administrative, and interpersonal skills are essential. Current members of the roster faculty and adjunct faculty are welcome to apply, as are qualified staff employees. Full-time employees of the College should apply for this position only if they have the support of their supervisors, who must agree that the additional work of the interim QEP Director's position will not interfere with other work duties.

The following are key duties of the QEP director:

- Ensures that faculty, staff, Executive Vice Presidents, Deans, Associate Provosts, and the Provost provide the feedback needed to develop the framework of the QEP;
- Works with faculty, staff, and students to ensure successful implementation of the QEP;
- Teaches at least one Sustainability-Focused course each year;
- Recruits faculty to participate in Sustainability Literacy faculty training opportunities;
- Successfully managing the Sustainability Literacy Institute, including facilitation of course development, faculty training and exchanges, faculty-student research, the Sustainability Literacy Scholars Program, an Undergraduate Certificate in sustainability literacy, Alternative Breaks and service-learning opportunities, and SLI-sponsored events;
- Collaborates with the QEP Assessment Team to ensure rigorous assessment of the QEP;
- Writes the annual report, including the five-year impact report, for the QEP;
- Manages the budget of the QEP and the SLI;
- Serves as chair of the QEP Implementation Committee;
- Tracks sustainability literacy performance for the College and uploads to AASHE's Sustainability Tracking, Assessment & Reporting System; and
- Performs other duties as assigned by the Provost and Associate Vice President for Institutional Effectiveness and Strategic Planning.

Interested applicants should submit a cover letter and resume to Dr. Divya Bhati in the Office for Institutional Effectiveness and Strategic Planning (bhatid@cofc.edu).

Appendix E

Position Announcement

Sustainability Literacy Institute Student Engagement Fellow

As part of the Quality Enhancement Plan (QEP): ***Sustainability Literacy as a Bridge to Addressing 21st-Century Problems***, the College of Charleston is conducting an internal search for four Faculty Fellows. This announcement seeks applicants for the ***Student Engagement Fellow.***

Each Faculty Fellow will:

- Contribute to planning and assessment efforts for the Sustainability Literacy Institute (SLI)
- Receive a course release per semester and a $2,000 stipend each summer
- Mentor a ½-time Graduate Assistant (GA), who will also support the Faculty Fellow in his/her duties

The Student Engagement Fellow is a two-year renewable position.

Duties:

1. Oversee, organize and implement the Sustainability Literacy Scholars Program
    - Organize co-curricular activities for cohorts
    - Organize and host a graduation ceremony
    - Track and advertise SF and SR classes that will count for the Scholars Program
    - Seek out and apply for grants to help fund the Scholars Program, where appropriate
    - Oversee Scholars Program budget
    - Offer advising to Scholars
    - Recruit faculty participation in the Scholars Program, including serving in advising and mentoring roles

2. Help plan, develop and implement student-initiated projects/research related to the SLI and QEP.
3. Meet with CAB, student clubs and Student Government Association as needed.
4. Organize meetings related to CofC Sustains/Solves theme of the year with relevant student clubs hosted at the SLI, while working with student clubs on events and strategies that help the clubs' missions.
5. Help recruit faculty for SF and SR Alternative Break and study-abroad courses.
6. Organize campus-wide co-curricular activities hosted by the SLI.
7. Recruit and oversee SLI student interns, both graduate and undergraduate.
8. Liaison with the Career Center and offer career advice.
9. Host "Three-Minute Thesis" meetings with graduate students, where SLI Affiliates, Fellows and staff present at the meetings where they will offer feedback.
10. Track student attendance and involvement at relevant QEP/SLI events.
11. Participate in SLI meetings when appropriate.
12. Will help lead a workshop module at the annual May faculty training workshop on teaching sustainability literacy.
13. Coordinate with other Faculty Fellows to fulfill SLI tasks such as:
    1. Selecting Summer Research Fellows
    2. Identifying faculty to teach SF and SR courses and learning community courses
    3. Supporting student competitions and exhibits
    4. Mentoring SLI interns and student clubs
    5. Track faculty attendance and participation at relevant QEP/SLI events and trainings
14. Complete necessary assessment and annual reports.

It is expected that these duties will require approximately 10 hours of work per week a semester. Summer commitment will vary from 3 to 5 hours per week with the ability to conference call/Skype as appropriate. Qualified candidates must possess either a master's degree and three or more years of higher education experience, or a doctorate and two or more years of higher education experience. Experience with sustainability literacy will be helpful. Interested faculty should apply for this position only if they have the support of their department chair and dean. They should submit a cover letter and résumé to Dr. Divya Bhati in the Office for Institutional Effectiveness and Strategic Planning (bhatid@cofc.edu). Complete applications should be submitted by November 1, 2016. Immediate questions can be submitted to Dr. Todd LeVasseur, QEP Director, at levasseurtj@cofc.edu.

Appendix F

Sustainability Literacy Rubric

Outcome	Below Average (1)	Average (2)	Above Average (3)	Exceptional (4)	Comments
Identify policies and practices that have led to unsustainability. (SLO 3)	Text does not accurately explain policies/ practices outlined in assigned text.	Text accurately but briefly explains one or two policies or practices.	Text thoroughly identifies and describes all major problematic policies/practices in assigned text.	Text thoughtfully identifies all relevant policies/practices, and connects them to other course themes/ readings/theories.	
Demonstrate the impact of production/consumption practices on social, economic and/or ecological systems. (SLO 5)	Text incorrectly characterizes impact of practices on systems, or fails to address impact of practices.	Text indicates one or two practices and explains their impact on systems.	Text thoroughly describes the impact of all major relevant practices as outlined in assigned text.	Text thoughtfully identifies the impact of all relevant practices, and connects them to other course themes/ readings/theories.	
Synthesize knowledge from two or more systems to address a sustainability problem. (SLO 4)	Text does not incorporate knowledge from two or more systems.	Text incorporates knowledge from two or more systems, but does not integrate or synthesize their perspectives.	Text incorporates and synthesizes information from two or more systems as articulated in assigned text.	Text synthesizes knowledge from two or more systems, including both the assigned text and other course themes/ readings/theories.	
Communicate effectively following the conventions of the course discipline(s).	Text is impeded by many grammatical or mechanical errors, and/ or does not appropriately rely on the communication conventions of the discipline (integrating and citing sources, etc.).	Text has some grammatical/ mechanical errors, or minor difficulties with the communication conventions of the discipline.	Text is free of serious grammatical/ mechanical errors and follows appropriate disciplinary conventions.	Text employs clear, stylistically mature language appropriate to the discipline and is free of serious grammatical/ mechanical/citation errors.	

Design a solution to a given sustainability problem. (SLO 6)	Text is unable to identify key elements of the problem or generate a feasible solution that fits the scale, scope and domains of the problem.	Text is able to identify the problem and provides some outline of an effective solution.	Text identifies key elements of the problem and clearly outlines objectives and strategies for solving the problem that are based on current research.	Text actively makes links and connections between what are often perceived as unrelated systems and domains in order to generate a workable, feasible solution; novel results are thoroughly developed; key elements of the problem are clearly defined with designed and articulated solutions based on best practices that clearly address each aspect of the problem.	
Advocate for resiliency at various levels. (SLO 7)	Text does not adequately address sustainability problems and metrics and how these are a threat to individual or community well-being; does not address behaviors and specific behavioral change at various scales that must occur in order to generate resiliency.	Text shows some grasp of TBL problems and a basic understanding of resiliency and how behavioral change impacts resiliency of the TBL.	Strength and stability of TBL systems are recognized and support for their sustainable function is advocated for by clear proposals related to the behaviors of various system actors and synergies that impact the TBL.	Text recognizes full responsibility for actions/policies/ interventions in the TBL and how these can generate or impede resilience; makes clear judgments about how actions impact system resiliency; provides evidence of resourcefulness in advocating for resilient solutions that are inclusive, integrated, and reflective of multiple system parts and actors; advocacy clearly contributes to system flexibility and ability to withstand shocks to the TBL while curtailing existing vulnerabilities of current system design; multiple stakeholders are advocated for and empowered.	

Appendix G
QEP Event Survey

Welcome to the Sustainability Literacy Survey! Thank you for agreeing to take part in this important survey measuring sustainability literacy for the College of Charleston's Quality Enhancement Plan (QEP) – Sustainability Literacy as a Bridge to Addressing 21st-Century Problems. Every 10 years, the Southern Association of Colleges and Schools Commission on Colleges (SACSOCS) requires that member institutions be reaffirmed as accredited institutions. In preparing for this reaffirmation process, colleges and universities are required to develop a Quality Enhancement Plan (QEP). Our campus selected sustainability literacy as the focus of the College's QEP. Obtaining feedback from students is vital to the review process. The data collected from this survey will be used to capture existing knowledge, skills, and dispositions about sustainability literacy on campus as they are right now.

This survey should take about 5 minutes of your time. Your responses are voluntary and will be confidential. Responses will not be identified by individual. All responses will be compiled together and analyzed as a group.

If you have any questions or concerns, please contact Todd LeVasseur, Director, Quality Enhancement Plan at levasseurtj@cofc.edu.

Which of the following best describes the three legs of sustainability?

- ❍ Reduce, reuse, recycle. (1)
- ❍ Economy, equity/equality, environment. (2)
- ❍ Legislative, executive, judicial. (3)
- ❍ All of the above. (4)
- ❍ None of the above. (5)

Please use a scale of 1 to 5, with 5 being the highest, to state the extent to which you agree with the following statements.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)	NA (6)
Because of this event, I am able to critically analyze sustainability problems and issues. (1)						
Because of this event, I can use the three legs of sustainability to help me understand sustainability problems and issues. (2)						
Because of this event, I can identify personal choices that I might make to alleviate sustainability problems and issues. (3)						
Because of this event, I can identify policy solutions that might help alleviate sustainability problems and issues at a local, national or global scale. (4)						

As a result of this event, I am interested in learning about sustainability literacy in academic coursework at the College of Charleston.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

As a result of this event, I am interested in participating in further events about sustainability literacy at the College of Charleston.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

As a result of this event, I have gained more knowledge about sustainability literacy.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

Have you heard of the College of Charleston's next QEP, Sustainability Literacy as a Bridge to Solving 21st-Century Problems.

- ❍ Yes (1)
- ❍ Maybe (2)
- ❍ No (3)

What is your class rank?

- ❍ Freshman (1)
- ❍ Sophomore (2)
- ❍ Junior (3)
- ❍ Senior (4)
- ❍ Graduate Student (5)

What is your first major?
What is your second major (if applicable)?

THANK YOU FOR YOUR TIME AND INPUT!
Sustainability Literacy – That's Our Goal

Appendix H
NSSE Sustainability Education Consortium 2015

1. In your experience at your institution during the current school year, about how often have you done each of the following?

Response options: 4=Very often, 3=Often, 2=Sometimes, 1=Never

a. Completed an assignment that evaluates the sustainability of some activity
b. Made significant contributions in a group project
c. Integrated knowledge from multiple academic disciplines in working on a project
d. Completed an assignment that evaluates our responsibilities to future generations

2. During the current school year, how much has your coursework emphasized the following mental activities?

Response options: 4=Very much, 3=Quite a bit, 2=Some, 1=Very little

a. Understanding the complex relationships between economic, social and ecological systems
b. Evaluating the moral dimensions of social or environmental problems
c. Comprehending ways in which human activities may exceed the carrying capacity of systems that support us

3. During the current school year, about how often have you done each of the following?

Response options: 4=Very often, 3=Often, 2=Sometimes, 1=Never

a. Participated in a campus or community sustainability project
b. Altered your behavior to become more sustainable
c. Gone on a field trip in your bioregion

4. To what extent does your institution emphasize each of the following?

Response options: 4=Very much, 3=Quite a bit, 2=Some, 1=Very little

a. Taking responsibility for the welfare of your communities
b. Learning about sustainability
c. Understanding local economies and/or ecosystems

5. To what extent has your experience at this institution contributed to your knowledge, skills and personal development in the following areas?

Response options: 4=Very much, 3=Quite a bit, 2=Some, 1=Very little

a. Articulating a vision of a just and sustainable society
b. Acquiring skills to lead or facilitate group activities
c. Understanding the consequences of your choices
d. Understanding the economic dimensions of sustainability
e. Acquiring the skills to help organizations become more sustainable
f. Understanding issues of social justice
g. Persevering in achieving long-term goals despite adversity

Appendix I

First-Year Experience Pre/Post Test

1) What are the 3 legs of sustainability?

2) Define sustainability literacy and why this is important (2 sentences).

3) What is something you can do individually in your personal life, and then as a resident in the Lowcountry, to help generate resilient solutions to sustainability problems?

Appendix J
Sustainability Scholars Portfolio Rubric

Sect.	Exemplary	Satisfactory	Needs Improvement	Unsatisfactory
Sustainability Literacy	Artifacts are included that demonstrate the application of sustainability literacy knowledge and skills in academic and personal settings. Artifacts and work samples are clearly related to the learning objective. All assessments included.	Artifacts are included and represent the demonstration of sustainability literacy knowledge and skills in academic and personal settings. Most artifacts and work samples are clearly related to the learning objective.All assessments included.	Missing artifact *or* artifacts poorly represent demonstration of sustainability literacy knowledge and skills in academic and personal settings. Few artifacts and work samples are clearly related to the learning objective. Missing up to ½ of assigned assessments.	Missing artifacts *or* artifacts do not represent application of demonstration of sustainability literacy knowledge and skills in academic and personal settings. Artifacts are unrelated to the learning objective. Missing over ½ of assigned assessments.
Advocacy	Artifacts are included that demonstrate the ability to advocate for sustainability literacy in academic and personal settings. All artifacts and work samples are clearly related to the learning objective.	Artifacts are included that demonstrate the ability to advocate for sustainability literacy in academic and personal settings. Most artifacts and work samples are clearly related to the learning objective.	Missing artifact *or* artifacts poorly demonstrate the ability to advocate for sustainability literacy in academic and personal settings. Few artifacts and work samples are clearly related to the learning objective.	Missing artifacts *or* artifacts do not demonstrate the ability to advocate for sustainability literacy in academic and personal settings. Artifacts are unrelated to the learning objective.
Career Exploration	Artifacts included are representative of the application of career exploration in sustainability-related fields. All artifacts and work samples are clearly related to the learning objective.	Artifacts included are representative of the application of career exploration in sustainability-related fields. Most artifacts and work samples are clearly related to the learning objective.	Missing artifact *or* artifacts poorly represent application of career exploration in sustainability-related fields. Few artifacts and work samples are clearly related to the learning objective.	Missing artifacts *or* artifacts do not represent application of career exploration in sustainability-related fields. Artifacts are unrelated to the learning objective.
Organization	Well-organized and clearly tabbed. Artifacts clearly labeled. Pages created in a professional format. Few, if any, grammatical and/or spelling errors.	Neatly organized with consistent format. Most artifacts are clearly labeled. Pages are created in a professional format. May include minor grammatical and/or spelling errors.	Difficult to follow or locate some items. Few artifacts are clearly labeled. Pages are not in professional format. Many grammatical and/or spelling errors.	Sloppy, poorly organized. Items are loose, not in appropriate section, or missing. Pages are not in professional format. Few, if any, artifacts are clearly labeled. Many grammatical and/or spelling errors.

Appendix K
AAC&U Integrative Learning Rubric

Definition

Integrative learning is an understanding and a disposition that a student builds across the curriculum and cocurriculum, from making simple connections among ideas and experiences to synthesizing and transferring learning to new, complex situations within and beyond the campus.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	Milestones 3	2	Benchmark 1
Connections to Experience Connects relevant experience and academic knowledge	Meaningfully synthesizes connections among experiences outside of the formal classroom (including life experiences and academic experiences, such as internships and travel abroad) to deepen understanding of fields of study and to broaden own points of view.	Effectively selects and develops examples of life experiences, drawn from a variety of contexts (e.g., family life, artistic participation, civic involvement, work experience), to illuminate concepts/ theories/frameworks of fields of study.	Compares life experiences and academic knowledge to infer differences, as well as similarities, and acknowledge perspectives other than own.	Identifies connections between life experiences and those academic texts and ideas perceived as similar and related to own interests.
Connections to Discipline Sees (makes) connections across disciplines, perspectives	Independently creates wholes out of multiple parts (synthesizes) or draws conclusions by combining examples, facts or theories from more than one field of study or perspective.	Independently connects examples, facts or theories from more than one field of study or perspective.	When prompted, connects examples, facts, or theories from more than one field of study or perspective.	When prompted, presents examples, facts or theories from more than one field of study or perspective.
Transfer Adapts and applies skills, abilities, theories or methodologies gained in one situation to new situations	Adapts and applies, independently, skills, abilities, theories or methodologies gained in one situation to new situations to solve difficult problems or explore complex issues in original ways.	Adapts and applies skills, abilities, theories or methodologies gained in one situation to new situations to solve problems or explore issues.	Uses skills, abilities, theories or methodologies gained in one situation in a new situation to contribute to understanding of problems or issues.	Uses, in a basic way, skills, abilities, theories or methodologies gained in one situation in a new situation.
Integrated Communication	Fulfills the assignment(s) by choosing a format, language or graph (or other visual representation) in ways that enhance meaning, making clear the interdependence of language and meaning, thought and expression.	Fulfills the assignment(s) by choosing a format, language or graph (or other visual representation) to explicitly connect content and form, demonstrating awareness of purpose and audience.	Fulfills the assignment(s) by choosing a format, language or graph (or other visual representation) that connects in a basic way what is being communicated (content) with how it is said (form).	Fulfills the assignment(s) (i.e., to produce an essay, a poster, a video, a PowerPoint presentation, etc.) in an appropriate form

Reflection & Self-Assessment Demonstrates a developing sense of self as a learner, building on prior experiences to respond to new and challenging contexts (may be evident in self-assessment, reflective or creative work)	Envisions a future self (and possibly makes plans that build on past experiences) that have occurred across multiple and diverse contexts.	Evaluates changes in own learning over time, recognizing complex contextual factors (e.g., works with ambiguity and risk, deals with frustration, considers ethical frameworks).	Articulates strengths and challenges (within specific performances or events) to increase effectiveness in different contexts (through increase self-awareness).	Describes own performances with general descriptors of success and failure.

Appendix L
QEP Day of Service Survey

Welcome to the Sustainability Literacy Survey! Thank you for agreeing to take part in this important survey measuring sustainability literacy for the College of Charleston's Quality Enhancement Plan (QEP) – Sustainability Literacy as a Bridge to Addressing 21st-Century Problems. Every 10 years, the Southern Association of Colleges and Schools Commission on Colleges (SACSOCS) requires that member institutions be reaffirmed as accredited institutions. In preparing for this reaffirmation process, colleges and universities are required to develop a Quality Enhancement Plan (QEP). Our campus selected sustainability literacy as the focus of the College's QEP. Obtaining feedback from students is vital to the review process. The data collected from this survey will be used to capture existing knowledge, skills and dispositions about sustainability literacy on campus as they are right now.

This survey should take about 5 minutes of your time. Your responses are voluntary and will be confidential. Responses will not be identified by individual. All responses will be compiled together and analyzed as a group.

If you have any questions or concerns, please contact Todd LeVasseur, Director, Quality Enhancement Plan at levasseurtj@cofc.edu.

Which of the following best describes the three legs of sustainability?

- ❍ Reduce, reuse, recycle. (1)
- ❍ Economy, equity/equality, environment. (2)
- ❍ Legislative, executive, judicial. (3)
- ❍ All of the above. (4)
- ❍ None of the above. (5)

Please use a scale of 1 to 5, with 5 being the highest, to state the extent to which you agree with the following statements.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)	NA (6)
After participating in the day of service, I am able to critically analyze sustainability problems and issues. (1)						
After participating in the day of service, I can use the three legs of sustainability to help me understand sustainability problems and issues. (2)						
After participating in the day of service, I can identify personal choices that I might make to alleviate sustainability problems and issues. (3)						

After participating in the day of service, I can identify policy solutions that might help alleviate sustainability problems and issues at a local, national or global scale. (4)						

As a result of the day of service, I am interested in learning about sustainability literacy in academic coursework at the College of Charleston.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

As a result of the day of service, I am interested in participating in further events about sustainability literacy at the College of Charleston.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

As a result of the day of service, I have gained more knowledge about sustainability literacy.

- ❍ Strongly disagree (8)
- ❍ Somewhat disagree (9)
- ❍ Neither agree nor disagree (10)
- ❍ Somewhat agree (11)
- ❍ Strongly agree (12)

Prior to this event, had you heard of the College of Charleston's next QEP, Sustainability Literacy as a Bridge to Solving 21st-Century Problems.

- ❍ Yes (1)
- ❍ Maybe (2)
- ❍ No (3)

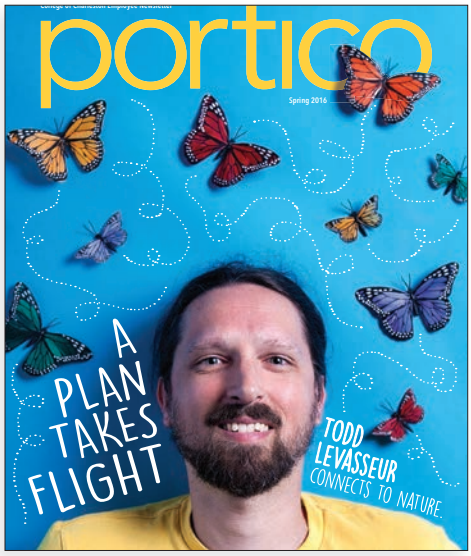
What is your class rank?

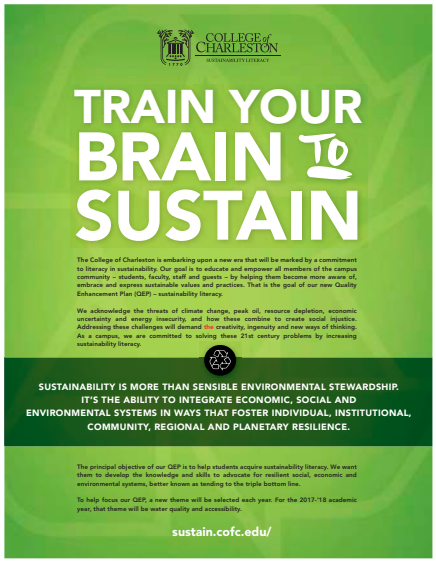
- ❍ Freshman (1)
- ❍ Sophomore (2)
- ❍ Junior (3)
- ❍ Senior (4)
- ❍ Graduate Student (5)

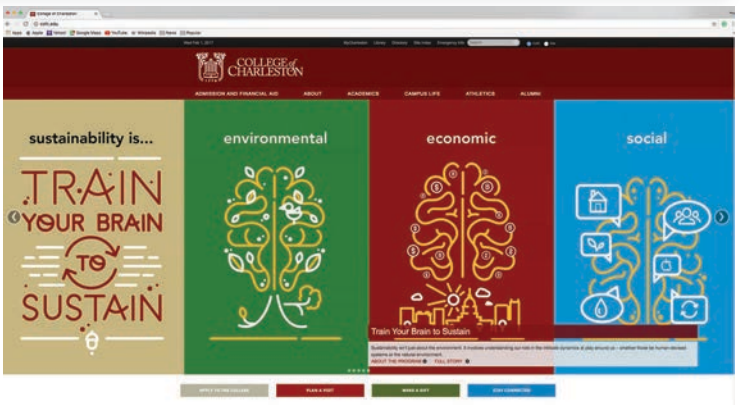
What is your first major?
What is your second major (if applicable)?

THANK YOU FOR YOUR TIME AND INPUT!
Sustainability Literacy – That's Our Goal

Appendix M
Sample Marketing & Awareness Collateral







REFERENCES

AASHE (2010). Sustainability curriculum in higher education: A call to action. Retrieved from http://www.aashe.org/files/A_Call_to_Action_final(2).pdf

http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.1_technical_manual.pdf

http://www.aashe.org/files/documents/STARS/2.0/STARS_2.1_credit_AC01_Academic_Courses.pdf

Arizona State University. (2011). Retrieved from https://asunow.asu.edu/content/research-positive-job-growth-sustainability-other-skills-also-needed

Arum, R. & Roska, J. (2011). *Academically Adrift: Limited Learning on College Campuses*. Chicago: The University of Chicago Press.

Atkas, C., et al. (2015). "Developing a University-wide Course on Sustainability: A Critical Evaluation of Planning and Implementation." *Journal of Cleaner Production*, 106, 216-221.

Barlett, P. & Chase, G. (2012). "Curricular Innovation for Sustainability: The Piedmont/Ponderosa Model of Faculty Development." *Liberal Education*, 98(4), 14-21.

Barlett, P. & Chase, G. (2013). *Sustainability in Higher Education: Stories and Strategies for Transformation*. Cambridge: The MIT Press.

Barlow, Z. & Stone, M. (2011). "Living Systems and Leadership: Cultivating Conditions for Institutional Change." *Journal of Sustainability Education*, 2, 1-23.

Barth, M. (2013). "Many Roads Lead to Sustainability: A Process Oriented Analysis of Change in Higher Education." *International Journal of Sustainability in Higher Education*, 14(2), 160-175.

Beynaghi, Ali, et al. (2015). "Energy in Sustainability Research: A Recent Rise to Prominence." *Renewable and Sustainable Energy Reviews*, 51, 1794-1795.

Bowman, N. (2011). "Promoting Participation in Diverse Democracy: A Meta-analysis of College Diversity Experiences and Civic Engagement." *Review of Educational Research*, 81(1), 29-68.

Burns, H. (2011). "Teaching for Transformation: (Re)designing Sustainability Courses Based on Ecological Principles." *Journal of Sustainability Education*, 2.

Clark, W. & Dickson, N. (2003). "Sustainability Science Focuses on the Dynamic Interactions Between Nature and Society." *Proceedings of the National Academy of Sciences*, 100(14), 8059–8061.

Connell, K., Remington, S. & Cosette A. (2012). "Assessing Systems Thinking Skills in Two Undergraduate Sustainability Courses: A Comparison of Teaching Strategies." *Journal of Sustainability Education*, 3.

Curtis, K. (2011). "Sustainability, Democracy, Pedagogy: On Locating Ourselves in Dark Times." *Journal of Sustainability Education*, 2.

Elder, J. & MacGregor, J. (2008). “The Sustainability Movement in Higher Education: An Overview.” Retrieved from http://mobilizingstem.wceruw.org/documents/The%20sustainaiblity%20Movement%20and%20Appendices.pdf

Ferreira, C. & Blomfield, J. (2016). “Teaching Sustainable Development in Higher Education.” *International Journal of Sustainability in Higher Education*, 17(3), 305-321.

Fisher, Brian P. & McAdams, Erin. (2015). “Gaps in Sustainability Education: The Impact of Higher Education Coursework on Perceptions of Sustainability.” *International Journal of Sustainability in Higher Education*, 16(4), 407–423.

Frisk, E. & Larson, K. (2011). “Educating for Sustainability: Competencies & Practices for Transformative Action.” *Journal of Sustainability Education*, 2.

Fry, C., Mack, K., Blaney, J. & Middlecamp, C. (2015). “Faculty Perceptions on Teaching Sustainability in Undergraduate STEM Curricula.” *Diversity & Democracy*, 18(3). Retrieved from https://www.aacu.org/diversitydemocracy/2015/summer/fry

Gosselin, D., Parnell, R., Smith-Sebasto, N. & Vincent, S. (2013). “Integration of Sustainability in Higher Education: Three Case Studies of Curricular Implementation. *Journal of Environmental Studies and Sciences*, 3, 316-330.

GreenBiz.com. (2016). “State of the Profession 2016.” Retrieved from https://www.greenbiz.com/report/state-profession-2016

Gurin, P., Nagda B. & Lopez, G. (2004). “The Benefits of Diversity in Education for Democratic Citizenship.” *Journal of Social Issues*, 60(1), 17-34.

Guiterrez, L.M. (1995). “Understanding the Empowerment Process: Does Consciousness Make a Difference?” *Social Work Research*, 19, 229-237.

Hadorn, G., et al. (2006). “Implications of Transdisciplinarity for Sustainability Research.” *Ecological Economics*, 60(1), 119-128.

Hart, D., et al. (2016). “Mobilizing the Power of Higher Education to Tackle the Grand Challenge of Sustainability: Lessons from Novel Initiatives.” *Elementa: Science of the Anthropocene*, 4(1), 90.

Haugh, H. & Talwar, A. (2010). “How Do Corporations Embed Sustainability Across the Organization?” *Academy of Management Learning & Education*, 9(3), 384-396.

Holling, C.S. (1973). “Resilience and Stability of Ecological Systems.” *Annual Review of Ecology and Systematics*, 4, 1-23.

Holling, C.S., et al. (2004). “Resilience, Adaptability and Transformability in Social-Ecological Systems.” *Ecology and Society*, 9(2), 5.

International Labour Organization. (2013). *Sustainable Development, Decent Work and Green Jobs: Report v. Geneva*.

International Society of Sustainability Professionals. Retrieved from http://www.sustainabilityprofessionals.org/issp-job-task-analysis-summary

Johnston, L. & Johnston, D.D. (2013). "Introduction: What's Required to Take EfS to the Next Level?" In Johnston, L. (Ed.), *Higher Education for Sustainability: Cases, Challenges, and Opportunities* (pp. 1-7). Routledge: New York.

KPMG 2015. "Currents of Change: The KPMG Survey of Corporate Responsibility Reporting 2015." KPMG, Netherlands. Retrieved from https://home.kpmg.com/xx/en/home/insights/2015/11/kpmg-international-survey-of-corporate-responsibility-reporting-2015.html

Kurlan, N., et al. (2010). "Overcoming Silos: The Role of an Interdisciplinary Course in Shaping a Sustainability Network." *Academy of Management Learning & Education*, 9(3), 457-476.

MacGregor, J. (2005). "Curriculum for the Bioregion: Learning to Live Sustainably in Our 'Life Places.'" *Applied Environmental Education & Communication*, 4(3), 239-243.

Marshall, J. & Toffel, M. (2005). "Framing the Elusive Concept of Sustainability: A Sustainability Hierarchy." *Environmental Science & Technology*, 39(3), 673-682.

Martin, S. (2002). "Sustainability, Systems Thinking and Professional Practice." *Planet*, 8(1), 20-21.

Meadows, D. (2008). *Thinking in Systems: A Primer*. Vermont: Sustainability Institute/Chelsea Green Publishing.

Morris, D. & Martin, S. (2009). "Complexity, Systems Thinking, and Practice: Skills and Techniques for Managing Complex Systems." In Stibbe, A. (Ed.), *The Handbook of Sustainability Literacy: Skills for a Changing World* (pp. 84-88). Totnes: Green Books.

Mumford, M., et al. (2000). "Leadership Skills for a Changing World: Solving Complex Social Problems." *Leadership Quarterly*, 11(1), 11-36.

O'Byrne, D., Dripps, W. & Nicholas, K. (2014). "Teaching and Learning Sustainability: An Assessment of the Curriculum Content and Structure of Sustainability Degree Programs in Higher Education." *Sustainability Science*, 10(1): 43-59.

Peterson's. (2013). "Environmental Jobs: Green Jobs in Sustainable Development." Retrieved from https://www.petersons.com/graduate-schools/green-jobs-sustainable-development.aspx#/sweeps-modal

PwC. (2016). Retrieved from http://www.pwc.com/gx/en/ceo-survey/2016/landing-page/pwc-19th-annual-global-ceo-survey.pdf

Redman, E. & Larson, K. (2011). "Education for Sustainability: Competencies & Practices for Transformative Action." *Journal of Sustainability Education*, 2.

Rivilla, A. & Dominguez, C. (2014). "Competences, Education and Sustainable Development: A Case Study." *Economic Insights -Trends and Challenges*, 3(1), 25-34.

Ruedig, J. & Metzger, A. (2013). "Managing Organizational Sustainability: Demonstrating the Business Case for Sustainability Professionals in the Workplace." Retrieved from http://www.centerforgreenschools.org/sites/default/files/resource-files/ManagingSustainability_11_8_13.pdf

Senge, P., et al. (2008). *The Necessary Revolution: How Individuals and Organizations Are Working Together to Create a Sustainable World*. New York: Crown Business Publishing.

Shrivastava, P. (2010). "Pedagogy of Passion for Sustainability." *Academy of Management Learning & Education*, 9(3), 443-455.

Strachan, G. (2009). "Systems Thinking: The Ability to Recognise [*sic*] and Analyse [*sic*] the Interconnections Within and Between Systems." In Stibbe, A. (Ed.), *The Handbook of Sustainability Literacy: Skills for a Changing World* (pp. 84-88). Totnes: Green Books.

UNEP. (2012). "21 issues for the 21st century: Results of the UNEP Foresight Process on Emerging Environmental Problems." Retrieved from http://www.unep.org/pdf/Foresight_Report-21_Issues_for_the_21st_Century.pdf

UNESCO. 2003. "United Nations Decade of Education for Sustainable Development (2005-2014): International Implementation Scheme." Retrieved from https://www.bibb.de/dokumente/pdf/a33_unesco_international_implementation_scheme.pdf

UNESCO. "Shaping the Education of Tomorrow: 2012 Report on the UN Decade of Education for Sustainable Development." Retrieved from http://library.wur.nl/WebQuery/wurpubs/fulltext/246667

Verhulst, E. & Lambrechts, W. (2015). "Fostering the Incorporation of Sustainable Development in Higher Education. Lessons Learned from a Change Management Perspective." *Journal of Cleaner Production*, 106, 189-204.

"Washington Center for Improving the Quality of Undergraduate Education. Curriculum for the Bioregion Initiative Building Concepts of Sustainability into Undergraduate Curriculum." Retrieved from http://www.edcc.edu/sustain/documents/IntegrativeAssignmentMaterial_July07.pdf

Weber, E. & Khademian, A. (2008). "Wicked Problems, Knowledge Challenges, and Collaborative Capacity Building in Network Settings." *Public Administration Review*, 68(2), 334-349.

Wells, E. (2013). "Metabolism and Resiliency: Key Concepts for Catalyzing Transformational Change." In Barlett, P. & Chase, G. (Eds.), *Sustainability in Higher Education: Stories and Strategies for Transformation* (pp. 129-140). Cambridge: MIT Press.

Wiek, A., Withycombe, L. & Redman, C.L. (2011). "Key Competencies in Sustainability: A Reference Framework for Academic Program Development." *Sustainability Science*, 6(2), 203-218.

World Commission on Environment and Development. (1987). *Our Common Future. The World Commission on Environment and Development*. New York: Oxford University Press.

Wu, J. & Wu, T. (2013). "Ecological Resilience as a Foundation for Urban Design and Sustainability." In Pickett, S., et al. (Eds), *Resilience in Ecology and Urban Design* (pp. 211-229). The Netherlands: Springer.

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