Certificate in Sustainability at Georgia College

Justification

> *All things considered, it is possible that we are becoming more ignorant of the things we must know to live well and sustainably on Earth.*[1]

Introduction

'Sustainability' can be defined as a means of living today that does not restrict life for future generations. Given that our present generation has a myriad of social, environment, and economic entanglements, the concept of sustainability has an ethical appeal for today's students. The principal tenets of sustainability are to pay attention to the Planet, People, and Profits for all involved, including non-human species. A Certificate in Sustainability at Georgia College would serve all four colleges at our institution to provide students with a significant achievement toward a quickly expanding, richly rewarding, and socially beneficial career. The academic pursuit of sustainability addresses Ethics, Ecology, and Economics in a trans-disciplinary way, to help students learn how to apply lessons from philosophy, social science, and natural science as a guiding light for future endeavors.

> *A new type of thinking is essential if mankind is to survive and move toward higher levels.*[2]

There are over fifty sustainability certificates in place at U. S. institutions of higher education[3]. In Georgia, only Emory University and Agnes Scott College have developed programs. Georgia College stands poised to be among the first state universities in the South to integrate the principles of sustainability into a Certificate, which would help us achieve our school's core values and mission. Georgia College uses "a balance of evidence-based, innovative teaching, high-impact pedagogies along with meaningful student-faculty interaction" to "develop students equipped to clearly, critically, and creatively address societal challenges."[4]

Justification

The Certificate would give students an additional accreditation, along with their degree, to enter dynamic worlds of commerce, science, social work, and policy that will continue to be developed in the near future as the global environment becomes more prominent on everyone's agenda. As we seek to train the engaged citizens of tomorrow, we hope to prepare them for a rapidly changing environment, with economic opportunities based on technologies that don't exist today, and with an ever stronger commitment to social solutions that do not exclude sub-groups or sub-species. The strongest justification we can offer our students for promoting this Certificate is that they will be able to integrate science, ethics, and management to apply their knowledge to the complex challenges of the future.

This certificate would support the goals of the GC Sustainability Council to "encourage the attitudes, choices and habits that support sustainability at the institutional and personal level in the Georgia College community and connect civic responsibility to learning experiences, both inside and outside the classroom through community service, education and outreach."[5]

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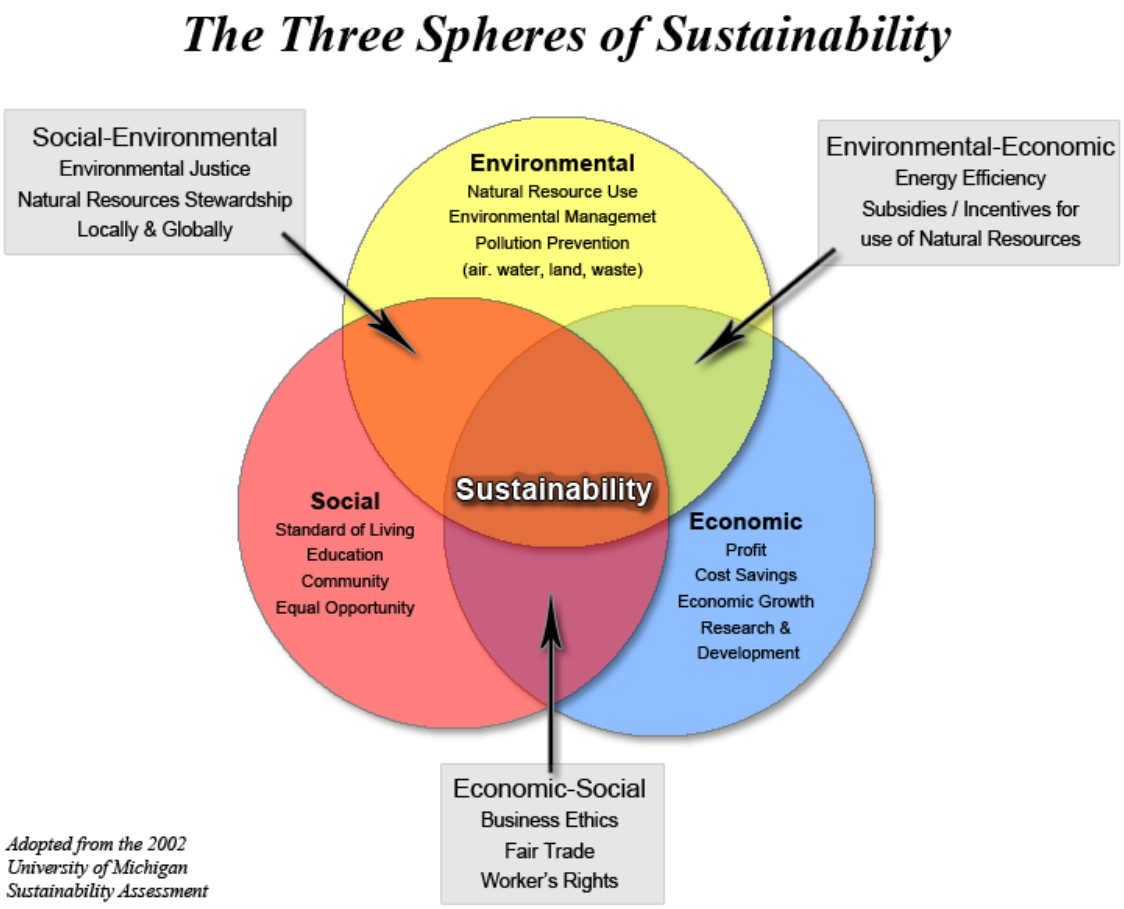
[1] Orr, David W. 2004. Earth in Mind: On Education, Environment, and the Human Prospect. Washington: Island Press (pp. 10-11).
[2] "Atomic Education Urged by Einstein", New York Times (25 May 1946).
[3] http://www.aashe.org/resources/academic-programs/type/certificate-undergrad/
[4] http://old.gcsu.edu/about/index.htm
[5] http://old.gcsu.edu/green/education.htm



http://www.vanderbilt.edu/sustainvu/who-we-are/what-is-sustainability/

Specifically, the Certificate will produce students able to:

- Describe the global manifestations of sustainability across culturally diverse regions;
- Examine specific applications of social, environmental, and economic policies and their impacts on human societies;
- Model the world, including ecosystems, economic systems, and socio-political systems;
- Evaluate individual and collective lifestyle impacts and identify political and ethical variations;
- Characterize energy and material systematics from physical, ethical, and economic viewpoints;
- Assess campus and community sustainability strategies and actions;
- Describe issues of sustainability within the geographies of contested spaces;
- Explore our campus and community through service learning and community outreach, while examining our institution as a potential laboratory for sustainability; and
- Demonstrate and advocate environmental responsibility in a human context.

These outcomes would be met through several learning objectives and activities, including reflection papers, data collection and analysis, interviews, research projects, and team tasks. The students would be involved in outreach, service learning, and peer education, for example the National Wildlife Federation's Eco-Rep Program[6], whereby they would engage other students on campus to conduct interviews, provide training, and implement sustainability solutions. The service learning component would assist the G.I.V.E. Center, ENGAGE, and the Office of Sustainability.

[6] http://www.nwf.org/EcoReps

> *"Universities are … positioned to answer the call of [sustainable development]—to help students develop the knowledge and problem-solving skills to become effective practitioners. Students typically graduate with much textbook knowledge, but with little experience in real-world problem solving. Traditional methods of academic instruction, such as lectures, may inadequately prepare students to make the transition from the classroom to the profession. Moreover, problem solving often requires more than an analytic exercise on paper; it requires working with people and organizations."*[7]

We will include a plan for cultivating strong faculty mentorship of diverse students. An introductory course, IDST 2050: Sustainability, will provide intensive, inclusive intellectual engagement that develops students' skills as independent scholars. We plan to recruit students to take the class from the first-year seminars in undeclared and target disciplines. We would especially like to recruit students who are not already in the natural sciences, so that we can expose and engage a more diverse group. Each student will participate in both individual and team research projects, including data collection, analysis, and presentation. Guided guest lecturers and multi-disciplinary instruction will expose the students to a wide variety of academic disciplines, with the expectation that we may help students discover their pathways to a successful career.

Several of the American Association of Colleges & Universities VALUE Rubrics[8] would be used to assess and evaluate this project:

- Civic knowledge and engagement: Students frame responses designed to help others;
- Critical thinking: Students examine evidence to question assumptions;
- Global learning: Students develop personal responsibility and respect for diversity;
- Information literacy: Students evaluate and acquire information effectively;
- Inquiry and analysis: Students design questions to respond to issues and make conclusions;
- Integrative and applied learning: Students connect to experience and transfer knowledge;
- Problem solving: Students identify strategies, propose solutions, and evaluate outcomes;
- Quantitative literacy: Students interpret and represent data to calculate real-world models; and
- Teamwork: Students engage each other in constructive team climate.

> *Any concept of sustainability is the product of a contest of values, and this fact opens up essential questions ranging from the normative, ethical, and philosophical, to applied social psychological questions of how best to influence behavior.*[9]

Viability

The Certificate requires very limited additional resources. The Department of Philosophy & Liberal Studies (PALS) will host the Certificate as an interdisciplinary offering, with Dr. Doug Oetter (History & Geography) as coordinator. One new course 'IDST 2050: Sustainabilty" will need to be created, and it will be taught by institutionally-accredited faculty. The Certificate will be offered to majors from across the university, and stands to be popular among students in almost every major on campus. The course selection has been designed to fit into existing core requirements and upper-level electives, with minimal requirements for extensive prerequisites.

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[7] Steinemann, Anne. 2003. Implementing sustainable development through problem-based learning: pedagogy and practice. *Journal of Professional Issues in Engineering Education and Practice* 129(4):216-224.

[8] https://www.aacu.org/value/rubrics

[9] http://www.climateneutralcampus.com/lower.php?whitepaper=uncovering-sustainability-in-the-curriculum

Understanding sustainability as a big idea involves the study of what matters for the future. Such a study necessitates an understanding of the limiting context shaping that future and the interaction of those limits with the normative choices regarding what matters, the human portrayal of what matters, the measurement and assessment of what matters, and strategies to protect what matters. … The best teachers in higher education aim to instill in their students the necessary skills to trace processes in and across systems and to examine, explain, reflect, and act on the implications of what they find.[10]

Prospects

The U. S. Bureau of Labor Statistics[11] estimates that currently 2.5% of jobs in the U. S. qualify as sustainable careers under the Green Goods and Services classification, including these fields:

- Energy from renewable sources. Electricity, heat, or fuel generated from renewable sources. These energy sources include wind, biomass, geothermal, solar, ocean, hydropower, and landfill gas and municipal solid waste.
- Energy efficiency. Products and services that improve energy efficiency. Included in this group are energy-efficient equipment, appliances, buildings, and vehicles, as well as products and services that improve the energy efficiency of buildings and the efficiency of energy storage and distribution, such as Smart Grid technologies.
- Pollution reduction and removal, greenhouse gas reduction, and recycling and reuse. These are products and services that reduce or eliminate the creation or release of pollutants or toxic compounds, remove pollutants or hazardous waste from the environment, reduce greenhouse gas emissions through methods other than renewable energy generation and energy efficiency, or reduce or eliminate the creation of waste materials.
- Natural resources conservation. Products and services that conserve natural resources. Included in this group are products and services related to organic agriculture and sustainable forestry; land management; soil, water, or wildlife conservation; and stormwater management.
- Environmental compliance, education and training, and public awareness. These are products and services that enforce environmental regulations, provide education and training related to green technologies and practices, or increase public awareness of environmental issues.

Characteristics of the 'learning organization' seem to ring many bells with broader principles of sustainability education, including a grounding in systems thinking, valuing different types of knowledge, trying to develop reflexivity in organizations and stressing the importance of dialogue.[12]

Students who complete the Certificate will be able to:

- Define and apply sustainability as a concept and as a management approach;
- Accept personal responsibility for individual actions and exhibit concern for global sustainability;
- Relate resource and conservation history to current issues;
- Extract and analyze energy and water usage data;
- Describe energy and material systems in the context of human activities;
- Offer low-impact transportation, housing, marketing, and management solutions;

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[10] Sherman, Daniel J. 2008. Sustainability: what's the big idea? *Sustainability* 1(3):188-194.
[11] http://www.bls.gov/ggs/ggsoverview.htm
[12] Hoover, Elona, and Marie K. Harder. 2014. What lies beneath the surface? The hidden complexities of organizational change for sustainability in higher education. *Journal of Cleaner Production* 106 (1 November 2015): 175–188.

- Prescribe methods of recycling, composting, and energy efficiency;
- Apply human systems theory to dominant fields of inquiry and applied science;
- Design and implement sustainable solutions to common problems;
- Demonstrate appreciation for diverse viewpoints; and
- Integrate knowledge, skills, and attitudes into productive leadership.

It is difficult to predict the growth of careers in sustainability, but according to one recent source "65% of small-company respondents and 87% of large-firm respondents said they would consider a sustainability concentration when making a hiring decision. An impressive 97.5% of the large-firm executives said they would value the concentration."[13] The workers of tomorrow want to be trained in sustainability. "In 2013, the Association to Advance Collegiate Schools of Business determined that 'social responsibility, including sustainability and ethical behavior and approaches to management' will be a standard in the curriculum content for all programs within AACSB accreditation, which encompasses a school network with more than 150,000 students."[14] To remain relevant in today's competitive market for top college prospects, Georgia College should adapt our offerings to include sustainability. "Close to 90 percent of executives believe a sustainability-oriented strategy is essential to long-term competitiveness. Nearly two-thirds of those surveyed, for example, rate social and environmental issues, such as pollution and employee health, as "significant" or "very significant" sustainability concerns."[15]

> *Must we wait for selection to solve the problems of overpopulation, exhaustion of resources, pollution of the environment and a nuclear holocaust, or can we take explicit steps to make our future more secure? In the latter case, must we not transcend selection?*[16]

[13] http://science.nd.edu/news/49526-sustainability-adds-value/
[14] http://www.greenbiz.com/blog/2014/06/11/are-sustainability-degrees-worth-it
[15] https://www.bcgperspectives.com/content/articles/sustainability_process_industries_sustainability_next_frontier_walking_talk_issues_matter_most/
[16] Catania, A. Charles, and Stevan Harnad. 1988. The Selection of Behavior: The Operant Behaviorism of B. F. Skinner. New York: Cambridge University Press (p. 18).