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University Council
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February 3, 2017

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Dear Colleagues:

The attached proposal from the Franklin College of Arts and Sciences for a new Interdisciplinary Graduate Certificate in Sustainability will be an agenda item for the February 10, 2017, Full University Curriculum Committee meeting.

Sincerely,

Alison Alexander, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav

Committee on Facilities, Committee on Intercollegiate Athletics, Committee on Statutes, Bylaws, and Committees, Committee on Student Life, Curriculum Committee, Educational Affairs Committee, Executive Committee, Faculty Admissions Committee, Faculty Affairs Committee, Faculty Grievance Committee, Faculty Post-Tenure Review Appeals Committee, Faculty/Staff Parking Appeals Committee, Human Resources Committee, Program Review and Assessment Committee, Strategic Planning Committee, University Libraries Committee, University Promotion and Tenure Appeals Committee

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CERTIFICATE PROGRAM PROPOSAL
INTERDISCIPLINARY GRADUATE CERTIFICATE IN SUSTAINABILITY

I. Basic Information

Institution: University of Georgia

Date: February 1, 2017

Certificate Title: Interdisciplinary Graduate Certificate in Sustainability

Level: Graduate

Proposed starting date for program: Fall 2017

Abstract for the program:

Human and ecosystem challenges increasingly require sustainable solutions that recognize the interconnection between environmental limits, human values, and well-being. The University of Georgia (UGA), in its 2020 Strategic Plan, outlines four specific Strategic Directions to which this certificate will directly respond. The Interdisciplinary Graduate Certificate in Sustainability will enhance opportunities for integrative, applied learning in interdisciplinary settings as well as prepare graduate students to address difficult global sustainability issues. The Interdisciplinary Graduate Certificate in Sustainability will also work towards 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 will be given opportunities to apply skills and learning to real-world solutions.

II. Purpose and Educational Goals

Purpose

In order to achieve a healthy, equitable society while maintaining earth's basic systems, individuals must cross disciplinary divides and infuse sustainability principles into every discipline. Sustainability is inherently interdisciplinary and is often thought to consist of three spheres: environmental, economic, and social. Students must learn to approach problems holistically and integrate social, economic, and environmental concerns as they apply their knowledge.

Leadership in sustainability research, education, and service is a "hallmark" of the University of Georgia's 2020 Strategic Plan. Strategic Direction I emphasizes "knowledge of human cultures and the physical and natural world" through "integrative and applied learning." Strategic Direction II calls for graduate programs that "meet increasingly complex societal needs with cutting-edge, interdisciplinary offerings." Strategic Direction III foresees enhanced interdisciplinary research to address "immediate issues as well as 'grand challenge' problems" such as "safe and sufficient supplies of food and water, poverty and social justice, education, global health, environmental degradation, world financial stability, national security, and sustainable

energy.” Strategic Direction VII states that “sustainability should be infused into formal and informal educational opportunities throughout the university.”

The Interdisciplinary Graduate Certificate in Sustainability responds to Strategic Plan priorities explicitly by preparing students for effective leadership on campus and beyond. It supplements existing degree programs with knowledge of the complex interactions between human and environmental systems. Students will be introduced to a breadth of sustainability issues, systemic limits, and the triple bottom line (i.e., equity, environment, economy) to support their professional development. In addition, they will take at least one course in each of the three spheres of sustainability: economic, social, and environmental/ecological. Students across campus will benefit from an understanding of the framework of sustainability and will learn from students, faculty, and staff from diverse disciplines. Additionally, students will be asked to apply their knowledge and skills to provide real-world solutions to challenges regarding sustainability.

Broad Objectives

As a result of this certificate, students of any discipline will be able to:

- I. Demonstrate understanding of foundational sustainability concepts.
 - a. Met by: Anchor course, spheres, seminar, capstone course
- II. Apply systems thinking and interdisciplinary education to sustainability challenges.
 - a. Met by: Anchor course, spheres, seminar, and capstone course
- III. Apply academic knowledge to real-world problems inside and outside of the classroom.
 - a. Met by: Capstone course
- IV. Earn a credential that supports their existing discipline.
 - a. Met by: Spheres
- V. Facilitate service learning and community partnership.
 - a. Met by: Capstone course and seminar
- VI. Initiate interdisciplinary communication between fellow students, faculty, and staff through the annual seminar and implementation of projects and research.
 - a. Met by: Anchor course, seminar, spheres, capstone course

Specific Objectives

As a result of this certificate, students of any discipline will be able to:

- I. Apply systems thinking to real-world problems through knowledge of social, economic, and ecological systems, including limits and interdependence.
 - a. Met by: Anchor course, spheres, seminar, and capstone course
- II. Demonstrate knowledge of human cultures and their interaction with the natural and physical worlds.
 - a. Met by: Seminar, spheres, capstone course

- II. Find sustainable solutions to human-ecosystem challenges.
 - a. Met by: Seminar, spheres, capstone course
- III. Develop interdisciplinary knowledge and an understanding of the interconnectedness of sustainability challenges that transcend academic disciplines.
 - a. Met by: Anchor course, spheres, seminar, and capstone course
- IV. Apply problem-solving skills and knowledge to place-based, real-world sustainability challenges.
 - a. Met by: Capstone course
- V. Gain a local and global intercultural and intergenerational perspective that nurtures empathy, awareness, and respect.
 - a. Met by: Anchor course, seminar, spheres, capstone course
- VI. Understand the complexity of relationships within and across communities.
 - a. Met by: Anchor course, seminar
- VII. Build an informed, ethical, and scholarly sense of citizenship
 - a. Met by: Anchor course, spheres, seminar, and capstone course

III. Interdisciplinary Nature of the Proposed Program

Sustainability inherently embraces many disciplines, methodologies, and institutional practices. Students enrolled in the graduate certificate program will gain knowledge that addresses both human and ecological systems by requiring courses from different spheres of sustainability (i.e., social, economic, environmental) and providing them with opportunities to develop inter- and trans-disciplinary projects and solutions. To achieve this, the program will involve multiple schools and colleges at UGA and has the potential to include any discipline on campus. Both the anchor course and the seminar will draw from faculty expertise in many colleges and schools. The certificate spheres will allow students to explore sustainability through multiple lenses, enabling them to view sustainability problems holistically.

IV. Expected Enrollment

Ten graduate students are expected to enroll in the first semester, followed by increases in each semester thereafter. Thirty students are expected to be in the program by the third year. The predicted enrollment of the certificate program is expected to stabilize in about 3-4 years (i.e., fall 2020 or 2021) at about 40 students.

V. Why This Program is Necessary

Achieving sustainability is one of the biggest challenges facing our society. Meeting the needs of the present without compromising the ability of future generations to meet their own needs will require an understanding of the complex interactions between humans and environmental systems. It requires a workforce willing to look outside traditional disciplines for creative, holistic solutions. Sustainability is a process rather than a product, and therefore requires trans-disciplinary thinking and opportunities for experiential learning.

The Interdisciplinary Graduate Certificate in Sustainability will provide students with the knowledge and skills they will need to contribute to helping to create a more sustainable future, in both their personal lives and in their careers. The Interdisciplinary Graduate Certificate in Sustainability will help students become effective leaders and agents of change for sustainability in a wide range of vocations, such as researcher, teacher, corporate officer, technology specialist, business owner, farmer, nonprofit manager, or government official.

The Interdisciplinary Graduate Certificate in Sustainability will help prepare students for sustainability jobs that are in high demand, such as careers in renewable energy, sustainability consulting, and water engineering and science (National Geographic Society; Sustainability Degrees, 2014). While campus sustainability positions are relatively new within higher education, they are growing and evolving (AASHE, 2012). In addition, senior executive sustainability officers have increased dramatically in recent years. From 2004 to 2011, 29 U.S. companies added Chief Sustainability Officers (CSO), according to one report (Weinreb Group, 2011). Many more companies have similar positions at director levels. Forbes Magazine in May 2012 listed “Sustainability Expert” as one of 10 jobs on the rise that did not exist 10 years ago (Casserly, 2012). Moreover, sustainability staff in higher education are making more money than they did three years ago (AASHE, 2015). The Interdisciplinary Graduate Certificate in Sustainability will prepare graduate and professional students for the increasing number of careers in sustainability.

A survey by Net Impact (2014), a nonprofit organization dedicated to sustainability through business, surveyed 3,000 graduate business students across almost 100 campuses. Eighty-eight % of graduate students surveyed said learning about social/environmental business is a priority, and 83% of graduate students surveyed said they would take a 15% pay cut to have a job that seeks to make a social or environmental difference in the world (Net Impact, 2014). The Net Impact Report (2014) also provides ratings of business schools across the United States. The University of Georgia did not make the Top 50 Environmental Sustainability Programs nor the Top 50 Social Impact Programs for Business. And, only 13% of UGA graduate business students are satisfied with social and environmental themes (Net Impact, 2014). By implementing the Interdisciplinary Graduate Certificate in Sustainability, UGA can be at the forefront of efforts nationwide to expand sustainability courses, making graduate students more likely to gain the skills they want for their careers and being more competitive to employers.

VI. Additional Information

Program Initiation: Fall 2017

Full Implementation of Program: Fall 2017

First Certificates: Spring 2017

Annual Number of Expected Graduate Students in the Certificate: 10 (first year), 30 (by third year)

Projected Future Trends: The predicted enrollment of the certificate program is expected to stabilize in about 3-4 years (i.e., fall 2020 or 2021) at about 40 students.

1. Documentation of student interest in the program

A growing number of UGA students have expressed interest in economic, social, and environmental issues concerning sustainability. Graduate students have created and joined numerous environmental groups on campus that promote and foster sustainability, such as EcoReach and the UGA Chapter of the Wildlife Society.

In 2010, graduate and undergraduate students voted by an overwhelming 4-1 margin to establish the \$3.00 green fee to help support sustainable practices on campus and provide funding for an Office of Sustainability. The UGA Office of Sustainability was created in February 2010 to support and coordinate environmental and sustainable efforts on campus. Demonstrating the growing student interest in hands-on sustainability projects, the Office of Sustainability consistently receives more applicants for student internships, from disciplines across campus, than there are positions available.

In a September 2014 survey of 197 undergraduate and graduate students from 63 different majors at UGA, 62% indicated that they would consider completing a Certificate in Sustainability to complement their degree. Additionally, 56% said that sustainability related to their intended career. The majority of students surveyed were undergraduates.

In September 2016, a survey ($N = 64$) was conducted to assess graduate student interest in sustainability courses and the Interdisciplinary Graduate Certificate in Sustainability. Graduate students rated three items using the scale 1 (*strongly disagree*) to 7 (*strongly agree*): “I think more courses should include sustainability in their curriculum,” “UGA could benefit from having more interdisciplinary courses that address sustainability issues,” and “Graduate students would benefit from taking sustainability courses.” An average of these items ($\alpha = .95$) shows the graduate students surveyed agree sustainability in UGA courses is important ($M = 5.53$, $SD = 1.54$). In addition, survey takers were asked “If UGA were to offer a Graduate Certificate in Sustainability, how likely are you to enroll?” using a scale 0% - 100% likely. On average, participants said they would be 61.58% likely to enroll in the Graduate Certificate in Sustainability. Of the 57 students who provided a response for this question, 54.39% said they would be 75%-100% likely to enroll in the Graduate Certificate in Sustainability, representing 31 graduate students. Moreover, 81.25% of the students surveyed are first- and second-year graduate students, so they would have time to complete the certificate if they enrolled. The graduate students surveyed were pursuing graduate work in areas such as engineering, business, geography, integrative conservation, ecology, and adult education.

Moreover, the following text from Lauren Mullenbach, a recent graduate student at UGA, provides further evidence of the strong student interest in this Interdisciplinary Graduate Certificate in Sustainability. She writes:

The merits of the proposed certificate program are numerous. As a graduate student, I appreciate opportunities to earn a supplementary credential such as the proposed certificate. Graduate students by nature are ambitious, and programs like this one will see many applicants. The proposed certificate program is rigorous, is appropriate for graduate level work, and will attract a diverse array of graduate students. Sustainability is a growing field, consistently forming transdisciplinary connections. An increasing number of academic and industry positions value knowledge in sustainability. For instance, my current program at Penn State University is a dual-title degree in Recreation, Park and Tourism Management and Human Dimensions of Natural Resources, both of which value a strong background in sustainability knowledge. In an effort to maintain a transdisciplinary identity, the proposed certificate program also takes a balanced approach to sustainability, covering topics in social, economic, and environmental spheres. Transdisciplinary partnerships are also an increasing occurrence in the academic and practitioner world, providing further evidence of the need for this type of program. If the Graduate Certificate in Sustainability had existed during my time at the University of Georgia, I would have definitely pursued it.

2. Evidence of student demand sufficient to sustain reasonable enrollments

Graduate students across campus have expressed interest in supplementing their degrees with certification in sustainability (see survey results above). This growing interest is likely to continue in reaction to the increasing career opportunities in sustainability.

Currently, it is possible for graduate students to enroll in the Graduate Certificate Program in Conservation Ecology and Sustainable Development, whose director, Dr. Seth Wenger, has communicated total support of the proposed Graduate Certificate in Sustainability. There are several pivotal differences between that certificate and the proposed Interdisciplinary Graduate Certificate in Sustainability:

- Students enrolled in the Interdisciplinary Graduate Certificate in Sustainability are required to complete a 3-credit hour capstone project in order to demonstrate their sustainability knowledge in practical application. This is not required in the Conservation Ecology and Sustainable Development certificate.
- The Interdisciplinary Graduate Certificate in Sustainability approaches its educational framework using the three spheres of sustainability, requiring every student to take one course in each sphere. This emphasizes the importance of a multi-disciplinary approach to sustainability, where students must consider each sphere equally. This framework does not exist in the Conservation Ecology and Sustainable Development Certificate, wherein students are allowed to choose any approved elective courses which may or may not advance interdisciplinary

understandings of sustainability. Each of the core courses in the existing certificate program seems to focus on environmental sustainability. Thus, it is entirely possible that students enrolled in this program may never have the opportunity to learn about the economic and social spheres of sustainability.

Minority student enrollments: The intent of the Interdisciplinary Graduate Certificate in Sustainability is to attract students from every discipline across UGA. Participation in this interdisciplinary certificate, which focuses on economics, environment, and social equity, may enhance recruitment of a diverse student body, as well as add diversity to graduate-level research. Efforts will be made to recruit students from many backgrounds.

VII. Detailed Information

1. Curriculum Outline: (See Appendix A).

The curriculum for the Interdisciplinary Graduate Certificate in Sustainability requires 17 credit hours. These hours include an anchor course (3 credits), one course from each sphere (i.e., social, ecological, economic; 9 credits), two semesters of the sustainability seminar (2 credits total; 1 credit per semester), a capstone project (3 credits), and a portfolio that ties these requirements together and is completed as a part of the application project course. The seminar course will begin with a historical and foundational background in sustainability, then move into the science, economic, and social aspects of sustainability, and also introduce various sustainability challenges, including climate change, biodiversity, energy sources, and the built environment. Students will also be required to present information and updates related to their capstone project during one meeting of the seminar. The three spheres, from which students will select one course each, represent the widely recognized three spheres of sustainability: environment, society, and economy (see Appendix B).

2. Model programs, accepted disciplinary standards, and accepted curricular practices

There are over 40 minors in sustainability at other institutions in the United States. There are at least 15 sustainability certificate programs at the undergraduate and graduate levels. Some of these schools include Penn State, the University of Iowa, the University of Utah, and the University of Wisconsin. The requirements of these programs are similar. For example, the University of Utah's Sustainability Certificate was initiated in 2012 and requires 23 credit hours, with one required introductory course, one final project, and 15 hours of electives.

Although sustainability courses and programs are becoming more prevalent throughout universities, graduate certificates that encompass sustainability from a broad standpoint are less common. For instance, Penn State offers a 12-credit Graduate Certificate specifically in Sustainability Management and Policy. The University of

Florida (UF) offers graduate certificates in sustainability by department. For instance, UF offers graduate certificates in Sustainable Agroecosystems, Sustainable Engineering, and Sustainable Architecture. Furthermore, the University of Arkansas offers a 15-credit Graduate Certificate in Sustainability, but only requires interdisciplinary coursework and no final project. Students enrolled in UGA's Interdisciplinary Graduate Certificate in Sustainability will complete a capstone project, where students will apply their knowledge about sustainability to help provide solutions for sustainability challenges. We hope that offering the Interdisciplinary Graduate Certificate in Sustainability at UGA will attract students from around the globe. Furthermore, we hope to be a model for other schools to develop a graduate certificate in sustainability that is inherently interdisciplinary.

3. Program accreditation

No formal accreditation standards currently exist for the area of sustainability. The proposed Graduate Certificate in Sustainability is unique to UGA but is similar to several other programs (listed above).

4. Faculty resources

I. The director of the Interdisciplinary Graduate Certificate in Sustainability will provide instructional support for the program. This includes:

1. Coordinating course offerings and maintaining student records.
2. Coordinating and promoting activities (e.g., seminars, speakers, receptions) associated with the program and doing whatever is appropriate to secure extramural funding lines to support program activities.
3. Consulting with the Faculty Advisory Board Committee on matters of policy, planning, and course requirements.

II. Buyout of one course unit per semester for the director is already committed by the unit serving as academic home for the undergraduate certificate (Franklin College for years 1-3). We have commitments from the Odum School of Ecology and the College of Environment and Design to serve as the academic home for years 4-6 (Ecology) and years 7-9 (CED) for both the undergraduate and graduate level Sustainability Certificate. As part of this commitment, Ecology and CED have agreed to provide a buyout of one course unit per year to the director during the years they serve as academic home.

N. B. The administration and funding established for the Undergraduate Certificate in Sustainability will also serve the Graduate Certificate in Sustainability. All commitments and rotations established for the Undergraduate Certificate apply to the Graduate Certificate as well.

III. A Faculty Advisory Board was established to oversee the undergraduate program (e.g., approve new courses, oversee disbursement and use of program funds, and revise program requirements over time). Advisory Board members serve 2-year renewable terms. The Advisory Board is comprised of the director and representatives

from each participating college, the Center for Integrative Conservation Research, and Office of Sustainability. The Faculty Advisory Board will also oversee the graduate-level program. We will ask the dean of the Graduate School to appoint a representative to the Advisory Board.

IV. The Interdisciplinary Graduate Certificate in Sustainability will include a seminar series (FCID 4200/6200) that is run by the director with support from the Office of Sustainability and the Center for Integrative Conservation Research. The Interdisciplinary Graduate Certificate in Sustainability will also have a Faculty Affiliate program consisting of faculty who are teaching coursework and/or overseeing capstone projects and internships for the certificate. These faculty members may also serve as guest speakers during the seminar series and anchor course. (For a list of faculty affiliates, see Appendix D.)

5. Additional faculty needed

No additional faculty are needed.

6. Library, computer, and other instructional resources needed

Current resources are adequate to support the Interdisciplinary Graduate Certificate in Sustainability so long as current resources do not decrease.

7. Physical facilities necessary to fully implement the program

No additional physical facilities are needed for the implementation of the certificate.

8. Building, classroom, laboratory, and office space

No additional facilities are needed for the implementation of the certificate. (Existing office space will be utilized for the director.)

9. Expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program

N.B. The administration and funding established for the Undergraduate Certificate in Sustainability will also serve the Graduate Certificate in Sustainability. No new commitment of resources from the participating schools or colleges is requested at this time. In the coming year, we hope to add additional administrative support to meet the expanding needs of the program (item IV below) and have already received a partial commitment for that additional administrative support from the Office of Sustainability.

I. The Interdisciplinary Graduate Certificate in Sustainability will initially be housed in the College of Arts and Sciences Dean's Office with support from existing staff in the Center

for Integrative Conservation Research (CICR) and the Office of Sustainability. The program requires one course credit buyout per year for the director, already committed by the unit serving as academic home for the undergraduate certificate (Franklin College for years 1-3). The Odum School of Ecology is willing to serve as academic home for years 4-6, and the College of Environment and Design is willing to serve as the academic home during years 7-9. Final selection of the academic home unit will be made by the Faculty Advisory Board. The Interdisciplinary Graduate Certificate in Sustainability will follow the same academic home rotation as the Undergraduate Certificate in Sustainability.

II. Administrative staff at CICR is needed to assist the director with administration of the certificate program, including course approvals, program admissions, program reporting, and maintaining student records, and partial funding (30%) for this position is already provided by the units participating in the undergraduate certificate.

III. An undergraduate intern at the Office of Sustainability is needed to work 10 hours per week to assist with program logistics, communications, and outreach activities. Funding for this position is already committed by the Office of Sustainability.

IV. A graduate intern at the Office of Sustainability is needed to advise students on course sequence, mentor students on capstone projects, offer student drop-in hours, support outreach activities, and visit classes, as requested.

V. The annual cost to administer the undergraduate and graduate Interdisciplinary Sustainability Certificates is expected to total \$29,000.

Item	Amount	Source	Details
Director Buyout	\$5,000	Franklin College (years 1-3)	One course buyout per year
Administrative Specialist (partial)	\$10,580	Participating colleges and schools	30% of the CICR Administrative Specialist's salary
Undergraduate Intern	\$4,000	Office of Sustainability	One undergraduate-level intern at \$1,500/fall and spring semesters and \$1,000/summer semester (10 hours per week)
Graduate Intern	\$8,000	Partial support from Office of Sustainability	One graduate-level intern at \$3,000/fall and spring semesters and \$2,000/summer semester (10 hours per week)
Operating expenses	\$1,420	Participating colleges and schools	Funds for printing outreach materials, mailing, supplies, and web hosting fees

10. Extent of student support (fellowships, assistantships, scholarships, etc.) available for this program

UGA students can apply annually for sustainability grants through the Office of Sustainability to fund sustainability research and applied projects.

11. Commitments of financial support needed

I. The annual cost to administer the undergraduate and graduate certificate is \$29,000. The school/college serving as the academic home will provide a minimum of one course buyout (\$5,000) annually for the director. Start-up funding in the amount of \$5,000 per year for two years is committed by the Provost's Office to support development of the certificate program and provides a second course buyout for the director in years 1 (AY2016-17) and 2 (AY2017-18). At the time of the writing of this proposal, one more year of start-up funding from the Provost's Office is remaining. Following the start-up funding, the one course buyout per year provided by the academic home will be adequate for the director's administration of the certificate.

The administration and funding established for the Interdisciplinary Undergraduate Certificate in Sustainability will also serve the Interdisciplinary Graduate Certificate in Sustainability. Sufficient ongoing funding for the Interdisciplinary Graduate Certificate in Sustainability will come from participating schools and colleges. Participating colleges, including the College of Agricultural and Environmental Sciences, Franklin College of Arts and Sciences, Terry College of Business, Odum School of Ecology, College of Engineering, College of Environment and Design, College of Family and Consumer Sciences, Warnell School of Forestry and Natural Resources, and School of Social Work, have committed to providing \$1,500 or more per year for the first three years of the program (AY2016-17, AY2017-18, and AY2018-19). It will be the responsibility of the director and the Faculty Advisory Board to renew these commitments at appropriate junctures (year 3 of the cycle). Each college and school at UGA was invited to participate in the certificate. The remaining colleges are welcome to participate if they elect to join as the certificate becomes more visible and demand increases over time. Additional ongoing support will be provided by the Center for Integrative Conservation Research and the Office of Sustainability. Funding that exceeds the minimum necessary requirements for certificate administration will be used to support programs that enhance teaching and learning related to the certificate program. Disbursement and use of certificate funds shall be determined by the Advisory Board.

II. With the current growth of the undergraduate program and the added number of students the Graduate Certificate will bring, additional staff will be needed in the near term. An initial meeting with the dean of the Graduate School to discuss funding more staffing took place in early January 2017, and discussion is currently ongoing. The additional support provided by additional staff will be needed as program enrollment increases. From June to September 2016, the Undergraduate Certificate in Sustainability enrollment increased 33%. As of January 2017, 81 undergraduate

students are enrolled in the Undergraduate Certificate in Sustainability. We expect this number will continue to increase with the formation of the Interdisciplinary Graduate Certificate in Sustainability.

12. Administration of the program

I. The initial certificate director will be Dr. Ron Balthazor in the Franklin College of Arts and Sciences in collaboration with the Faculty Advisory Board composed of representatives from participating schools and colleges. The director, with administrative assistance provided by a staff member, an undergraduate intern, and a graduate intern, will review student applications to the program, advise students as they make progress, maintain appropriate student records, coordinate the seminar series (including student evaluation), support and evaluate the monitoring of student capstone projects or internships, and assist participating colleges as needed to confer the certificate to students who complete its requirements. The director will also lead meetings of the Faculty Advisory Board.

II. The Faculty Advisory Board will serve as the certificate steering committee and will meet as needed (at least once per semester) to support and advise the director of the program. The Faculty Advisory Board has already been established with the activation of the Undergraduate Certificate (the Faculty Advisory Board will serve the undergraduate and graduate certificates).

a. One chief task of the Board will be to review courses for inclusion in the Interdisciplinary Graduate Certificate in Sustainability. The process for inclusion will be as follows: faculty will submit an application to the director for inclusion of the course in the certificate. The application will include a brief statement of how the course addresses sustainability, the faculty member's area of expertise and research, and a syllabus. The director will review the application and forward it to the Advisory Board, which will vote on the application. The Advisory Board will periodically review courses previously submitted to make sure their inclusion in the certificate remains appropriate.

b. Other responsibilities of the Board include identifying the academic home for the Interdisciplinary Graduate Certificate in Sustainability, with input from participating deans on a 3-year rotation or renewal basis, selecting the program director, advising the director regarding student capstone projects and internships as needed, overseeing disbursement and use of certificate program funds, and generally serving as ambassadors of the certificate, encouraging students, recruiting faculty participation, and periodically attending or presenting at the certificate seminar.

*N.B. The academic home will be the same for the Undergraduate Certificate and the currently proposed Graduate Certificate and will rotate on the same schedule.

13. Technical Support Needed

Technical support and office space will be provided to the director by his or her home department. Existing staff in the Center for Integrative Conservation Research and the Office of Sustainability receive technical support from their respective units.

14. Degree to which that structure is in keeping with good practice and accepted standards

This is similar to the other certificates currently on campus, particularly including administration of the Certificate in Obesity and Weight Management.

15. How and by what criteria students will be admitted to and retained in the program and how these procedures are consistent with accepted standards for effective and successful programs

Current graduate students may apply for acceptance into the Interdisciplinary Graduate Certificate in Sustainability program at any point prior to their final year of study. Students will complete the online Graduate School application and will also complete the Certificate's online application (available at <https://sustain.uga.edu/>), which will include a proposed course of study and other supplemental information, for approval by the director. Students in good standing at the University who have completed both applications will be accepted and retained, provided they make good progress toward completion of the certificate. Though possibility of a professional (non-degree) certificate is being investigated by the Office of Sustainability and the Carl Vinson Institute, the Interdisciplinary Graduate Certificate in Sustainability will be available to degree-seeking students only.

Students who are struggling to complete requirements of the certificate will receive support from the director. If needed, students may also receive peer mentoring from other students who have successfully completed relevant components of the program to aid in successful completion of the certificate program.

Effective changes in student knowledge and understanding will be documented through an evaluative survey upon acceptance to the certificate and then again upon completion. Knowledge, skills, and commitment will also be evaluated through the portfolio created during the certificate program.

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VIII. Letters of Support From the Various Academic Unit Heads Involved in Developing the Program Initiative or Whose Support is Vital to its Success

Letters of support are attached (see Appendix E).

Appendix A. - Certificate Requirements

Students are required to take a minimum of 17 credit hours to earn the Interdisciplinary Graduate Certificate in Sustainability. The certificate will consist of the following components:

1. Anchor course (3 credit hours)
2. One course from each of 3 spheres (9 credit hours)
3. Seminar (2 credit hours)
4. Capstone project (3 credit hours)

Anchor Course – These courses will provide a foundation in sustainability, including its history, components, and application. Courses which qualify as anchor courses for this certificate will challenge students to evaluate their behavior as citizens and consumers and encourage them to think about the interdisciplinary challenges associated with a sustainable future. There will be a minimal number of courses from different departments from which students can choose that will serve as anchor courses. Each of the courses selected to be on the anchor course list will be thoroughly vetted to ensure it provides the breadth as a foundation in sustainability. Currently ECOL 6080 (Principles of Conservation Ecology and Sustainable Development I) or FANR 4020/6020 (Sustainable Development I) can satisfy this requirement. As new courses are vetted for approval by the Advisory Board and the director, they will be added to the list of available courses on the Sustainability Certificate website (sustain.uga.edu).

Seminar – The seminar will introduce students to the many ways UGA faculty and staff and the ACC community are promoting sustainability. It will provide students with a foundational background in sustainability and emphasize interdisciplinary evaluation and solutions. Sustainability challenges, including climate change, biodiversity, and the built environment, will be addressed. The seminar will be open to the entire UGA community as a means of connecting and communicating across disciplines. The seminar will also allow students the opportunity to present their capstone course project and receive feedback from their peers. The seminar will consist of both undergraduate and graduate level students, which will benefit everyone due to the increased number of perspectives. Additional work for graduate students in the seminar may include writing a paper, doing an in-class presentation, or conducting a research project.

Capstone Course/Project – This course will provide students with an opportunity to apply what they have learned to come up with solutions to hands-on sustainability

challenges. Through this course, they will work on interdisciplinary teams to address problems identified on campus and in the surrounding community.

Portfolio – The portfolio is a collection of documents presented at the completion of the capstone project that ties together the courses, seminar, and capstone project completed by the student. This portfolio will provide students with an opportunity to reflect on the integration of disciplines, systems thinking, analysis of complex problems, and ongoing commitment to sustainability.

Appendix B. – Spheres

Ecological Sustainability – 3 credit hours

Courses in the ecological sustainability sphere will build upon a baseline understanding of ecology and address issues concerning ecosystem services, environmental degradation, and climate change. Courses in this area must provide a basic understanding of ecological and environmental process, including:

- The interdependence of species and the dynamic interrelationships within social and ecological systems
- Systemic limits, such as carrying capacity, and the ways in which human systems can and do threaten ecological systems
- Local biomes, watersheds, and natural history
- Biodiversity
- Ecosystem health
- Ecosystem services
- Concepts of energy, water, and waste

*Ideally, classes will connect this understanding of ecological processes to human and economic systems, particularly the ways in which these systems interrelate and impact one another.

Economic Sustainability – 3 credit hours

Courses in this sphere will build upon a baseline understanding of economics and address bottom-line issues such as:

- The economics of population growth
- Poverty and income distribution
- Market failures
- Economic valuation
- Economic incentive instruments
- Food, water, and energy resources
- International agricultural markets
- Fisheries and wildlife conservation
- Concern for intergenerational equity in the long-term decision making of a society

*Classes should connect economic principles to social and ecological realities focusing on sustainable development.

Social Sustainability – 3 credit hours

Courses in the social sustainability sphere will 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. Courses must cover one or more of the following:

- Cross-cultural perspectives of sustainability
- Cultural assumptions of environmental and social problems
- The relationship between poverty, social justice, and environmental degradation
- Intergenerational responsibility
- Power and limits of new technologies and the relationship between technological and other types of solutions
- Impact of the built environment on ecology and society
- Development and conservation
- Human consumption
- Community
- Normative assumptions and ethical frameworks, particularly as they relate to equity, justice, human rights, and extending the moral community
- Personal values within the context of a larger society and how these values are manifested in daily habits
- Humans' place and limits within ecological systems
- Principles of environmental ethics and their application to population, habitat quality, affluence, and energy use
- Environmental rhetoric and persuasive arguments that address sustainability issues
- Environmental law and policy
- Communications and the arts
- Institutional factors mediating human-environment interactions
- Unequal power relations

*Ideally, classes cover personal assets and those aspects of community that lead to a high quality life for all, now and in the future.

Appendix C. – Possible Courses

(The specific courses included below have been confirmed by the instructors listed to meet the goals of the certificate. Before the launch of the certificate, courses for each sphere will be vetted by the Advisory Board. This list may be revised and/or expanded.)

ECOLOGICAL SUSTAINABILITY COURSES – GRADUATE			
Course ID	Course Name	Offered	Prerequisites
ANTH 4010/6010	Historical Ecology	fall semester every year	ANTH 1102
CRSS 4010/6010	Principles of Sustainable Management	spring semester every year	BIOL 1107 and BIOL 1107L and BIOL 1108 and BIOL 1108L
ECOL(FORS)(ANTH) 6140	Principles of Conservation Ecology and Sustainable Development II	spring semester every year	ECOL 6080
ECOL(FANR) 4220/6220	Foundations of Restoration Ecology	Offered spring semester every even-numbered year	ECOL 3500-3500L or ECOL 3505H-3505L or FANR 3200 or permission of department
ECOL 8710	Environmental Law Practicum	Offered fall and spring semester every year	None
EDES(PLAN) 4650/6650	City Planning	Not offered on a regular basis	None
ENGR(LAND) 4660/6660	Sustainable Building Design	fall semester every year	Permission of department
ENVE 4230/6230	Energy in Nature, Civilization, and Engineering	Offered every year	ENVE 3210 or MCHE 3140 or permission of department
FANR 4273S/6273S	Field Studies in Sustainable Development	Study Abroad	None
GEOG 4020/6020	Fluvial Geomorphology	fall and spring semester every year	None

GEOG 4350/6350- 4350L/6350L	Remote Sensing of Environment	fall and spring semester every year	GEOG 4330/6330-4330L/6330L or permission of department
GEOG 4460/6460	Field Methods in Remote Sensing	Spring semester every year	GEOG 4350/6350-4350L/6350L or permission of department
HORT 4030S/6030S	Sustainable Community Food Production	Offered fall and summer semester every year	CRSS 2010-2010L or HORT 2000 or BIOL 1107-1107L or PBIO(BIOL) 1210 or permission of department
LAND 6030	Nature and Sustainability	fall semester every year	Corequisite: EDES 6530
LAND 6310	Landscape Ecology: Materials and Processes	fall semester every year	None
LAND 6390	Ecological Landscape Restoration	spring semester every year	None
LAND 4410/6410	Field Sketching and Watercolor	Summer semester every year	None
LAND 4730/6730	Issues and Practices in Sustainable Design	spring semester every year	None

SOCIAL SUSTAINABILITY COURSES – GRADUATE			
Course ID	Course Name	Offered	Prerequisites
ANTH(GE OG) 4275/6275*	Conservation and Development in Costa Rica	every year	Permission of department
ANTH 4400/6400	Green Culture: Environment, Sustainability, and Environmental Awareness	Unknown	ANTH 1102 or ANTH 2120H or permission of department
ANTH 8515	Institutional Dimensions of Sustainability	spring semester every year	None

ANTH 8540	Conservation and Community	spring semester every year	Permission of department
ANTH (ICON) 8560	Conservation and Development Practice	Unknown	None
CRSS 4020S/60 20S	Social Sustainability in Agricultural and Food Systems	Unknown	None
EETH(AE SC) 4190/619 0	Agricultural Ethics	fall and spring semester every year	None
ENVE 4530/653 0	Energy and Environmental Policy Analysis	every year	Permission of department
ENVM(E HSC) 4250/625 0	Environmental and Public Health Law	Spring semester every year	Third-year student standing and (POLS 1101 or HIST 2111 or HIST 2112)
ENVM(A AEC) 4930/693 0/E	Environmental Law and Governmental Regulation	Offered fall semester every odd year	Third year standing and (POLS 1101 or POLS 1101E or POLS 1105H or HIST 2111 or HIST 2111E or HIST 2111H or HIST 2112 or HIST 2112E or HIST 2112H)
HPRB 7920	Health Behavior	When offered by Pam Orpinas	Permission of department
LAND 6040	Community and Place	spring semester every year	Corequisite: EDES 6540
RLST(NR RT)(ANT H) 5400/740 0- 5400L/74 00L	Parks and Ecotourism Management	spring semester every year	None
NRRT 5900/790 0	Ecotourism and Sustainable Development	fall semester every year	FANR 3400-3400D or RLST(NRRT) 3310 or FANR 4202/6202- 4202D/6202D
PHIL 8900	Environmental Philosophy	Spring semester every year	Permission of department

PHIL(EETH) 4220/6220	Environmental Ethics	Spring semester every even-numbered year	PHIL 2200 or any 3000-level PHIL course or permission of department
PHIL(EETH) 4250/6250	Philosophy of Technology	Spring semester every odd-numbered year	Any 3000-level PHIL course or permission of department
WMST 4170S/6170s	Environment, Gender, Race, and Class	Offered every year	WMST 4010/6010 or permission of department

ECONOMIC SUSTAINABILITY COURSES – GRADUATE			
Course ID	Course Name	Offered	Prerequisites
ENVM 4800/6800	Water Resource Economics and Management	fall semester every year	Third year standing and (AAEC 2580 or AAEC 2580E or ECON 2106 or ECON 2106E or ECON 2106H)
FANR(ECOL) 4810/6810	Natural Resources Law	spring semester every year	None
MIST 4550/6550	Energy Informatics	Every year	None

CAPSTONE COURSES – GRADUATE			
Course ID	Course Name	Offered	Prerequisites
ICON(ANTH)(GEOG)(FANR)(ECOL) 8111	Integrative Conservation Internship	Fall, spring, and summer semester every year	ICON 8001 or ICON 8002 or permission of department (only open to students in the ICON PhD program)

HORT(C RSS)(EN TO)(PAT H) 4125/612 5	Organic Agricultural Systems	Spring semester every year	HORT 3300 or permission of department
STAT 5700/770 0	Internship in Statistics	Fall, spring, and summer semester every year	None

It may also be possible for a graduate student in the program to use his or her thesis or dissertation to satisfy the requirement of the capstone if the research is sufficiently focused on sustainability. Such students can satisfy the Capstone Course requirement with “research” credit hours.

Appendix D. – Possible Affiliate Faculty

(These faculty have expressed interest in including their courses in certificate requirements or otherwise being involved in the implementation of the certificate.)

Dr. Malcolm Adams; Mathematics; Franklin College of Arts and Sciences
Dr. Sonia Altizer; Odum School of Ecology
Dr. Robert Beckstead; Poultry Science; College of Agriculture and Environmental Science
Dr. David Berle; Horticulture; College of Agriculture and Environmental Science
Dr. Bynum Boley; Warnell School of Forestry and Natural Resources
Dr. Peter Brosius; Anthropology; Franklin College of Arts and Science
Dr. Marie Claire Boudreau; Management Information Systems; Terry College of Business
Dr. Terence Centner; Agriculture and Applied Economics; College of Agriculture and Environmental Science
Dr. Scott Connelly; Odum School of Ecology
Dr. Brad Davis; College of Environment and Design
Dr. Jeffrey Dorfman; Agriculture and Applied Economics; College of Agriculture and Environmental Science
Dr. Mark Farmer; Biological Sciences; Franklin College of Arts and Sciences
Dr. Laurie Fowler; Odum School of Ecology
Dr. David Gattie; College of Engineering
Dr. Laura German; Anthropology; Franklin College of Arts and Sciences
Dr. John Gittleman; Odum School of Ecology
Dr. Theodore Gragson; Anthropology; Franklin College of Arts and Sciences
Dr. Gary Green; Warnell School of Forestry and Natural Resources
Dr. Gary Grossman; Geography; Franklin College of Arts and Sciences
Dr. Cecilia Herles; Women's Studies; Franklin College of Arts and Sciences
Dr. Nicole Hurt; Communications; Franklin College of Arts and Sciences
Dr. Rhett Jackson; Warnell School of Forestry and Natural Resources
Dr. Jenna Jambeck; College of Engineering
Dr. Thomas Lawrence; College of Engineering
Dr. Sungkyung Lee; College of Environment and Design
Dr. David Leigh; Geography; Franklin College of Arts and Sciences
Dr. Nicholas Magnan; Agriculture and Applied Economics; College of Agriculture and Environmental Science
Dr. William Miller; Crop and Soil Sciences; College of Agriculture and Environmental Science
Dr. Deepak Mishra; Geography; Franklin College of Arts and Sciences
Dr. Jackie Mohan; Odum School of Ecology
Dr. Jeffrey Mullen; Agriculture and Applied Economics; College of Agriculture and Environmental Science
Dr. Daniel Nadenicek, Dean College of Environment and Design
Dr. Maria Navarro; Agricultural Leadership and Development, College of Agriculture and Environmental Science

Dr. Nathan Nibbelink; Warnell School of Forestry and Natural Resources
Dr. Maureen O'Brien; College of Environment and Design
Dr. Suzanne O'Connell; Horticulture; College of Agriculture and Environmental Science
Dr. Jim Porter; Odum School of Ecology
Dr. Stephan Ramos; College of Environment and Design
Dr. Todd Rasmussen; Warnell School of Forestry and Natural Resources
Dr. John Schramski; College of Engineering
Dr. Nicola Sochacka; College of Engineering
Dr. David Spooner; College of Environment and Design
Dr. Georgia Strange; Lamar Dodd School of Art
Dr. Michael Tarrent; Warnell School of Forestry and Natural Resources
Dr. Alfred Vick; College of Environment and Design
Dr. Richard Watson, Management Information Systems, Terry College of Business
Dr. Susan Wilde; Warnell School of Forestry and Natural Resources
Dr. Alan Wolk; Banking and Finance; Terry College of Business
Dr. Tianwei Zhang; Economics; Terry College of Business

Appendix E. – Letters of Support



The University of Georgia

Franklin College of Arts and Sciences
Department of English

February 2, 2017

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed Interdisciplinary Graduate Certificate in Sustainability.

The Graduate Certificate in Sustainability will equip students with the skills to make significant, systemic changes in their communities, paving the way for a more sustainable future. The certificate requirements will compliment existing graduate degree programs with knowledge of the complex interactions between human and environmental systems. Students will benefit from an understanding of the framework of sustainability and an opportunity to apply skills and knowledge to real-world challenges, and will be better prepared to be champions of sustainability in careers in education, industry, non-profits, or government.

I am most happy to serve as the director of the Undergraduate Certificate in Sustainability and look forward to working with graduate students as well. I am committed to serving in this capacity, with the support of the Certificate Advisory Board, for at least the next three years.

Sincerely,

Ron Balthazor, Ph.D.
Director, Sustainability Certificate Program
Senior Academic Professional, Department of English
University of Georgia



The University of Georgia

Franklin College of Arts and Sciences
Office of the Dean

November 21, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed graduate Interdisciplinary Certificate in Sustainability. The Franklin College of Arts and Sciences is committed to preparing graduate students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

Franklin College was pleased to help launch the undergraduate Interdisciplinary Certificate in Sustainability in FY16 and will continue to support the program at the graduate level. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements.

Sincerely,

Alan T. Dorsey
Dean



The University of Georgia

Graduate School

January 19, 2017

Dr. Pamela Whitten
Senior Vice President for Academic
Affairs and Provost
Administration Bldg.
Campus

Dear Dr. Whitten:

On January 18, 2017, the Graduate Council voted to approve the following proposal:

Graduate Certificate in Sustainability

The proposal is attached. I am pleased to forward this request to you with my endorsement. Please let me know if you have any questions.

Sincerely,

Suzanne Barbour
Dean

cc: Dean Alan Dorsey
Dr. Ron Balthazor
Mr. Kevin Kirsche
Ms. Fiona Liken



The University of Georgia

College of Agricultural and Environmental Sciences
Office of the Dean and Director

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed graduate Interdisciplinary Certificate in Sustainability. The College of Agricultural and Environmental Sciences is committed to preparing graduate students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The College of Agricultural and Environmental Sciences was pleased to help launch the undergraduate Interdisciplinary Certificate in Sustainability in FY16 and will continue to support the program at the graduate level. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements. This proposal has the full support of our faculty curriculum committee.

Sincerely,

Samuel L. Pardue
Dean and Director



The University of Georgia

College of Engineering

January 6, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed Interdisciplinary Certificate in Sustainability. The College of Engineering is committed to preparing students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The College of Engineering is pleased to help launch the Interdisciplinary Certificate in Sustainability by committing \$1,500 per year, starting in FY16, for three years, as well as appointing a representative to serve on the Advisory Board. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements. This proposal has the full support of our faculty curriculum committee.

Sincerely,

Donald J. Leo, Ph.D.

Dean

UGA Foundation Professor in Engineering



The University of Georgia

College of Environment and Design

December 28, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

PAM

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed graduate Interdisciplinary Certificate in Sustainability. The College of Environment and Design is committed to preparing graduate students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The College of Environment and Design was pleased to help launch the undergraduate Interdisciplinary Certificate in Sustainability in FY16 and will continue to support the program at the graduate level. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements. This proposal has the full support of our faculty curriculum committee.

Sincerely,

Daniel J. Nadenicek
Dean and Draper Chair in Landscape Architecture



The University of Georgia

Odum School of Ecology

December 9, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of continued support for the proposed graduate Interdisciplinary Certificate in Sustainability. The Odum School of Ecology is committed to preparing graduate students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The Odum School was pleased to help launch the undergraduate Interdisciplinary Certificate in Sustainability in FY16 and will continue to support the program at the graduate level. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements. This proposal has the full support of our faculty curriculum committee.

Sincerely,

John L. Gittleman,
Dean and UGA Foundation Professor in Ecology



The University of Georgia

Linda Kirk Fox
Dean

College of Family & Consumer Sciences
Office of the Dean

224 Dawson Hall
Athens, Georgia 30602-3622
Telephone (706) 542-4879
Facsimile (706) 542-4862
Web page www.fcs.uga.edu

October 1, 2015

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed undergraduate and graduate Interdisciplinary Certificate in Sustainability. The College of Family and Consumer Sciences is committed to advancing the well-being of individuals and families over their life span and strengthening communities through the generations. The Interdisciplinary Certificate in Sustainability complements existing degree programs in housing and interiors, in health and food systems, in merchandising and consumer economics policy and individual decision making at FACS and provides students with valuable opportunities for interdisciplinary teaching and learning. The College of Family and Consumer Science Curriculum Committee voted to approve the college participation in the Interdisciplinary Certificate in Sustainability.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The College of Family and Consumer Sciences is pleased to help launch the Interdisciplinary Certificate in Sustainability by appointing a representative to serve on the Advisory Board. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements.

Sincerely,

Linda Kirk Fox, Ph.D.
Dean

C: Silvia Girauda, Assoc. Dean for Academic Programs



The University of Georgia

School of Social Work

Office of the Dean

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Office of the Senior Vice President for Academic Affairs and Provost
205 Administration Building
University of Georgia
Athens, Georgia 30602

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed Interdisciplinary Graduate Certificate in Sustainability. The School of Social Work is committed to preparing culturally competent practitioners and scholars to be leaders in addressing persistent and emerging social problems through practice, research, and policy. The Interdisciplinary Graduate Certificate in Sustainability would complement existing programs at UGA and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Graduate Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The School of Social Work is pleased to help launch the Interdisciplinary Graduate Certificate in Sustainability by committing \$1,500 per year for three years and appointing a representative to serve on the Advisory Board. We look forward to conferring the Interdisciplinary Graduate Certificate in Sustainability to our students who successfully complete its requirements.

Sincerely,

Anna Scheyett, MSW, PhD
Dean and Professor
School of Social Work
University of Georgia



The University of Georgia

Terry College of Business
Office of the Dean

335 Brooks Hall
Athens, Georgia 30602-6251
Telephone 706-542-8100
Fax 706-542-3835
busdean@uga.edu

Benjamin C. Ayers, *Dean*
Earl Davis Chair in Taxation

November 21, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Pam,

I am pleased to provide this letter of support for the proposed graduate Interdisciplinary Certificate in Sustainability. The Terry College of Business is committed to preparing graduate students to engage in critical issues through careers in leadership and professional practice, and address the challenges facing society with collaborative research in technologies and concepts that will transform Georgia, our nation and our world. The Interdisciplinary Certificate in Sustainability will complement our existing degree programs and provide our students with valuable opportunities for interdisciplinary teaching and learning.

The Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhanced understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue next steps in their academic and professional careers.

The Terry College of Business was pleased to help launch the undergraduate Interdisciplinary Certificate in Sustainability in FY16 and will continue to support the program at the graduate level. We look forward to conferring the Interdisciplinary Certificate in Sustainability to students who successfully complete its requirements.

Sincerely,

Benjamin C. Ayers

/abg



UNIVERSITY OF
GEORGIA

Warnell School of Forestry and Natural Resources

Forestry, Fisheries and Wildlife, Water and Soil Resources

Natural Resources Recreation and Tourism

Office of the Dean

180 E Green Street

Athens, Georgia 30602-2152

TEL 706-542-4741 | FAX 706-542-2281

www.warnell.uga.edu

November 7, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administration Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed Interdisciplinary Graduate Certificate in Sustainability. The Warnell School of Forestry and Natural Resources is committed to preparing leaders in the conservation and sustainable management of forests and other natural resources, to discover ways to restore and better use the earth's natural resources, and to put into practice forestry and natural resources knowledge. The Interdisciplinary Graduate Certificate in Sustainability would increase opportunities for integrative, applied learning in interdisciplinary settings, as well as prepare graduate students to tackle problematic global sustainability issues. Our faculty unanimously supported housing this certificate for both our undergraduate and graduate students on March 27, 2015.

The Graduate Certificate in Sustainability will help prepare students for effective leadership through experiential learning and enhance understanding of the complex interactions between human and environmental systems. Students will cross disciplinary divides and learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Completion of this credential will help to further distinguish our outstanding students as they pursue sustainability careers in high demand fields such as renewable energy, sustainability consulting, and water engineering and science.

Sincerely,

W. Dale Greene
Dean



SUSTAINABLE FORESTRY INITIATIVE

SFI-00001

Chairman
Craig Blair

Vice Chairman
Greg Siekaniec

Secretary and Treasurer
Bettina Ring

President and CEO
Kathy Abusow

ENVIRONMENTAL SECTOR:

Robert Abernethy
President
Longleaf Alliance

John M. Hagan
President, Manomet

Jonathan Hauffer
President, The Wildlife Society

Mary Klein
President and CEO, NatureServe

Greg Siekaniec (Vice-Chairman)
CEO, Ducks Unlimited Canada

Gail Wallin
Co-Chair, Canadian Council on
Invasive Species;
Executive Director, Invasive Species
Council of British Columbia, Canada

SOCIAL SECTOR:

Steve Bullard
Provost and Vice President of Academic
Affairs, Henry M. Rockwell Chair of
Forestry, Stephen F. Austin State University

Skeet Burris
Family Forest Landowner
Cypress Bay Plantation

Bob Matters
Chairperson
United Steelworkers Wood Council

Bettina Ring
(Secretary and Treasurer)
State Forester
Virginia Department of Forestry

Mark Rodgers
President and CEO
Habitat for Humanity Canada

C. Tattersall (Tat) Smith
Former Dean and Professor
University of Toronto, Faculty of Forestry

ECONOMIC SECTOR:

Craig Armstrong
President and CEO
Millar Western Forest Products Ltd.

Craig Blair (Chair)
President and CEO
Resource Management Service LLC

Daniel P. Christensen
Chairman, Hancock Natural Resource
Group Board of Directors

Guy Gleysteen
Senior Vice President, Time Inc.

James (Jim) Hannan
CEO and President
Georgia-Pacific LLC

David Walkem
Chief of the Cooks Ferry Indian Band
Merritt, British Columbia, and President,
Stuwix Resources Joint Venture

October 31, 2016

To whom it may concern,

On behalf of the Sustainable Forestry Initiative, Inc. (SFI), I am pleased to provide this letter of support for the proposed Graduate Certificate in Sustainability at University of Georgia. The proposed certificate will provide invaluable opportunities for graduate students to gain knowledge of the interdisciplinary nature of sustainability and to work with students, faculty, and staff to develop novel ways of approaching sustainability challenges.

The Graduate Certificate in Sustainability will help prepare post graduate and professional students for jobs in higher education and in public and private sectors through experiential learning and enhanced understanding of the complex interactions between people and environmental systems. This work is particularly important to SFI as we bridge the connections between sustainable natural resource management, sustainable supply chains, and human communities.

The Sustainable Forestry Initiative® (SFI) stands for future forests. SFI® is an independent, non-profit organization dedicated to promoting forest sustainability and supporting the links between sustainable forests and communities through grant programs, carefully targeted research, direct leadership of critical initiatives, and partnerships that effectively contribute to multiple conservation objectives. SFI's Forest Management, Fiber Sourcing and Chain of Custody Standards work to ensure the health and future of forests. Through application of these certification standards, SFI's on-product labels help consumers make responsible purchasing decisions. SFI Inc. is governed by an independent, three-chamber [board of directors](#) representing environmental, social and economic sectors equally. Learn more about SFI at [sfiprogram.org](#) and SFI's conservation work at [sfiprogram.org/conservation](#).

The proposed program at UGA will enable students to cross disciplinary divides, and to approach problems holistically through the integration of social, economic, and environmental perspectives. The fact that the certificate is open to participation for students from any disciplinary background offers potential to encompass a wide scope of graduate students, and additionally creates opportunity for students, faculty, and staff to gain from a wider audience of disciplines. Completion of the Graduate Certificate in Sustainability will help to further distinguish UGA's already highly valued graduate and professional students as they pursue the next steps in their careers.

I strongly believe the Graduate Certificate in Sustainability will be an excellent addition to UGA's existing curriculum and will help prepare graduate and professional students at UGA for a future which is increasingly complex and integrated across natural resource and sustainability disciplines. We fully support the committee in this endeavor, and I hope to hear of the certificate's success in the future. Please let me know if we can provide any additional information or answer any questions regarding the work of SFI, or the importance of certification.

Sincerely,

A handwritten signature in black ink that reads "K. Abusow". The signature is written in a cursive style with a large initial "K" and a stylized "Abusow".

Kathy Abusow
President & CEO
Sustainable Forestry Initiative Inc.

Location • 5 Concourse Pkwy, Suite 1650 • Atlanta, GA 30328

October 25, 2016

TO WHOM IT MAY CONCERN

Subject: **Graduate Sustainability Certificate**

I am pleased to provide this letter of support for the proposed Graduate Certificate in Sustainability. The proposed certificate will provide invaluable opportunities for graduate students to gain knowledge of the interdisciplinary nature of sustainability and to work with students, faculty, and staff to brainstorm novel ways of approaching sustainability challenges.

The Graduate Certificate in Sustainability will help prepare post graduate and professional students for jobs in higher education and in public and private sectors through experiential learning and enhanced understanding of the complex interactions between people and environmental systems. Students will cross disciplinary divides, which is a rare occurrence in most graduate programs. Students will learn to approach problems holistically, integrating social, economic, and environmental concerns as they apply their knowledge. Furthermore, the certificate is open to anyone from any discipline which not only means this certificate has the potential to encompass a wide scope of graduate students but also gives students, faculty, and staff the ability to learn from a wider audience of disciplines. Completion of the Graduate Certificate in Sustainability will help to further distinguish UGA's outstanding graduate and professional students as they pursue the next steps in their careers.

I strongly believe the Graduate Certificate in Sustainability will be an excellent addition to UGA's existing curriculum and will help prepare graduate and professional students at UGA for the future. I fully support the committee in this endeavor, and I hope to hear of the certificate's success in the future.

Sincerely,



Montgomery C. Simpson | Government Relations Manager | Gulf States

5 Concourse Pkwy, Suite 1650 | Atlanta, Georgia 30328

October 3, 2016

801 Ford Building
University Park, PA 16802

To Whom It May Concern:

The purpose of this letter is to provide support for the Graduate Certificate in Sustainability, proposed by the Office of Sustainability and the Center for Integrative Conservation Research. As a current graduate student I clearly see the merits of the proposed certificate program and highly recommend its approval.

Over the past several years I have had the pleasure of working with the dedicated staff, faculty, and students who have put together the proposal for this certificate. I have seen firsthand their hard work, and I can attest to how thoroughly they researched and wrote this proposal. Through countless exchanges between the Office of Curriculum Systems, department heads, and college deans, the team who created the Certificate in Sustainability Program was persistent and devoted. Furthermore, many hours were spent researching similar certificate programs at other institutions, documenting student interest and support, and creating assessment tools. Without a doubt this program is well-founded and supported by staff, faculty, and students who will ensure its success.

The merits of the proposed certificate program are numerous. As a graduate student, I appreciate opportunities to earn a supplementary credential such as the proposed certificate. Graduate students by nature are ambitious, and programs like this one will see many applicants. The proposed certificate program is rigorous, is appropriate for graduate level work, and will attract a diverse array of graduate students. Sustainability is a growing field, consistently forming transdisciplinary connections. An increasing number of academic and industry positions value knowledge in sustainability. For instance, my current program at Penn State University is a dual-title degree in Recreation, Park and Tourism Management and Human Dimensions of Natural Resources, both of which value a strong background in sustainability knowledge. In an effort to maintain a transdisciplinary identity, the proposed certificate program also takes a balanced approach to sustainability, covering topics in social, economic, and environmental spheres. Transdisciplinary partnerships are also an increasing occurrence in the academic and practitioner world, providing further evidence of the need for this type of program. If the Graduate Certificate in Sustainability had existed during my time at the University of Georgia, I would have definitely pursued it.

Overall, the Graduate Certificate in Sustainability will be a successful program. The Undergraduate Certificate in Sustainability achieved maximum enrollment in its first semester, and the team of faculty, staff, and students working “behind-the-scenes” to direct the certificate program are more than capable of running a successful graduate certificate program. It is my pleasure to give enthusiastic support for this certificate program and give my highest recommendation for its approval.

Sincerely,
Lauren E. Mullenbach
Ph.D. Student
Penn State University

October 31, 2016

Certificate Evaluation Committee
The University of Georgia Graduate School
210 South Jackson Street
Athens, GA 30602

To Whom It May Concern:

I am writing to convey my support of a Graduate Certificate in Sustainability within the curriculum at the University of Georgia. I am a first-semester PhD student in the Department of Anthropology, and upon hearing at the Graduate Student Information Fair about the Sustainable UGA program and the fact that a Sustainability Certificate program with directed coursework in this area existed, I was extremely excited. Such a program aligns very closely with my proposed dissertation topic, and I believe I and many other graduate-level students across many disciplines would benefit immensely from the constellation of courses and projects under the rubric of sustainability.

Sustainability touches so many areas of each of our lives at present, and demands an awareness of a set of issues that are inherently interdisciplinarily integrated. Aside from the salience of the topic to everyday lives, sustainability requires that one think across disciplines toward integrative solutions, providing a unique intellectual challenge that fosters scholarly growth. A graduate-level certificate in Sustainability, I believe, would provide the University's graduate student body with an excellent means of coming to understand a set of issues, problems, and a platform for thinking through and testing solutions that are increasingly necessary in our world. Furthermore, it would offer graduate students with not only an intellectual challenge in the academy, but a concrete indication to future employers—whether university based or in an applied setting—that each certificate holder has a degree of expertise in sustainability in addition to their primary discipline.

I am enthusiastic about the potential to be able to benefit intellectually, personally, and professionally from such a certificate. I sincerely believe, particularly given the myriad of opportunities within the University for engagement, service, learning, and research, that a Sustainability Certificate for graduate students would contribute significantly to the University's curriculum and fits well with the sustainability goals the University has established to meet in upcoming years.

Sincerely,



Emily Ramsey
Doctoral Student
Department of Anthropology