Proposed Assessment Plan for the Undergraduate Interdisciplinary Certificate in Sustainability

University of Georgia

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The assessment plan for the Undergraduate Interdisciplinary Certificate in Sustainability (hereafter, "certificate") is responsible for evaluating student performance and the certificate program to ensure each graduate of the program possesses the knowledge and skills necessary to be environmental stewards in all their future endeavors. The certificate will enhance opportunities for integrative, applied learning in interdisciplinary settings as well as prepare students to address difficult global sustainability issues. The certificate will also work toward the University's goal of incorporating sustainability into formal educational opportunities. Students across campus will benefit from an understanding of the framework of sustainability and an opportunity to apply skills and learning to real-world solutions.

Learning Goals and Objectives

Learning Goals:

    I. Demonstrate understanding of foundational sustainability concepts.
    II. Apply interdisciplinary education to sustainability challenges.
    III. Apply academic knowledge to real-world problems inside and outside of the classroom.
    IV. Earn a credential that supports their existing discipline.
    V. Facilitate service learning and community partnership.

Learning Objectives:

    I. Solve real-world problems through knowledge of social, economic, and ecological systems, including limits and interdependence.
    II. Demonstrate knowledge of human cultures and their interaction with the natural and physical worlds.
    III. Find sustainable solutions to human-ecosystem challenges.
    IV. Develop interdisciplinary knowledge and an understanding of the interconnectedness of sustainability challenges that transcend academic disciplines.
    V. Apply problem-solving skills and knowledge to place-based, real-world sustainability challenges.
    VI. Gain a local and global intercultural and intergenerational perspective that nurtures empathy, awareness, and respect.
    VII. Understand the complexity of relationships within and across communities.
    VIII. Build an informed, ethical, and scholarly sense of citizenship.

Direct Measures

Successful completion of the following:

1. Anchor course (3 credit hours)
2. "Spheres" of sustainability course electives (9 credit hours total)
3. Seminar (2 credit hours)
4. Capstone project (3 credit hours)
5. Portfolio

Anchor Course

Students will choose one of the options for anchor course from a list provided on the program website. These courses provide a foundation in sustainability, including its history, components, and application. Courses which qualify as anchor courses for this certificate challenge students to evaluate their behavior as citizens and consumers and encourage them to think about the interdisciplinary challenges associated with a sustainable future.

Undergraduate level: https://sustain.uga.edu/course/list/undergrad/anchor

Assessment methods:

1. Course grades – students must obtain a "C" or better
2. Course reflection essay
3. Evaluation of any products appropriate for inclusion in the Portfolio

Spheres of sustainability coursework

Eligible courses are listed on the certificate's website: http://sustain.uga.edu/course/list
- Ecological Sustainability: Courses in the ecological sustainability sphere build upon a baseline understanding of ecology and address issues concerning ecosystem services, environmental degradation, and climate change.
- Economic Sustainability: Courses in this sphere build upon a baseline understanding of economics and address the bottom-line.
- Social Sustainability: Courses in the social sustainability sphere build upon a basic understanding of social science and will address the social aspects of sustainability, including issues of cultural diversity, social justice, equality, participation, the built environment, and community.

Successful completion of courses in the "spheres" assumes a final grade of "C" or better.

Assessment methods:

1. Course grades – students must obtain a "C" or better
2. Course reflection essay
3. Evaluation of any products appropriate for inclusion in the Portfolio

Interdisciplinary Sustainability Seminar (FCID 4200)

The FCID 4200 seminar introduces students to the many ways UGA faculty and the ACC community are promoting sustainability. It provides students with a foundational background in sustainability and emphasizes interdisciplinary evaluation and solutions. Sustainability challenges, including climate change, biodiversity, and the built environment, are addressed. The seminar will be open to the entire UGA Community as a means of connecting and communicating across disciplines. The seminar also allows students the opportunity to present their capstone course project and receive feedback from their peers.

Please see course syllabus for detailed information regarding the seminar.

Assessment method:

1. Course grades – students must receive a "C" or better
2. Course reflection essay
3. Presentation of capstone project (if applicable)

Capstone Course/Project

The capstone project is a required part of the certificate, and there are many outlets which students may use to complete the project. Students may choose to do an internship, complete a CURO project, or utilize their major's existing senior thesis or capstone project. In addition, an FCID course is being developed to serve as the capstone "course" in which students can enroll to earn the 3 required credit hours. The proposed course will provide students with an opportunity to apply what they have learned to hands-on sustainability challenges. Through the capstone project they will work individually or on interdisciplinary teams on problems identified on campus and in the surrounding community.

Assessment methods:

1. Student completes a Work Plan
2. Mentors must approve student's Work Plan
3. Director will evaluate students' Objectives and Success Metrics as written out in Work Plan
4. Presentations
   - Appropriate documentations needed for exceptions to presenting at Semester in Review or the seminar course (e.g., proof of registration at a conference)
5. Mentor will fill out a completion form (see Appendix A).
   - If student is enrolled in the FCID capstone course, mentor will follow a rubric (see Appendix B).
   - Other outlets for the capstone may have their own evaluation and set of requirements to follow
6. Reflective essay (component in Portfolio)
7. Students will write in detail how their project changed from their Work Plan in their capstone reflective essay along with what they have learned regarding sustainability
8. Director (and Advisory Board as needed) will check the mentor's assessment of the capstone.
   - If student is enrolled in the capstone course, the Director will check the rubric
   - If student uses outside outlet, Director will also check evaluation(s) of the capstone

Portfolio

Students compile a collection of documents to present at the completion of the certificate that ties together the courses, seminar, and capstone project. This portfolio provides students with an opportunity to reflect on the integration of disciplines, systems thinking, analysis of complex problems, and ongoing commitment.

Assessment method:

1. Completion achieved when all required pieces are present and student has submitted it online through Digication
2. Evaluation of effort at Certificate Director's discretion (and Advisory Board as needed).

Learning Goals and Objectives	Achieved through:
Learning Goals	
Demonstrate understanding of foundational sustainability concepts	Anchor course
Apply interdisciplinary education to sustainability challenges	Capstone
Apply academic knowledge to real-world problems inside and outside of the classroom	Capstone
Earn a credential that supports their existing discipline	Portfolio
Facilitate service learning and community partnership	Seminar and capstone
Initiate interdisciplinary communication between fellow students, faculty, and staff	Seminar
Learning Objectives	
Learn to solve real-world problems through knowledge of social, economic, and ecological systems	Anchor course, spheres, capstone
Demonstrate knowledge of human cultures and their interaction with the natural and physical worlds	Spheres (i.e., course reflections)
Find sustainable solutions to human-ecosystem challenges	Portfolio
Develop interdisciplinary knowledge and an understanding of the interconnectedness of sustainability challenges that transcend academic disciplines*	Seminar and capstone
Apply problem-solving skills and knowledge to place-based, real-world sustainability challenges	Capstone
Gain a local and global intercultural and intergenerational perspective that nurtures empathy, awareness, and respect*	Social sphere (i.e., course reflection)
Understand the complexity of relationships within and across communities*	Seminar
Build an informed, ethical, and scholarly sense of citizenship*	All certificate requirements

*Objectives also addressed in posttest survey

Indirect Measures

Students entering the program complete a pretest survey of sustainability values, attitudes, and behaviors.

Upon completion of the certificate requirements (Direct Measures), students complete a posttest survey on sustainability values, attitudes, behaviors, and self-efficacy, as well as their experience with and perception of the certificate program.

Additionally, the Director and administrative assistants keep track of all capstone substitutes for the capstone course (e.g., internships and research), along with honors and awards, such as scholarships or CURO awards.

Part of the requirements for completion of the capstone is a reflection essay, which serves as an opportunity for meta-learning. Students reflect on how their thinking has changed over the course of the certificate, what they have learned, what skills they have acquired and refined, and how they are able to apply what they have learned to real-world issues. This reflective essay does not address any specific learning goals or objectives, but encourages students to synthesize their knowledge, thereby concretizing the most important concepts and ideas they have learned.

The portfolio ties together students' experiences in the certificate program and thus serves as a holistic reflection of their learning over time. The portfolio contents will primarily be composed of prior student work, which has already been evaluated by the course instructor, and reflective essays, which will not be evaluated for quality but merely for effort and completion. The reflective essays serve as a tool for students to cement their knowledge and incorporate what they have learned into their worldview. Thus, evaluation of the portfolio will include a check for completion and a sense of effort invested by each student will occur at the Certificate Director's discretion.

Assessment Cycle

Each year, the certificate Director and administrative support staff conduct analyses on effectiveness of certificate components. This includes a review of student portfolios, pretest-posttest survey results, and student achievements. These analyses are compiled in an Annual Report for the Advisory Board. Every three years, the certificate Director and administrative assistants administer alumni surveys, collect the past three annual reports, and evaluate the certificate program as a whole, including the course list and performance of the anchor and seminar courses. Certificate program components are reviewed and revised as necessary before moving the program to its next academic home.

Appendix A

Capstone Project Mentor Work Plan Completion Form

Check all that apply.

Objectives:
☐ Student's objectives are realistic.
☐ Student's objectives are well-thought-out.
☐ Student's objectives address three spheres of sustainability.
☐ Student's objectives are measurable.
☐ Student's objectives address needs of the stakeholder(s)/client/target audience.
☐ Student's project takes an interdisciplinary approach.

Success Metrics:
☐ Student's success metrics match up with objectives.
☐ Student's success metrics are measurable.
☐ Student's success metrics will adequately provide evidence that progress is being made toward objectives.

Timeline:
☐ Timeline is realistic and achievable (Comments: _____).
☐ Timeline addresses all objectives (Objectives missing: _____).

Other:
This Work Plan adequately demonstrates student's ability to problem-solve.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

This Work Plan adequately demonstrates student's ability to think creatively.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

This Work Plan adequately demonstrates student's ability to collaborate.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

This Work Plan adequately demonstrates student's ability to transform project ideas into a concrete plan.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student's communication skills will improve if this Work Plan is followed.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student's leadership skills will improve if this Work Plan is followed.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Comments:

Signature: _____ Date: _____

Scoring rubric:
Strongly disagree = 1
Disagree = 2
Neither = 3
Agree = 4
Strongly agree = 5

Maximum possible score = 30, all boxes checked
Minimum accepted score = 22, one box unchecked?

Appendix B

Capstone Rubric

Student's Reflective Essay demonstrates learning in sustainability.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student's Reflective Essay adequately describes the circumstances and reasoning behind deviations from the Work Plan.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student displayed commitment to the project, seeing through all the objectives.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student made significant effort to use an interdisciplinary approach to the project.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student worked well with team members (if applicable).
Strongly disagree   Disagree   Neither   Agree   Strongly   agree N/A

Student incorporated three spheres of sustainability into project.
Strongly disagree   Disagree   Neither   Agree   Strongly agree

Student presented his/her capstone project at the Semester in Review, the Certificate in Sustainability seminar course, or other setting as accepted by the Director.
Yes   No

Signature: _____ Date: _____

Scoring rubric:
Strongly disagree = 1
Disagree = 2
Neither = 3
Agree = 4
Strongly agree = 5

Individual project:
Maximum possible score = 30, minimum accepted score = ?? (22?)

Group project:
Maximum possible score = 35, minimum accepted score = ?? (27?)