

Assessment Plan

B.S. in Sustainability Science
Center for Sustainability Studies
College of Natural, Applied and Health Sciences
Kean University

Mission:

The Sustainability Science program in the Center for Sustainability Studies at Kean University, the only one of its kind in New Jersey and one of a very small number of comparable programs nationwide, has the mission of providing students from diverse backgrounds with extraordinary educational experiences, including coursework, research opportunities, and an internship, necessary to understand and confront contemporary environmental, societal, and economic issues best examined and addressed by sustainability science; to prepare them for employment in the growing fields associated with sustainability; and/or to prepare them for graduate programs in sustainability and/or law school programs associated with sustainability. The program does this by guiding students in the educational experiences that will provide them with the knowledge, skills, abilities, and experiences that will position them to demonstrate comprehension of: 1) the unique characteristics of Earth that have facilitated the development and evolution of life as we know it, 2) the human actions and behaviors that are compromising these characteristics, 3) the reasons behind why humans are acting and behaving in unsustainable ways, and 4) the solutions that will produce long-term reversal, if not elimination, of unsustainable actions and behaviors in favor of those that are sustainable. The program seeks to empower students to embrace sustainable lifestyles whereby they will serve as change agents for others in their personal and professional communities.

Assessment Process:

Sustainability Science students are required to enroll in 14 core courses as part of the requirements for the major. These courses provide the foundation of the program and serve as the basis for understanding the four components of the curriculum. Once students have completed their general education requirements as well as the core major requirements, they self-select into one of two concentrations: Earth Systems or Human Systems. The Earth Systems concentration included coursework, much of which is upper division, that focuses on Earth's atmosphere, hydrosphere, geosphere, and biosphere. The Human Systems concentration coursework, much of which is upper division, focuses on communication, business, infrastructure, and social topics.

Because the Center currently consists of only one full-time faculty member (the Executive Director teaches only 6 credits per semester) who has been employed by the university for less than one year, and because the program is undergoing substantive revision despite the fact that it is less than one year old, most of the courses currently comprising the curriculum have yet to be taught for the first time. Only three of the courses have been taught. Consequently, the assessment process is still in the most basic level of formative evaluation; however, each core course will have assessment tools such as exams, research and reflective writing assignments, group work products, etc., as part of the evaluation process and the program will use findings of assessment for making improvements to program practices aimed at increasing student learning. It is likely that the assessment of the educational efficacy of the program will center on the independent practicum that all majors are required to complete before they graduate.

In Fall 2010, the first term in which students were admitted into the program, three direct measure assessments have been identified.

1. At the beginning of the program, commencing with the autumn 2012 semester, in the foundation course SUST 1000: Introduction to Sustainability, baseline data will be collected to determine students' competencies regarding the program SLOs.
2. At the conclusion of the second year seminar, which is scheduled to occur during the spring 2013 semester, assessment data will be collected and compared with the baseline data to determine the extent to which students have met the SLOs appropriate for that stage of the program.
3. As a pre-requisition for enrollment in the Capstone Course, which is scheduled to occur during the spring 2014 semester, assessment data will be collected and compared with the baseline and mid-program data to determine the extent to which students have met the SLOs appropriate for that stage of the program and to determine the eligibility to enroll in the capstone experience.

Each subsequent year, composite data from student assessments will be collected and analyzed to address areas of program strengths and weaknesses and to inform decisions ultimately resulting in program improvements. In addition, a systematic process for gathering data utilizing an indirect measure, the Graduating Student Survey, was established. Data from the student survey will also help inform decisions regarding program improvement to increase student learning.

Program Student Learning Outcomes (SLOs) – as aligned with KU SLOs derived from the Institutional Mission* and GE SLOs.** (Data from Direct and Indirect Measures collected each semester in the Capstone Course or a designated, end-of-program course.)

Students who graduate with a B.S. in Sustainability Science should be able to:

SLO 1: Describe of the unique characteristics of Earth that have facilitated the development and evolution of life as we know it, the foundations of sustainability. (KU 1, 4) (GE K1, K3, S1, S2, S5)

Direct Measure: Baseline assessment at the beginning of the program in SUST 1000: Introduction to Sustainability
Direct Measure: Mid-program assessment at the conclusion of SUST 2004: Second Year Seminar on Sustainability
Direct Measure: Qualifying assessment for SUST 4300: Independent Practicum in Sustainability Science
Indirect Measure: Graduating student survey

SLO 2: Name and explain the human actions and behaviors that are compromising these characteristics. (KU 1, 2, 3, 4) (GE K1, K2, K3, S1, S2, S3, S4, S5, V1, V2, V3, V4)

Direct Measure: Baseline assessment at the beginning of the program in SUST 1000: Introduction to Sustainability
Direct Measure: Mid-program assessment at the conclusion of SUST 2004: Second Year Seminar on Sustainability
Direct Measure: Qualifying assessment for SUST 4300: Independent Practicum in Sustainability Science
Indirect Measure: Graduating student survey

SLO 3: Identify and appraise the reasons behind why humans are acting and behaving in unsustainable ways. (KU 1, 2, 3, 4) (GE K1, K2, K3, S1, S2, S3, S4, S5, V1, V2, V3, V4)

Direct Measure: Baseline assessment at the beginning of the program in SUST 1000: Introduction to Sustainability
Direct Measure: Mid-program assessment at the conclusion of SUST 2004: Second Year Seminar on Sustainability
Direct Measure: Qualifying assessment for SUST 4300: Independent Practicum in Sustainability Science
Indirect Measure: Graduating student survey

SLO 4: Identify and evaluate of the solutions that will produce long-term reversal, if not elimination, of unsustainable actions and behaviors in favor of those that are sustainable. (KU 1, 2, 3, 4) (GE K1, K2, K3, S1, S2, S3, S4, S5, V1, V2, V3, V4, V5)

Direct Measure: Baseline assessment at the beginning of the program in SUST 1000: Introduction to Sustainability
Direct Measure: Mid-program assessment at the conclusion of SUST 2004: Second Year Seminar on Sustainability
Direct Measure: Qualifying assessment for SUST 4300: Independent Practicum in Sustainability Science
Indirect Measure: Graduating student survey

SLO 5: Practice a commitment to sustainability and the importance of being a change agent for others. (KU 1, 2, 3, 4) (GE K1, K2, K3, S1, S2, S3, S4, S5, V1, V2, V3, V4, V5)

Direct Measure: Baseline assessment at the beginning of the program in SUST 1000: Introduction to Sustainability
Direct Measure: Mid-program assessment at the conclusion of SUST 2004: Second Year Seminar on Sustainability
Direct Measure: Qualifying assessment for SUST 4300: Independent Practicum in Sustainability Science
Indirect Measure: Graduating student survey

* KU Student Outcomes: *Kean University graduates should be able to:*

1. Think critically, creatively and globally;
2. Adapt to changing social, economic, and technological environments;
3. Serve as active and contributing members of their communities; and
4. Advance their knowledge in the traditional disciplines (GE) and enhance their skills in professional areas (Prof. pgms)

**General Education Student Learning Outcomes

Student Learning Outcomes – Knowledge: Students will demonstrate proficiency in knowledge and content by:

(K1) applying the scientific method to understand natural concepts and processes;

(K2) evaluating major theories and concepts in social sciences;
(K3) relating historical references to literature; and
(K4) evaluating major theories and concepts in the fine arts.

Student Learning Outcomes – Skills: Students will demonstrate the skills necessary to:

(S1) write to communicate and clarify learning;
(S2) communicate effectively through speech;
(S3) solve problems using quantitative reasoning;
(S4) think critically about concepts in multiple disciplines; and
(S5) show information literacy.

Student Learning Outcomes – Values: Students will exhibit a set of values that demonstrates:

(V1) personal responsibility;
(V2) ethical and social responsibility;
(V3) social and civic engagement;
(V4) respect for diverse cultures and perspectives; and
(V5) life-long learning.