Graduate Council Meeting
Wednesday, January 18, 2017, 3:30 p.m.
229 Terrell Hall
(The Bylaws prohibit representation by proxy.)

AGENDA

I. Introduction and Welcome

II. Reading, correction and approval of minutes
November 30, 2016

III. Graduate Council Committee Reports

A. Program Committee
   Committee Report (Jennifer Lindstrom, Chair)

   1. At the request of the Department of Economics to offer a dual Bachelor of Business Administration degree in economics and Master of Arts degree in economics and a dual Bachelor of Arts degree in economics and a Master of Arts degree in economics. (Attachment A)

   2. At the request of the Department of Economics to add a non-thesis option to the Master of Arts degree in economics. (Attachment B)

   3. At the request of the Department of Agricultural Leadership, Education and Communication to offer a new Doctor of Philosophy degree in agricultural leadership, education and communication. (Attachment C)

   4. At the request of the Department of Epidemiology and Biostatistics to offer a new graduate certificate in Infectious Disease Epidemiology. (Attachment D)

   5. At the request of the Office of Sustainability and the Center for Integrative Conservation to offer a new certificate in Sustainability. (Attachment E)

   6. At the request of the College of Veterinary Medicine to offer a non-thesis option for the Master of Science degree in comparative biomedical sciences. (Attachment F)

B. Administrative Committee
   Committee Report (Stephen Ramos, Chair)

   1. Revisions to The Graduate Faculty By-Laws - Article II - Graduate Council (Section 8). (Attachment G)
C. Admission and Retention Committee
   Committee Report (Kaori Sakamoto, Chair)

D. Appointment and Reappointment Committee
   Committee Report (Stephen Ramos, Chair)

E. Curriculum Committee
   Committee Report (Jeff Mullen, Chair)

IV. Old Business

V. New Business

VIII. Information Item

IX. Adjourn
19 April 2016

Benjamin C. Ayers, Dean
Terry College of Business
University of Georgia
Athens GA 30602

Dear Ben:

Over the course of this year, we have been developing a dual-degree proposal to formalize our combined bachelor's/master's degree program, which has been offered through the collaboration of the Department, Honors Program, and Graduate School since 2005. Dual-degree status will not affect the substance of the combined bachelor's/master's degree, but should enlarge the pool of eligible applicants, while at the same time allowing the program to maintain its high standards. As you know, the program costs nothing, but consistently produces some of the best job and PhD program placements in the Terry College.

Attached are three documents: (1) the proposal, (2) an AB/MA program of study, and (3) a BBA/MA program of study. I am grateful to the members of the department’s UPC for their effort in formulating the initial proposal and incorporating the recommendations of Curriculum Systems staff. I am submitting these documents to Marisa and Henry, who will shepherd the proposal through Terry’s GPC and UPC.

The dual degree program has the unanimous support of the Economics Department faculty, with 14 voting in favor and none opposed.

Let me know if you have any questions.

Best,

Christopher Cornwell
Professor and Head
Department of Economics

c: Marisa Pagnattaro, Associate Dean for Research and Graduate Programs
   Henry Munneke, Associate Dean for Undergraduate Programs
Dual degree program proposals include more than one degree. Please provide the following information for each unit involved.

1. Institution(s): University of Georgia
2. Date: September 1, 2015
3. School(s)/College(s)/Division(s)/Institution(s): Terry College of Business
4. Departments: Economics
5. Degrees to be offered: Bachelor of Arts and Master of Arts
6. Majors to be offered: Economics (A.B. and M.A.)
   Economics (B.B.A. and M.A.)
   Dual Degree Program would start in Fall 2017
8. Signatures

Department Head

Economics

19 Apr 16

Department Date

Dean School/College Date

9. Program abstract

The proposed dual degree program formalizes the present combined Bachelor's/Master's program in the Department of Economics, which has been offered since 2005 through collaboration of the Department, the Honors Program, and the Graduate School. The present program was initiated at the request of undergraduates in the Honors Program who wanted to acquire high-level analytical training in economics. To the best of our knowledge, there is no similar program in the University System. The Department has successfully administered this combined program for Honors students for eleven years.

The primary objective of the Bachelor's/Master's dual degree programs is to provide exceptionally able and highly motivated undergraduates with rigorous, advanced training in economics. Successful completion of the program will prepare them for enrollment in top-ranked Ph.D. programs and positions with elite employers in technically demanding fields. Students in the program will earn the M.A. degree by completing a minimum number of Ph.D.-level courses and satisfying the core requirements for the A.B. degree or B.B.A. degree in economics. To prepare program participants for these Ph.D.-level courses, we require that they complete 15 credit-hours of undergraduate mathematics and 6 credit-hours of undergraduate statistics, and excel in the core undergraduate major classes in economics. Because the dual degree students take existing Ph.D.-level classes, we have offered the M.A. option to our undergraduate students in a very cost-effective manner.

Since its inception, the combined Bachelor's/Master's program has been highly successful. To date, 20 Honors students have completed the program. These graduates have received placements in top-ranked Ph.D. programs and highly selective investment banks and consulting firms:
• Ten graduates have enrolled in highly ranked Ph.D. programs in four fields (economics, finance, mathematics and statistics). Placements include Columbia University, Harvard University, University of Chicago, Northwestern University, and Cornell University.

• Four graduates were hired by leading consulting firms, such as McKinsey, Boston Consulting Group, Ernst & Young, and Deloitte. Three graduates were employed by prestigious New York City investment banks, such as JP Morgan and Co.

• Of the remaining three graduates, one started a non-profit organization to facilitate sustainable development in rural African communities, one is employed by the Federal Reserve Bank of New York, and the third conducts research at Duke University.

Graduates of the present combined degree program have also been highly successful in national competitions for major fellowships for graduate study, including two National Science Foundation Graduate Research Fellowships and a Jacob K. Javits Graduate Fellowship. Program graduates have also been named finalists for the Rhodes and Marshall Scholarships, and first alternate for the Marshall Scholarship. The program's track record of exceptional placements and scholarship recognition helps attract and retain high-quality students at the University of Georgia.

10. Objectives of the program

The primary objective of the dual degree B.B.A./M.A. and A.B./M.A. programs is to provide exceptionally able and highly motivated undergraduates with rigorous, advanced training in economics that will prepare them for enrollment in top-ranked Ph.D. programs and positions with elite employers in technically demanding fields.

This combined degree program has previously been open only to Honors students. However, the department would allow qualified non-Honors undergraduates to enroll in the dual degree program.

11. Justification and need for the program

a. The proposed dual degree program will benefit our students, the Department, the College, and the University. Section 9 documents the outstanding placements that Honors students in the existing combined degree program have received. Formalizing the program as a dual degree program will help us more effectively recruit high-quality first-year students to UGA, and thereby expand on that placement record. With additional Bachelor’s/Master’s recipients, elite employers will find it more attractive to recruit on campus, enhancing the employment outcomes for the Terry College and the University.

b. Over the past eleven years, an average of two students per year have graduated from the dual degree program, with a minimum of one per year and a maximum of three per year. Interest in the program has grown in recent years, as we have better communicated the expectations for and benefits to students earlier in their undergraduate career at the University. However, because of the extensive upper-level math and statistics prerequisites, the minimum cumulative G.P.A. of 3.7, and the requirement that students complete Ph.D. courses to earn the M.A. degree, a limited number of students express interest in and meet the requirements for admission. Also, because some of the required Ph.D.-level classes (especially 8010, 8020, and 8080) are getting close to capacity, with enrollments between 28-32 students in the 2015-2016 academic year, we are limited in our ability to enroll more dual degree students and maintain the quality of our Ph.D. instruction in highly-technical classes. Due to student
interest and aptitude and departmental capacity, in the next five years, we anticipate that about six students per year would graduate from the program.

c. The program’s long record of placement success clearly documents that top-ranked and highly prestigious private-sector firms and graduate schools are attracted to students with the advanced training provided by the Bachelor’s/Master's degree program in Economics at the University of Georgia.

12. Describe the process by which the proposed program was developed.

The initial push for the present combined degree program came in 2004 from undergraduates who desired advanced training in economics. When these students raised the possibility of creating such a program, the Department Head and Graduate Coordinator worked with the mathematics and statistics departments to determine course sequencing, and developed a proposal and program of study that the Honors Program and Graduate School endorsed in 2005. Formalizing our long-standing combined A.B./M.A. and B.B.A./M.A. programs as dual degree programs will allow us to better communicate this unique and rewarding opportunity to students at an earlier point in their careers, which will help interested students complete the demanding set of prerequisites early enough to allow them to complete our Ph.D. courses during their undergraduate tenure.

13. Curriculum

Students must complete the requirements for both the A.B. or B.B.A. degree and the M.A. degree in Economics. Appendices A and B provide sample programs of study for the A.B./M.A. and B.B.A./M.A. programs, respectively. Because the students take Ph.D.-level classes, they must take many prerequisite upper-level mathematics and statistics courses, which are indicated with a single asterisk.

To earn the M.A. degree, a student must complete 30 graduate-level credit-hours in economics. Students may take no more than 9 credit-hours of ECON 7000 and 7300. At least 21 credit-hours must be from 8000-level courses. The required 7000- and 8000-level courses are denoted with a double asterisk.

The programs of study show how a student could complete the degrees in five years, but about half of our students complete the program in four years because they have a sufficient number of advanced placement credits.

Typically, students apply to the UGA Graduate School before completing 12 graduate-level credit-hours.

14. Administration

The program is administered by the faculty of the Department of Economics. Most of the administrative work is completed by the Department’s Undergraduate Advisor (Diana Beckett), a three-person Graduate Programs Committee, the Graduate Coordinator (John Turner), and the Graduate Coordinator’s assistant.
Because of the extensive prerequisites, students must be on-track early in their undergraduate careers to complete both degrees in a timely manner. Students who are interested in the duel degree program must attend an information session that is offered at least once per term. If students cannot make the session, we schedule a second to make sure that everyone who expresses interest can attend. After attending the information session, students interested in the program must meet with the Undergraduate Advisor and the Graduate Coordinator to map out an appropriate program of study.

Candidates for the M.A. degree must apply to the Graduate School by May 15th, before they complete 12 credit-hours of graduate-level coursework. To apply, students must have completed the mathematics requirements during years 1 and 2 and have a minimum cumulative grade point average of 3.7. Most students who enter the program have a cumulative grade point average above 3.8.

Admissions decisions will be made by the Department’s Graduate Admissions Committee, which is typically comprised of the Graduate Coordinator, the Department Head, and the Chair of the Graduate Programs Committee. This admissions committee makes decisions by June 15th. After being admitted, students continue to be advised by both the Undergraduate Advisor and the Graduate Coordinator. Once they start working on a thesis topic, the students choose a three-person thesis committee.

Note: We are in the process of seeking a non-thesis option for the M.A. degree. If this option is approved, then dual degree students may pursue either a thesis or non-thesis option for the M.A. degree. The decisions regarding which option to pursue would be made by the student with advice from the Graduate Coordinator and other professors. Students who choose the non-thesis option will earn their degree by taking additional 8000-level field courses in areas of specialization relating to health economics, industrial organization, labor economics, public economics or macroeconomics.

15. Assessment

The Department of Economics Major Assessment Plan for undergraduates that was approved on Sept. 24, 2013, is included at the end of this document. In October 2011, the department approved the M.A. Economics Assessment Plan, which is also included at the end of this document.

16. Fiscal and enrollment impact and estimated budget

For the last eleven years, our combined A.B./M.A. and B.B.A./M.A. programs have productively used resources as students have achieved outstanding career and graduate school outcomes with minimal additional cost to the Economics Department, Terry College and University of Georgia. Since our department has offered these degrees, the enrollment has been small and the students have easily integrated into existing Economics Ph.D. classes so the program has had no negative fiscal impacts. The department expects that in the next five years, the program will grow by two to four students per year and that we will accommodate such students into the same courses. The dual degree programs will be organized like our eleven-year-old combined A.B./M.A. and B.B.A./M.A. programs and therefore will have no fiscal impacts.
This document is offered as an aid only for planning a Terry College of Business degree plan. Many factors affect a course scheduling sequence. Additional General Elective hours may be needed to meet the UGA 120-hour requirement (not including PEDB credit). Additional Upper Division Elective hours may be needed to meet the UGA 39-hour requirement of upper division coursework. An honors equivalent or study abroad coursework may satisfy requirements in the degree plan. See UGA Bulletin [http://www.bulletin.uga.edu/](http://www.bulletin.uga.edu/) for details.

**YEAR ONE**

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Apply to UGA Graduate School (with cumulative GPA of 3.7)

**YEAR FIVE**

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**Entrance Requirements to Major**

Completion of 58 hours earned • good academic standing (2.0 cumulative UGA GPA) • an overall GPA of 2.6 • completion of ECON 2105 or ECON 2105H & ECON 2106 or ECON 2106H with grade of "C" (2.0) or better

**Liberal Arts Course Requirements**

Through 3rd semester foreign language • one Literature • two Fine Arts/PHI/REL • one History • one Biological Science • one Physical Science • one multicultural
**Additional Requirements**

Thirty-nine (39) hours of Upper Division Courses are required for degree completion.

**UGA Graduation Requirements**

United States & Georgia History • Federal & Georgia Constitution • Environmental Awareness • Cultural Diversity • UGA Residency • Physical Education • Experiential Learning Requirement

**Additional Notes**

Students must successfully defend their M.A. thesis in an oral exam, which will also fulfill the requirement for the BA Senior paper (ECON 5900).

* Designates undergraduate upper level math and statistics classes that are required to take the Economics PhD courses.

** Designates Ph.D. classes that are required to a student to earn a M.A. degree.

*Since we started offering the AB/MA degree combination, about half of our students have completed the degrees in four years because they entered UGA with many credits that were earned through Advanced Placement, Dual Enrollment, or IB high school programs.*
Economics (BBA/MA) 5-Year Degree Plan+

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Apply to UGA Graduate School (with cumulative GPA of 3.7)

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<td>15</td>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

Entrance Requirements to Economics Major

Completion of Core Areas I-VI • good academic standing (2.0 cumulative UGA GPA) • overall GPA of 2.6 • completed MATH 1113 • completed or currently enrolled in MSIT 3000
Graduation Requirements

Terry College Residency (30 hours of Terry coursework satisfied through UGA) • Communications requirement (COMM 1100 or COMM 1500 or COMM 3200) • Terry Economics requirement (ECON 2100/ECON 4150 or ECON 2200/ECON 4700) • 2.00 Terry College GPA (Terry College prefix courses) • United States and Georgia History • Federal and Georgia Constitution • Environmental Awareness • Cultural Diversity • UGA Residency • Physical Education • Experiential Learning Requirement

Economics and International Business (IB) Co-major

Students considering a Terry IB co-major must either be enrolled in or have completed the third (or higher) level of the same language • earn a minimum grade of "B" (3.0) in each language course • earn a minimum grade of "B" (3.0) in ACCT 2101 • earn an average grade of "B" (3.0) in all ECON courses combined

Additional Notes

Students must successfully defend their M.A. thesis in an oral exam, which will also fulfill the requirement for the BA Senior paper (ECON 5900).

* Designates undergraduate upper level math and statistics classes that are required to take the Economics PhD courses.
** Designates Ph.D. classes that are required to a student to earn a M.A. degree.

+ Since we started offering the BBA/MA degree combination, about half of our students have completed the degrees in four years because they entered UGA with many credits that were earned through Advanced Placement, Dual Enrollment, or IB high school programs.
Proposal to Add a Non-thesis Option to the
Economics M.A. in the Department of Economics 22 September 2015

Submitted to:
Suzanne Barbour, Dean
Graduate School
279 Williams St
University of Georgia

Prepared by:
Christopher M. Cornwell, Professor and Head
Department of Economics
Terry College of Business
Brooks Hall
University of Georgia

Basic Information

Proposed Change: Non-thesis option for students pursuing a non-research, professionally oriented track

Start Date: Fall 2016

Program Description

The Department of Economics requests that a non-thesis graduation option for the MA in Economics be implemented as an alternative to the current graduation requirement (MA thesis). Consistent with the department’s goal to enhance and broaden the scope of its graduate program, this option is designed for students who intend to pursue careers and professions more oriented to supporting rather than directing research. Table I contrasts the current program of study that requires a thesis and the proposed addition of a non-thesis option.

<table>
<thead>
<tr>
<th>MA with thesis (Current)</th>
<th>Proposed MA non-thesis option</th>
</tr>
</thead>
<tbody>
<tr>
<td>All courses are 3 credits unless otherwise specified</td>
<td></td>
</tr>
<tr>
<td>Core (15 credits)</td>
<td>Core (15 credits)</td>
</tr>
<tr>
<td>ECON 8010: Microeconomic Theory I</td>
<td>ECON 8010: Microeconomic Theory I</td>
</tr>
<tr>
<td>ECON 8020: Microeconomic Theory II</td>
<td>ECON 8020: Microeconomic Theory II</td>
</tr>
<tr>
<td>ECON 8040: Macroeconomic Theory I</td>
<td>ECON 8040: Macroeconomic Theory I</td>
</tr>
<tr>
<td>ECON 8050: Macroeconomic Theory II</td>
<td>ECON 8050: Macroeconomic Theory II</td>
</tr>
<tr>
<td>ECON 8080: Introduction to Econometrics</td>
<td>ECON 8080: Introduction to Econometrics</td>
</tr>
<tr>
<td>Thesis (9 credits)</td>
<td>Thesis (0 credits)</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>ECON 7000 (6 credits)</td>
<td>No requirement</td>
</tr>
<tr>
<td>ECON 7300</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Electives (6 credits)</td>
<td>Electives (15 credits)</td>
</tr>
<tr>
<td>Any 2 other 8000-level courses</td>
<td>Any 5 other 8000-level courses (excluding Econ 8090)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Total Credit Hours = 30</td>
<td>Minimum Total Credit Hours = 30</td>
</tr>
</tbody>
</table>

**Faculty vote**

Graduate Faculty in the Department of Economics voted (12-0) in favor of the proposal.

**Prerequisites**

Undergraduate students applying to the program through the internal Bachelor’s/Master’s track must satisfy the following prerequisites to be adequately prepared:

1. **Required Mathematics Prerequisite Courses (Minimum of 12 Credit Hours)**

   A. Students must complete or earn A.P. credit for a course in each of the 2 groups below:

   Group 1 (3 Credits)
   a. MATH 2250 Calculus I for Science and Engineering
   b. MATH 2300H Differential Calculus (Honors)
   c. MATH 2400H Differential Calculus with Theory (Honors)

   Group 2 (3 Credits)
   a. MATH 2260 Calculus II for Science and Engineering
   b. MATH 2310H Integral Calculus (Honors)
   c. MATH 2410H Integral Calculus with Theory (Honors)

   B. Students must also take one of the following options:

   Option 1 (6 Credit Hours)
   a. MATH 2500 Multivariable Calculus
   b. MATH 3000 Introduction to Linear Algebra

   Option 2 (6 Credit Hours)
   a. MATH 3500 Multivariable Mathematics I (Honors)
   b. MATH 3510 Multivariable Mathematics II (Honors)
2. Required Statistics Prerequisite Courses (Minimum of 6 Bachelor's or Master's Credit Hours or 3 PhD Credit Hours)

Students must take one of the following options:

Option 1 (6 Credit Hours)
   a. STAT 4510/6510 Mathematical Statistics I
   b. STAT 4520/6520 Mathematical Statistics II

Option 2 (3 Credit Hours)
   a. ECON 8070 Statistics for Economists

Justification for the Proposed Non-Thesis MA Option

Two types of students earn an MA:

(1) Exceptional undergraduates who pursue the Bachelor's/Master's combined degree (1-4 students per year). In recent years, the undergraduates who completed the Bachelor's/Master's degree either subsequently matriculated into top Economics PhD programs, such as the University of Chicago, Harvard University, Columbia University, Cornell University, and Northwestern University, or accepted positions with highly selective employers in investment banking and management consulting, such as JP Morgan or McKinsey.

(2) Students who initially matriculate in the PhD program but later pursue an MA (0-2 students per year)

However, a non-thesis MA option is more appropriate for students who do not intend to go into academia, which include all the students who initially enroll as PhD students and later choose the MA and a subset of the Bachelor's/Master's students who intend to immediately pursue professional careers in the private sector. These students would likely benefit more from taking classes in specialized fields that are more closely tied to areas of interest and expertise. Students who pursue the non-thesis option will take additional courses in econometrics, macroeconomics, labor economics, health economics, industrial organization, and public economics.

Some departments' non-thesis degrees require a capstone exercise. We do not see the need for a specific course filling this role, for two reasons. First, the 30 credit-hour requirement makes significant demands on the students. Economics department does not offer any Master's level classes. To earn the MA degree under the proposed non-thesis option, students must complete 10 PhD-level classes that are taught at a very high level — much higher than a normal MA level.

Second, to complete 30 credits, students will be required to take second-year electives. These electives are more focused than first-year courses, and require students to master specific areas of economics and their corresponding skill sets.
Admission Procedures for Applicants

Currently, students do not apply directly to the MA program from other institutions, because all of our MA students either started in our PhD program or are exceptional UGA undergraduates. Students who apply for the MA go through the normal application procedure as defined by the UGA Graduate School. All candidates are reviewed by the Economics Department Graduate Admissions Committee, which is comprised of three members of the Graduate Faculty and is chaired by the Graduate Coordinator.

Adding the non-thesis option will not change any of our admissions policies. It will only give those who transition to the MA degree an additional option for graduation. We anticipate that the admission standards will be the same for the thesis and non-thesis options.

Impact on Current Students

We anticipate that there will be little to no net increase in enrollment. Therefore, this change will not materially affect our existing students other than by giving them an additional degree option so they can better match their degree with their career plans. The non-thesis option will be a better option for students who intend to pursue careers in the private sector.

Financial Impact

No additional funds would be required to offer this program. Current faculty, buildings, library, and other facilities are adequate to implement the proposed offering.

Assessment

The MA thesis is used as an assessment tool by the Department for AACSB/SACS accreditation purposes. For the non-thesis option to be consistent with this assessment, the Department will require all students in the proposed non-thesis track to satisfactorily complete at least one research paper in any one of the 8000-level elective classes. The paper will be evaluated for assessment purposes by the corresponding instructor of the course. Typically, all elective 8000-level courses require the completion of a research paper for a passing grade.
ONE-STEP ACADEMIC PROGRAM PROPOSAL

Institution: University of Georgia

Date Completed at the Institution: November 10, 2016

Name of Proposed Program/Inscription: Agricultural Leadership, Education, and Communication (ALEC)

Degree: Doctor of Philosophy

Major: Agricultural Leadership, Education, and Communication (ALEC)

CIP Code:

Anticipated Implementation Date: Fall 2017

Delivery Mode (check the most appropriate delivery mode in the box below):

- On-campus, face-to-face only: X
- Off-campus location, face-to-face only (specify the location):
- Online Only
- Combination of on-campus and online (specify whether 50% or more is offered online for SACS-COC)
- Combination of off-campus and online (specify whether 50% or more is offered online for SACS-COC)
- Hybrid, combination delivery, but less than 50% of the total program is online based on SACS-COC
- Contractual Location (specify the location):

School/Division/College: College of Agricultural and Environmental Sciences (CAES)

Department: Agricultural Leadership, Education, and Communication (ALEC)

Departmental Contact: Dr. Kay Kelsey, Department Head, 706-542-0649; kdk@uga.edu

Approval by President or Vice President for Academic Affairs:

________________________________________

Approval by Vice President for Finance/Business (or designee) and contact information:

________________________________________

Approval by Vice President for Facilities (if different from VP- Finance or designee) and contact information:

________________________________________
1) **Rationale:** Provide the rationale for proposing the new academic program.

The Department of Agricultural Leadership, Education, and Communication (ALEC) at UGA develops leaders with multidisciplinary skills to engage in emerging challenges related to food, environmental, and social systems. ALEC promotes food, environmental, and social sustainability through experiential education to empower communities toward food security, agricultural and environmental sustainability through an interdisciplinary curriculum encompassing leadership, education, and communication.

ALEC prepares agricultural educators who teach youth and adults using formal and non-formal methods in a variety of contexts in and about food, fiber, and natural resource systems (Agricultural Education focus area); develops professionals who lead effective change in the context of agricultural and environmental systems on local, state, national, and international levels (Leadership focus area); prepares agricultural communicators to disseminate information in agribusiness, government agencies, educational and non-profit centers and institutes, and media outlets (Agricultural Communication focus area); creates and disseminates knowledge concerning the educational process in agricultural leadership, education, and communication through research and development (Extension Education focus area).

ALEC offers two BSA degrees in Agricultural Education and Agricultural Communication and one Master of Agricultural and Environmental Education degree. Building upon UGA’s 2020 strategic plan, Building on Excellence, the proposed ALEC Ph.D. integrates university, college, and departmental goals including Strategic Direction II: Enhancing Graduate and Professional Programs by proposing a doctoral program to meet the need for more highly qualified professions in agricultural and environmental professions.

UGA ALEC is well positioned to capitalize on an unmet need for Ph.D. degree holders in ALEC. The Southeastern region of the United States produces the largest number of ALEC-related master’s degrees in the country, with 139 degrees conferred in related fields in 2013 (Hanover Report, 2015). The high level of master’s degree completions, combined with low competitive saturation in the region, with only the University of Florida offering a residential Ph.D., suggests that an ALEC Ph.D. will address the unmet demand for doctoral programs in the region. In addition, our proposed focus areas in Extension Education and Environmental Education at the Ph.D. level are rare nationally (Hanover Report, 2015).

The Hanover Research Group conducted a market analysis in February, 2015 to determine the market for a doctoral program in ALEC at UGA. Student demand and labor market demand were used to analyze the potential viability for an ALEC Ph.D. and potential areas for specialization for the proposed doctoral program. Findings indicated that an ALEC doctoral program would enable UGA to capitalize on a current unmet demand for doctoral programming in the combined areas of agricultural leadership, education, and communication. In addition, the Hanover Report (2015) found that the demand for leadership education and environmental education specifically are expected to increase in the coming years. The report stated, “an agricultural leadership Ph.D. program would be uniquely situated to prepare students not only for academic jobs but also for leadership roles in industry and government” (p. 4).
According to the Hanover Report:

"The University of Georgia would be the only institution in Georgia, and one of only two in the Southeast, to offer a Ph.D. in Agricultural Leadership, Education, and Communication. This region currently produces the largest number of ALEC-related master's degrees in the country, with 139 degrees conferred in related fields in 2013. High levels of master's degree completions, combined with low competitive saturation within the region, suggest that an ALEC Ph.D. program offered by UGA may be able to capitalize on unmet demand for doctoral programming in the area" (p. 3).

2) **Mission Fit and Disciplinary Trends**: Description of the program’s fit with the institutional mission and nationally accepted trends in the discipline (explain in narrative form). If the program is outside of the scope of the institutional mission and sector, provide the compelling rationale for submission.

UGA prepares graduates to engage in solving global challenges such as food insecurity and increasing climate variability through a diverse curriculum including physical, biological, medical, and social sciences. UGA aims to cultivate an appreciation for cultural diversity needed for an edified and informed populace. The College of Agricultural and Environmental Sciences (CAES) at UGA is one of 17 colleges at UGA and was established in 1859 as the state's land- and sea-grant university. CAES offers 22 majors, 17 minors and 30 graduate programs. CAES’ vision is to “seek, verify and apply knowledge related to agriculture and the environment, and to disseminate this knowledge through student education and public outreach programs” (Strategic Plan, 2013, p. 6). To accomplish its mission, Dean Pardue identified teaching as a priority area and is committed to creating a “culture of support for students in and out of the classroom – excellence in teaching, advising, placement and out-of-the-classroom opportunities for students” through bachelor's, Masters and Doctoral degree programs. Dean Pardue has prioritized college-wide curricular requirements, interdepartmental curricula, globalization, increasing the diversity of the student-body, involving undergraduates in research experiences and internships, interdisciplinary teaching, and distance education as strategies for instructional excellence. Focus areas of the CAES strategic plan (p. 16) lead with creating sustainable food systems that include consideration for environmental, social, and economic growth through genetics, breeding, genomics, food, health and safety, natural resource management, and production and marketing. The proposed ALEC Ph.D. will address the need expressed in the strategic plan using an interdisciplinary approach to preparing professionals to educate the public in and about agriculture, communicate with the public to increase scientific and agricultural literacy, and extend the land- and sea-grant university mission through environmental and Extension education focus areas.

**Nationally Accepted Trends and Standards in the Discipline**

The ALEC department is comprised of eleven tenure-track graduate faculty members representing expertise in agricultural education teacher preparation (AGED), agricultural communication (AGCM), agricultural leadership (ALDR), environmental education (ENED), and agricultural Extension education, domestic and international (EXED). This composition of expertise is consistent with ALEC programs nationwide. However, UGA’s ALEC department
brings a rare, but relevant addition of environmental education to the graduate curriculum. This combination of disciplinary areas in a single department lends itself to the potential for a unique doctoral program that will meet the rapidly evolving and diverse needs of ALEC professions nationwide.

The 2016 *American Association for Agricultural Education* (AAAE) National Research Agenda identified various research priority areas that spanned the disciplinary areas within the ALEC professions. Priority areas included: public and policy maker understanding of agriculture and natural resources; new technologies, practices and product adoption decisions; sufficient scientific and professional workforce that address the challenges of the 21st century; meaningful and engaged learning in all environments; efficient and effective agricultural education programs; vibrant, resilient communities; and addressing complex problems (Roberts, Harder, & Brashears, 2016). The proposed ALEC doctoral program will develop professionals who are equipped to tackle these six key priority areas from a variety of theoretical perspectives.

Beyond the agricultural leadership, education, and communication professions, land-grant universities across the nation have been challenged to address various agricultural and environmental issues. The grand challenges identified include enhancing sustainability, competitiveness, and profitability of US food and agricultural systems; adapting to and mitigating the impacts of climate variability on food, feed, fiber, and fuel systems in the US; supporting energy security and the development of the bio economy from renewable natural resources in the US; providing global leadership to ensure a safe, secure, and abundant food supply for the world; improving human health, nutrition, and wellness of the US population; heightening environmental stewardship through the development of sustainable management practices; and strengthening individual, family, and community development and resilience (Association of Public and Land-grant Universities, 2010). Each of these issues has a social and behavioral science component that will be addressed in the doctoral program to prepare graduates to make significant contributions toward solving the grand challenges facing humanity.

3) **Description and Objectives:** Program description and objectives (explain in narrative form).

The proposed ALEC Ph.D. program stands out from other programs nationally for its emphasis on interdisciplinary education, a UGA strategic priority for graduate education. Students will integrate emerging issues in agricultural and environmental education within their respective foci. Another strategic priority in graduate education is to provide and promote additional opportunities for international experiences (education, research, and service-learning). The international Extension education focus area will attract international students and increase the diversity of our student population. UGA’s strategic priority to increase access to UGA graduate education through extended campus educational programs is an integral part of the ALEC Ph.D. program as we have two faculty located on the Tifton campus who will teach courses and mentor doctoral students.

According to UGA’s Strategic Direction III: Investing in Research Excellence at UGA, the Ph.D. program will better position the ALEC department to grow its research capacity and rigor, increasing capacity to compete for external funding and participate in complex, interdisciplinary,
and multi-institutional grants with colleagues nationwide. Strategic Direction IV: *Serving the Citizens of the State of Georgia and Beyond* allows ALEC Extension efforts to meet the public service division of UGA by preparing students to further enhance public service outreach and will serve as a laboratory for experiential and service-learning courses while providing opportunities for research. The Ph.D. program encompasses links with K-12 public education, agricultural commodity groups, state and federal organizations, and public service non-profit organizations.

The proposed Ph.D. program in ALEC is designed to prepare graduates for both academic and non-academic careers. The degree requires a total of 45 hours of coursework and research hours and provides all doctoral students with a common set of core competencies and content areas (12 hours, referred to as “common core”), while allowing students to specialize in one of four focus area (12 hours). The focus areas are: 1) Agricultural Education (AGED), 2) Agricultural Communication (AGCM), 3) Environmental Education (ENED), or 4) Extension Education (EXED) with either a domestic or international concentration. Leadership and service learning theory and practices are interwoven throughout the curriculum. Within these four foci, doctoral students will become intellectual and programmatic leaders within their respective disciplines.

The common core curriculum (12 hours) will ensure that all doctoral students have the same foundational theoretical knowledge-base in six key constructs that unify our multi-disciplinary department: 1) teaching and learning theory, 2) influencing change and change theory, 3) program development and evaluation, 4) communication theory, 5) global agricultural and environmental issues, and 6) advanced formal and non-formal teaching methods. These six common core key constructs were identified following a comprehensive review of the literature and with input from ALEC faculty nationwide. Students will also complete 12 hours of coursework related specifically to their focus area (AGED, AGCM, ENED, or EXED), 12 hours of quantitative and qualitative research methods, three hours of research, and six hours of dissertation for a total of 45 hours to complete the degree.

Along with preparation in the common core, doctoral students will be exposed to emerging issues and grand challenges specific to their respective foci such as climate variability, food insecurity, social sustainability within the context of growing global populations, food shortages, and environmental degradation. Because employers report doctoral students have high levels of subject matter expertise but often lack in team and process skill, our graduates will possess “skills related to working in a team environment, creating and delivering presentations, business acumen (skills necessary to deliver outcomes on schedule and on budget), project management, and the ability to discuss technical issues with nontechnical individuals”, known as leadership and service-learning skills (Council of Graduate Schools and Education Testing Service, 2012, p. 10). Figure 1 provides a graphical representation of the common core, the four focus areas, and the minimum research requirements for the Ph.D. program.
Figure 1. Graphical representation of the ALEC Ph.D. foci and common core requirements.
ONE-STEP ACADEMIC PROGRAM PROPOSAL

Goals/objectives of the Ph.D. program

Upon graduation, successful doctoral students will be able to:

1. Effectively design and conduct quantitative and qualitative research studies aimed at addressing emerging domestic and global issues related to food insecurity, environmental degradation, and social sustainability;
2. Successfully teach and evaluate learning in formal and non-formal environments; and
3. Plan, implement, and evaluate impactful educational programs targeting specific clientele needs in the agricultural and environmental sciences.

Expected Competencies of Ph.D. Graduates for the Four Foci According to National Accrediting Agencies and Professional Organizations for ALEC Disciplines

Agricultural Education (AGED)

The Agricultural Education profession is a sub-discipline of the broader social science research field examining the current gaps between the agriculture, food, and natural resource industry and the general public (Roberts, Harder, & Brashears, 2016). The research conducted by ALEC faculty examines interdisciplinary topics such as urban agriculture, the local food movement, international agriculture, and food insecurity. The teacher preparation profession is guided by several organizations, one being the Association for Teacher Education (ATE). In 2000, the ATE developed a set of competencies needed by all teacher educators to effectively prepare the next generation of teachers.

1. Model teaching that demonstrates content and professional knowledge, skills, and dispositions reflecting research, proficiency with technology and assessment, and accepted best practices in teacher education.
2. Apply cultural competence and promote social justice in teacher education.
3. Engage in inquiry and contribute to scholarship that expands the knowledge base related to teacher education.
4. Inquire systematically into, reflect on, and improve their practice and demonstrate commitment to continuous professional development.
5. Provide leadership in developing, implementing, and evaluating teacher education programs that are rigorous, relevant, and grounded in theory, research, and best practice.
6. Collaborate regularly and in significant ways with relevant stakeholders to improve teaching, research, and student learning.
7. Serve as informed, constructive advocates for high quality education for all students.
8. Contribute to improving the teacher education profession.
9. Contribute to creating visions for teaching, learning, and teacher education that take into account such issues as technology, systemic thinking, and world views
Agricultural Communication (AGCM)

Students selecting the Agricultural Communication foci area will complete 12 hours of coursework aligned with key competencies supported by professionals (Smith, Sitton, & Ramsey, 2012).

1. Knowledge of policy and current events in agriculture, science literacy and knowledge.
2. Global issues and media influence impacting food, agriculture, and communications.
3. A thorough understanding of how agricultural communications is connected to other disciplines.
4. Communication theories and their implications in research.
5. Understanding the public opinion process.
6. Rhetorical theory and criticism as it relates to agriculture and environmental sciences.
7. Knowledge in photography, campaign development, emerging technology, design principles, social media, and video and audio production.
8. Knowledgeable in evaluation methods, qualitative and quantitative methodologies, and scale development.
9. Grant seeking and writing abilities.
10. Strong abilities in instructional design and university-level teaching.
11. Strong writing abilities in research, technical, scientific, journalist, and media including mastery of AP and APA writing styles.

Environmental Education (ENED)

The North American Association for Environmental Education (NAAEE), the discipline’s leading professional organization, has developed a series of national priority areas of which environmental education professionals should possess.

1. Program planning, implementation, management, and sustainability (Guidelines 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 4.1, 6.1)
2. Effective information delivery and curriculum development (environmental literacy content) (Guidelines 3.1, 3.3 and 1.3, 2.1, 3.1, 5.1)
3. Program evaluation (Guidelines 5.2, 6.1, 6.2, 6.3)
4. Community engagement (Guidelines 5.3, 6.3)

Extension Education (Domestic and International) (EXED)

Graduates will have exposure to all discipline-specific competencies documented by scholars, including Liles and Mustain (2004), Maddy Neimann, Lindquist, and Bateman (2002), Ohio State University (2015), Suvedi (n. d.), Vandenburg and Forster (2008), Lindner et al. (2003), Shinn et al. (2009), and Strong and Harder (2001) regarding mastery expectations of Ph.D. graduates in Extension Education. Issahaku (2014) found interpersonal relations, communication, personal qualities and technical knowledge dominate most competency frameworks and competency-related literature. Social, cultural, program evaluation and Good Agricultural Practices (GAP) were predictors of workers’ performance. Khalil et al. (2009) reported, “Program planning, implementation and evaluation [competencies] emerged as
significant predictors of performance” (p. 444) of extensions agents in Yemen. Chae, Kim, and Lim (2014) found that core competencies such as research and analytical skills, interpersonal skills, strategic instruction, and agricultural extension and customer orientation are positively related to agents’ performance. The Ph.D. program will address the following competencies:

1. Instructional design, curriculum development, and delivery strategies.
2. Change and technology adoption in regard to agricultural and rural development.
3. Understanding of emerging issues in international agriculture and Extension education.
4. Skills to manage non-profit organizations (human resource development and community engagement).
5. Program development skills such as needs assessment and program planning, implementation, and evaluation; data collection methods and tools.
6. Communication and leadership theory and skills such as context, culture, diversity, and intercultural development.

**Common Core Courses**

The following table lists courses comprising the common core that all Ph.D. students will complete. Regardless of the number of courses taken within each of the core competency areas, students must complete at least 16 hours of 8000-level courses to satisfy the minimum requirement for Ph.D. coursework at UGA. All courses are currently provided by the ALEC department and offered at least once annually.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>ALDR 8100</td>
<td>Teaching and Learning Theory</td>
<td>3</td>
</tr>
<tr>
<td>ALDR 8030</td>
<td>Diffusion of Innovations</td>
<td>3</td>
</tr>
<tr>
<td>ALDR 7070*</td>
<td>Program Development for Agricultural Leaders</td>
<td>3</td>
</tr>
<tr>
<td>ALDR 7400*</td>
<td>Communication in Agricultural and Environmental Sci.</td>
<td>3</td>
</tr>
</tbody>
</table>

*Under curriculum committee review as 8000-level courses

The Ph.D. program will be delivered primarily through face-to-face teaching and research experiences. Faculty resources available allow for course delivery, advising, discussions, and interactions to be available in person at the Athens and Tifton campuses. ALEC employs eleven tenure-track graduate faculty members at UGA Athens and Tifton and one department head. Interacting with faculty members on a regular basis is critical for Ph.D. students to learn from, and become comfortable in the academic setting.

4) **Need:** Description of the justification of need for the program. (Explain in narrative form why the program is required to expand curricular academic offerings at the institution, the data to provide graduates for the workforce, and/or the data in response to specific agency and/or corporation requests in the local or regional area.)

**Needs met by Focus Area: Agricultural Education (AGED)**

The ALEC Ph.D. program will include a focus area for the preparation of agricultural teacher educators who are prepared to engage in both formal and non-formal educational settings and
solve pressing educational issues facing our nation’s public school system. The Hanover Report (2015) market analysis echoed the demand for graduates with advanced degrees in agricultural education, stating, “agricultural education jobs in Georgia are projected to grow much faster than the national average. The postsecondary agricultural education profession is projected to grow by over 30% in the state between 2012 and 2022” (p. 4). Therefore, a need exists to develop an agricultural education focused Ph.D. program to satisfy the growing demand for agriculture teacher educators.

The AGED focus area will prepare graduates to become experts in 1) teaching and learning theory, 2) curriculum development, and 3) teacher education. Graduates will engage in coursework and research experiences that utilize an interdisciplinary perspective to investigate emerging issues facing society, some of which are engaging urban audiences in agricultural practices and meeting the educational needs of students with rapidly changing demographics.

Graduates will be prepared to enter professional positions in academia, public school systems, curriculum development, and other formal and non-formal educational settings. Potential research topics include: effectiveness of inquiry-based instruction, assessment of classroom and laboratory knowledge acquisition and retention, effectiveness of experiential learning, teacher pedagogical content knowledge development and utilization, and the utilization of learning tools in formal and non-formal learning environments. Appendix B provides a list of published doctoral dissertation studies in the AGED focus area.

Needs met by Focus Area: Agricultural Communication (AGCM)

The AGCM focus area provides an interdisciplinary curriculum that emphasizes the intersections of three key areas: 1) media and technology; 2) agricultural, food, and environmental issues; and 3) diversity among various audience types. In order to bolster and secure the scholarly field of Agricultural Communication, it is essential that doctoral students graduate from this program with a command of interdisciplinary research methods and theoretical frameworks so that they can effectively address and engage in the ever-evolving and emerging issues of:

- Communication and engagement strategies
- Perceptions, expectations, and demands of diverse audiences
- Global food and social sustainability
- Intensive local food production

Graduates will be qualified for faculty positions in one of the 48 agricultural communication academic programs in the USA, as well as a variety of social science research-oriented positions within agriculture, food, and environmentally-based organizations or agencies. Agricultural Communication BS programs are the fastest growing segment of ALEC departments nationwide. Qualified faculty members are in short supply to meet the demand. Many faculty positions go unfilled for a lack of qualified applicants. The ALEC Ph.D. will help meet the demand for highly qualified Agricultural Communication faculty as well as industry roles such as director of communications, director of publishing, marketing manager, director of research communications, and Extension specialist (https://www.aceweb.org/Job-Opportunities). Appendix B provides a list of published doctoral dissertation studies in the AGCM focus area.
ONE-STEP ACADEMIC PROGRAM PROPOSAL

Needs Met by Focus Area: Environmental Education (ENED)

The *North American Association for Environmental Education* (NAAEE) recently developed a series of guidelines that inform the planning, implementation, and evaluation of environmental education programs and activities. May (2000) identified disciplinary skills needed among undergraduate students pursuing teaching careers where environmental education was a key component of their job. Critical needs of successful environmental educators include teachers who exhibit an efficacious:

- Knowledge base in ecology, local culture, and teaching and learning theory
- Skills base with instructional strategies, alternative assessments, and making connections between local/global issues and curricula (May, 2000)

More recently, Vincent and Focht (2011) identified characteristics of successful environmental science-related degree programs as being those which highlight an interdisciplinary and applied focus on the link between human and natural systems. Similarly, the *National Environmental Education Advisory Council* (2015) stated the critical need for environmental education researchers who can disseminate relevant and meaningful research and evaluation findings that to practitioners and administrators as well as to the general public.

The Hanover Report (2015) noted the need for a doctoral degree focusing in environmental education, stating, “Environmental Education doctoral degrees are currently primarily offered by education and environmental science departments. UGA would be one of the only universities to offer this specialization through an ALEC department” (p. 4), within the College of Agricultural and Environmental Sciences. In addition, the report noted that environmental education would serve a complimentary role to the agricultural education discipline. Specifically, “A Ph.D. in Environmental Education within the department of Agricultural Leadership, Education, and Communication at UGA would offer a unique context for approaching environmental education as an aspect of agricultural education” (p. 19).

The ALEC Ph.D. focus in ENED will prepare students to become environmental educators at the secondary and post-secondary levels through interdisciplinary coursework, research, and teaching experiences while proactively addressing emerging issues within human and natural systems. Students will also be prepared to address critically emerging issues such as:

- Climate variability
- Water conservation and use
- Sustainability and life cycle assessment
- Wildland-urban interface and habitat fragmentation
- Citizen science for environmental action and engagement

Appendix B provides a list of published doctoral dissertation studies in the ENED focus area.

Needs met by Focus Area: Extension Education (Domestic and International) (EXED)

Extension educators and specialists have played, and will continue to play, a key role in working with people, communities, and institutions to address grand challenges such as poverty reduction, agricultural and environmental sustainability, food security, health and nutrition, and
youth development locally and globally. County- or state-based Extension professionals fulfill their role through the collection, analysis, development, transfer, and co-creation of knowledge (Röling, 2004). They are adult educators employed in local, national, and international organizations such as government, non-government (NGO), for profit or not for profit organizations. For decades, the challenge in the preparation of county- or state-based Extension professionals has been to balance content and technical knowledge with context and professional competencies (i.e., agricultural and health knowledge vs. communication and interpersonal skills) (Etling & Radhakrishna, 1998; Lindner, Dooley, & Wingenbach, 2003; Strong & Harder, 2011), a problem that becomes even more complex when preparing Extension professionals to work in international settings (Shinn, Wingenbach, Briers, Lindner, & Baker, 2009).

Communities have very different social, historical, economic, educational, cultural, political, and environmental characteristics often unfamiliar to Extension agents.

Novice Extension professionals in the US usually have excellent preparation in technical skills. Employers provide sustained professional development to prepare educators for challenges in their Extension roles such as working and communicating with people, collaborating with institutions, collecting data, analyzing situations, evaluating programs, and co-creating solutions.

Therefore, it is important to prepare Ph.D. graduates to create and implement curriculum that includes:

- Technical and professional development needs of Extension professionals throughout their careers
- Technical qualifications to execute knowledge integration

ALEC graduates will supply the demand for the growing market for county- or state-based Extension professionals and may select to concentrate on either domestic or international Extension efforts. Appendix B provides a list of published doctoral dissertation studies in the EXED focus area.

5) Demand: Description of how the program demonstrates demand. (Explain in narrative form the data that supports demand for the program from existing and potential students and requests from regional industries.)

Demand for the ALEC Ph.D. program was determined by 1) surveying currently enrolled students and 2) all Georgia Agricultural Education secondary teachers.

A Qualtrics survey link was emailed to all current ALEC undergraduate students (n=100) and Master of Agricultural and Environmental Education students (n=40) using the departmental listserv regarding the demand for a Ph.D. in ALEC June 20, 2016. Twenty-nine people responded to the survey for a 21% response rate. 76% of respondents (n=22) were likely to seek a Ph.D. program in the next five years. 78% of respondents (n=23) were likely to seek a Ph.D. program from ALEC, UGA, indicated strong demand for the Ph.D. program among current students and recent ALEC graduates.

The same survey was sent to the Georgia Vocational Agriculture Teachers Association (GVATA) listserv June 23, 2016 to assess demand among a primary stakeholder audience.
There are 400 members of GVATA. 84 people responded to the survey for a 21% response rate. 77% of respondents (n=65) were likely to seek a Ph.D. program in the next five years. 60% of respondents (n=50) were likely to seek a Ph.D. program from ALEC, UGA, indicated strong demand for the degree among working professionals. The following table details the responses from these two populations.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response options</th>
<th>Frequency Current Students</th>
<th>Percent Current Students</th>
<th>Frequency GVATA members</th>
<th>Percent GVATA members</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely are you to seek a Ph.D. degree in the next 5 years?</td>
<td>Extremely likely</td>
<td>11</td>
<td>38</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Moderately likely</td>
<td>4</td>
<td>14</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Slightly likely</td>
<td>7</td>
<td>24</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Neither likely nor unlikely</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Slightly unlikely</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderately unlikely</td>
<td>3</td>
<td>10</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Extremely unlikely</td>
<td>2</td>
<td>7</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>29</td>
<td>100%</td>
<td>84</td>
<td>100%</td>
</tr>
<tr>
<td>How likely are you to seek a Ph.D. program from UGA, ALEC?</td>
<td>Extremely likely</td>
<td>10</td>
<td>34</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Moderately likely</td>
<td>10</td>
<td>34</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Slightly likely</td>
<td>3</td>
<td>10</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Neither likely nor unlikely</td>
<td>2</td>
<td>7</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Slightly unlikely</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Moderately unlikely</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Extremely unlikely</td>
<td>2</td>
<td>7</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>29</td>
<td>100%</td>
<td>84</td>
<td>100%</td>
</tr>
<tr>
<td>Which of the following areas would you most likely enroll in?</td>
<td>Agricultural Education</td>
<td>14</td>
<td>50</td>
<td>65</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Agricultural Communication</td>
<td>7</td>
<td>25</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Environmental Education</td>
<td>3</td>
<td>11</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Extension Education - Domestic</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Extension Education - International</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>28</td>
<td>100%</td>
<td>81</td>
<td>100%</td>
</tr>
<tr>
<td>What is the most likely mode for earning your Ph.D. degree?</td>
<td>100% face-to-face on campus</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Online and face-to-face courses</td>
<td>15</td>
<td>54</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>100% of courses online</td>
<td>12</td>
<td>43</td>
<td>62</td>
<td>76</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>28</td>
<td>100%</td>
<td>82</td>
<td>100%</td>
</tr>
<tr>
<td>Would you need a graduate</td>
<td>Yes</td>
<td>10</td>
<td>36</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Maybe</td>
<td>13</td>
<td>46</td>
<td>25</td>
<td>30</td>
</tr>
</tbody>
</table>
Placement of ALEC Ph.D. Holders

In regard to job placement specific to ALEC Ph.D. holders, Dr. Kelsey, ALEC department head, sent a request for information to the professional listserv for the American Association for Agricultural Education on June 20, 2016. The AAAE professional society encompasses the subdisciplines of agricultural education (secondary teacher preparation), leadership education, agricultural communication, and Extension education (domestic and international). AAAE members who earned an ALEC-related Ph.D. between 2010 and 2016 were asked to report their degree focus area, granting institution, and current job placement. Forty individuals responded to the survey.

Respondents received ALEC Ph.D. degrees from Auburn University (n=1), Cornell University (n=1), Iowa State University (n=4); Louisiana State University (n=1); North Carolina State University (n=2); Ohio State University (n=1); Oklahoma State University (n=6); Purdue University (n=1); Texas Tech University (n=4); University of Florida (n=8); University of Missouri, (n=3); Texas A&M University (n=2); Virginia Tech (n=5); and West Virginia University (n=1). One respondent earned an Ed.D. in Agricultural Education from Texas Tech University.

ALEC is a multi-disciplinary degree area. Universities offering an ALEC-related degree have various names for the degree. Respondents reported majoring in Agricultural Leadership,
Education, and Communication (TAMU); Agricultural Communication, Education, and Leadership (Ohio State); Agricultural Education, Communications and Leadership (Oklahoma State); Agricultural Leadership and Community Education (VT); Agricultural Education and Communication (UF); Agricultural Education and Leadership (UM); Agricultural Communications and Education (TTU); Agricultural Education (Auburn, ISU, NCSU); Agriculture and Extension Education (LSU); Education (Cornell University); and Human and Community Development (West Virginia University).

Within the above degrees, respondents reported specializing in: Extension education; environmental education; program planning and evaluation; animal science; online education; and agricultural mechanics.

All respondents reported working in a professional field related to their Ph.D. and shared the following position titles:

- **Department Head**, Agriculture and Home Economics Education, School of Education, Njala University, Sierra Leone, West Africa (n=1)
- **Assistant or Associate professor**, Agricultural Education (Teacher Preparation) (n=15)
- **Assistant professor**, Agricultural Communication (n=7)
- **Assistant professor**, Environmental Education, University of Georgia (n=1)
- **Assistant Professor**, Specialty Livestock/Youth Education Specialist, University of Arkansas Cooperative Extension Service (n=1)
- **Assistant Professor of Science and Agriculture**, University of Minnesota Extension Center for Youth Development (4-H) (n=1)
- **Assistant Professor**, Extension 4-H Youth Specialist, Univ. of North Dakota, Fargo (n=1)
- **Assistant Professor of Agribusiness**, Department of Agricultural Sciences and Engineering Technology, College of Sciences, Sam Houston State University (n=1)
- **Lecturer and Agriscience Education Program Coordinator**, Ohio State University (n=1)
- **4-H Program Specialist for Youth Development**, Iowa State University (n=1)
- **Assessment Postdoctoral Fellow** for the assistant provost of undergraduate education at Virginia Tech (n=1)
- **Assistant Director**, Instructional Technology Services, TAMU (n=1)
- **Director**, Center for Experiential Learning and Career Services, Penn State (n=1)
- **Director**, Equine AS degree program at UMass (n=1)
- **Director**, Special Projects, Texas Tech University School of Law (n=1)
- **Assistant Director**, South Carolina 4-H, Clemson University (n=1)
- **Middle School Principal**, Tulsa, OK (n=1)
- **Secondary Agricultural Education Teacher**, Sonoraville High School, Calhoun, GA (n=1)
- **Secondary Chemistry Teacher**, San Jose, CA (n=1)
- **Program Evaluator** (n=1)

According to Ostriker, Kuh, and Voytuk (2010), 57% of Ph.D. holders in the social and behavioral sciences plan to enter academia and take six years to complete their Ph.D. program. Given the variety and number of professional jobs available to ALEC Ph.D. holders, the demand for graduates is anticipated to be high. The following table displays projected trends in the demand for graduates with a Ph.D. in ALEC.
Job Placement of Recent Ph.D. Graduates in ALEC-related Disciplines

<table>
<thead>
<tr>
<th>Type/Title of Position</th>
<th>Number of Anticipated Position Openings</th>
<th>Average Starting Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant professor of Agricultural Education</td>
<td>5-10 per year nationally</td>
<td>9-month = $68,121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-month = $79,995</td>
</tr>
<tr>
<td>Assistant professor of Agricultural Communication</td>
<td>5-10 per year nationally</td>
<td>9-month = $68,121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-month = $79,995</td>
</tr>
<tr>
<td>Other ALEC-related assistant professors</td>
<td>5-10 per year nationally</td>
<td>9-month = $68,121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-month = $79,995</td>
</tr>
<tr>
<td>Extension specialist</td>
<td>2-5 per year nationally</td>
<td>9-month = $68,121</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-month = $79,995</td>
</tr>
<tr>
<td>Secondary Agriculture Teacher</td>
<td>1,462 new agriculture teachers were hired nationally in 2015 (Foster et al., 2015)</td>
<td>$60,000 to $90,000 depending on school district, years of experience, and degrees held</td>
</tr>
</tbody>
</table>

Salary Estimates for ALEC Ph.D. Holders

Average salaries for ALEC faculty are reported by the American Association for Agricultural Education (Swortzel, 2016). The average salary for a 9-month assistant professor was $68,121 and $79,995 for a 12-month assistant professor in 2015. The average salary for a secondary agriculture teacher with 10 years of experience and a Ph.D. is $82,765 (S. Mitchell, State FFA Staff North Region Director, personal communication June 22, 2016).

National Job Placement Data from the Bureau of Labor Statistics

The US Bureau of Labor Statistics (2016) was consulted to determine demand for various occupations that ALEC Ph.D. holders may qualify for given their training. The following table lists the job title, number of job openings (in thousands) due to growth and replacements over a ten year period (2014-2024), median annual wage, and typical education needed for entry.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Job openings (numbers in thousands)</th>
<th>Median annual wage, 2015*</th>
<th>Education needed for entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>2,586</td>
<td>$115,020</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>Advertising, marketing, promotions, public relations, and sales managers</td>
<td>210</td>
<td>$131,670</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>Media and communication workers</td>
<td>198</td>
<td>$53,220</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>**Media and communication Workers</td>
<td>8,800</td>
<td>$45,220</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>**Multimedia artists and animators</td>
<td>15,900</td>
<td>$63,970</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>** Photographers</td>
<td>34,500</td>
<td>$31,710</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>** Writers and authors</td>
<td>26,100</td>
<td>$60,250</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>Social scientists and related workers</td>
<td>97</td>
<td>$78,520</td>
<td>Doctoral</td>
</tr>
<tr>
<td>Education administrators</td>
<td>185</td>
<td>$90,970</td>
<td>Master’s</td>
</tr>
</tbody>
</table>
One-Step Academic Program Proposal/Approval Form

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Job openings 2012-2022 (numbers in thousands)</th>
<th>Median annual wage, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postsecondary education teachers</td>
<td>190</td>
<td>$56,000</td>
</tr>
<tr>
<td>Postsecondary vocational education teachers</td>
<td>200</td>
<td>$48,900</td>
</tr>
<tr>
<td>Education administrators, elementary and secondary</td>
<td>370</td>
<td>$85,600</td>
</tr>
<tr>
<td>Education administrators, post-secondary</td>
<td>210</td>
<td>$97,800</td>
</tr>
<tr>
<td>Educational, guidance, school, &amp; vocational counselors</td>
<td>320</td>
<td>$56,900</td>
</tr>
<tr>
<td>Middle school teachers, career/tech ed</td>
<td>1,220</td>
<td>$54,600</td>
</tr>
<tr>
<td>Public relations specialist</td>
<td>190</td>
<td>$58,400</td>
</tr>
<tr>
<td>Marketing manager</td>
<td>230</td>
<td>$126,400</td>
</tr>
<tr>
<td>Web developer</td>
<td>140</td>
<td>$73,000</td>
</tr>
</tbody>
</table>

6) **Duplication:** Description of how the program does not present duplication of existing academic offerings in the geographic area and within the system as a whole. If similar programs exist, indicate why these existing programs are not sufficient to address need and demand in the state/institution’s service region and how the proposed program is demonstrably different.

There are no ALEC Ph.D. degrees offered in the state of Georgia. The nearest similar program is University of Florida.

7) **Collaboration:** Is the program in collaboration with another USG Institution, TCSG institution, private college or university, or other entity? **No:**

*Median annual wage data obtained from [http://www.bls.gov/oes/current/oes_nat.htm](http://www.bls.gov/oes/current/oes_nat.htm) #11-0000

**Data provided by National Center for O*NET Development (2016).**

**Georgia’s Hot Careers to 2022**

Georgia Department of Labor (2016) listed several high demand occupations ALEC Ph.D. holders are qualified to fill. The following table details selected occupations relevant to ALEC Ph.D. holders.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Job openings 2012-2022 (numbers in thousands)</th>
<th>Median annual wage, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education, training, and library occupations</td>
<td>2,661</td>
<td>$64,450</td>
</tr>
<tr>
<td>Community and social service occupations</td>
<td>792</td>
<td>$53,660</td>
</tr>
<tr>
<td><strong>Postsecondary agricultural sciences teachers</strong></td>
<td>2,900</td>
<td>$90,780</td>
</tr>
<tr>
<td>Post-secondary social science teachers</td>
<td>550</td>
<td>$84,180</td>
</tr>
<tr>
<td>Post-secondary vocational education teachers</td>
<td>33</td>
<td>$54,260</td>
</tr>
<tr>
<td>Secondary agriculture school teachers with a Ph.D.</td>
<td></td>
<td>$82,765</td>
</tr>
<tr>
<td>Secondary school teachers</td>
<td>303</td>
<td>$60,270</td>
</tr>
<tr>
<td><strong>Cooperative Extension - Farm and Home Management Advisors</strong></td>
<td>2,200</td>
<td>$49,190</td>
</tr>
</tbody>
</table>
8) **Forecast:** If this program was not listed on your academic forecast for the 2016 – 2017 academic year, provide an explanation concerning why it was not forecasted, but is submitted at this time.

The Ph.D. program has been a priority for the ALEC department for at least six years.

9) **Admission Criteria:** List the admission criteria for the academic program.
   a) Include all required minima scores on standardized tests.
   b) Include the required grade point average requirement.

ALEC Doctoral applicants must complete a Master’s degree from an accredited university prior to being admitted into the Ph.D. program. Students seeking to become agriculture teacher educators (AGED focus area) must have a minimum of three years of professional work experience teaching agriculture at the middle or secondary level before being admitted.

Students must meet the minimum requirements for GPA and GRE scores of the UGA Graduate School to be admitted. Doctoral students will be admitted during the fall and spring semesters (beginning fall, 2017) following application review and voting by the Graduate Education Committee (chaired by the Graduate Coordinator) within the ALEC department.

10) **Curriculum** (See the form below this series of questions and please complete.)
   a) List the entire course of study required to complete the academic program.
      Include the course prefixes, course numbers, course titles, and credit hour requirement for each course. Indicate the word “new” beside new courses.
   b) Provide a sample program of study that includes the course prefixes, course numbers, and course titles and credit hour requirement for each course. Indicate the word “new” beside new courses.
   c) List and reference all course prerequisites for required and elective courses within the program. Include the course prefixes, numbers, titles, and credit hour requirements.
   d) State the total number of credit hours required to complete the program but do not include orientation, freshman year experience, physical education, or health and wellness courses per the Academic and Student Affairs Handbook, Section 2.3.1.

**Program of Study**

All Ph.D. students will complete the common core (12 hours) and select one of four focus areas (12 hours). Students will also complete quantitative and qualitative research methods courses (12 hours), three hours of dissertation writing, and six hours of dissertation research for a total of 45 hours required to complete the Ph.D. program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Titles and Descriptions</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALDR 8100*</td>
<td>Teaching and Learning Theories in Agricultural Leadership, Education, and Communication.</td>
<td>3</td>
<td>ALDR 8200 or ALDR</td>
</tr>
</tbody>
</table>
## ONE-STEP ACADEMIC PROGRAM PROPOSAL

Contemporary and foundational theory and research on teaching and learning processes with emphasis on applications in agricultural leadership, education, and communication. Emphasis on behavioral, social cognitive, cognitive, information processing, brain-based, constructivist, developmental, motivational, and transformational theories as they apply to contemporary agricultural leadership, education, and communication settings.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALDR 8030*</td>
<td>Diffusion of Innovations.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>ALDR 7070*</td>
<td>Program Development for Agricultural Leaders.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>ALDR 7400*</td>
<td>Communication in Agricultural and Environmental Sci.</td>
<td>3</td>
<td>None</td>
</tr>
</tbody>
</table>

### Agricultural Communication Focus Area (12 Hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADPR 7760*</td>
<td>Digital and Social Communication Strategies.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>COMM 8520*</td>
<td>Seminar in Communication and Social Influence.</td>
<td>3</td>
<td>None</td>
</tr>
</tbody>
</table>
# ONE-STEP ACADEMIC PROGRAM PROPOSAL

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGCM 8100#</td>
<td>Culture-Centered Communication &amp; Engagement. Under development.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>AGCM 7600*</td>
<td>Digital Storytelling in Agricultural &amp; Environmental Science.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Theoretical underpinnings associated with using technology to communicate with the public about global issues related to agricultural and environmental sciences. Students will engage in research related to using digital storytelling to analyze the impact this form of communication has on consumer thoughts and opinions related to agricultural and environmental sciences.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Agricultural Education Focus Area (12 Hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGED 7020*</td>
<td>Methods of Instruction in Agricultural Education. Instructional procedures, materials, and evaluation techniques in agricultural education.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>ALDR 7350</td>
<td>Team, and Organizational Development. An interdisciplinary course on the understanding of groups, teams, and organizations related to agricultural organizations. Theories of group dynamics and applications of problem-solving skills. Team building skills are studied with practical applications. Profit and non-profit agricultural organizations are used as case studies.</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>ALDR 8300*</td>
<td>History and Philosophy of Agricultural Education. Major historical people, events, policy, and legislation that have contributed to the development of agricultural education organizations and practice in the United States.</td>
<td>3</td>
<td>ALDR 8200 or ALDR 8200E</td>
</tr>
<tr>
<td>ALDR 8400*</td>
<td>Advanced Program Eval./Data Analysis. Designed for students who have previously taken either Research Methods in Agricultural Education or introductory Program Evaluation and who wish to strengthen their skills in quantitative data collection, analysis, and interpretation. Topics include questionnaire development, reliability and validity, and inferential statistics, including t-tests, analysis of variance, correlation, and regression.</td>
<td>3</td>
<td>ALDR 7070 or ALDR 7020E or ALDR 8200</td>
</tr>
</tbody>
</table>

### Environmental Education Focus Area (12 Hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANR 6444S*</td>
<td>Foundations of Environmental Education. Foundational knowledge and applied service-learning experiences in the field of environmental education, including goals, theory, practice and history of environmental education and the competencies necessary to be a well-prepared environmental educator.</td>
<td>3</td>
<td>POD</td>
</tr>
<tr>
<td>FANR</td>
<td>The Science of Sustainability.</td>
<td>3</td>
<td>None</td>
</tr>
</tbody>
</table>
OUTLINE FOR AN
INTERDISCIPLINARY CERTIFICATE PROGRAM

I. Basic Information

1. Institution ______________ UGA ___________ Date ___________ 3/30/2016 ___________

2. School/College ______ College of Public Health

3. Department/Division ______ Epidemiology & Biostatistics

4. Certificate Title (as it will appear in the Bulletin) __Graduate Certificate in Infectious Disease Epidemiology__

5. Level (undergraduate or graduate) __Graduate__________

6. Proposed starting date for program ___________ Once approved ___________

7. Abstract of the program for the University Council's agenda:

   Provide a one or two page summary of the proposed program that includes an overview and highlights of the
response to the criteria in Section II.

This certificate will give currently enrolled students in the College of Public Health and other units at UGA
who want to focus on the area of infectious disease epidemiology a formal recognition of their
concentration in that area in the form of a certificate.

To earn the certificate, students have to take 15 credits of graduate coursework in courses that focus on
different aspects of infectious diseases and epidemiology, especially as it relates to infectious diseases
affecting human populations. Section 4 below describes the course requirements in more detail.

8. Submit 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 from Fred Quinn (Chair of the Infectious Disease department in the Vet School), Don
Harn, Director of the Faculty of Infectious Diseases, and Vanessa Ezewnwa, director of the Infectious Disease
Ecology Across Scales PhD program in Ecology, and member of the initial committee overseeing the
certificate (see below) are attached.

SIGNATURES:

_________________________________________  _______________________________________
Department Head                                           Dean of School/College
II. Response to the Criteria for All Programs

The criteria that proposed new programs are expected to meet in order to be approved and implemented within the University of Georgia are listed below. Please provide sufficient explanation as to how the proposed program satisfies each criterion.

1. The purpose and educational objectives of the program must be clearly stated, and must be consistent with the role, scope, and long-range development plan of the institution.

   A. State the purpose and educational objectives of the program and explain how the program complements the role, scope, and long-range development plan of the institution.

   The purpose of this certificate is to provide students already enrolled at UGA, who have a strong interest in infectious diseases at the human population level, a program of study and formal recognition in this area.

   Infectious diseases continue to remain an important threat to public health. Recent outbreaks of Ebola, Zika and other diseases vividly illustrate the need to be well prepared against infectious disease threats. As such, students who can demonstrate strong training in the area of infectious diseases are and will remain in demand at organizations such as local and state health departments, the CDC, WHO, and many other institutions, both public and private, that deal with public health. By earning this certificate, our students will be able to explicitly demonstrate infectious disease related training and skills, which will make them more competitive.

   UGA has a recognized strength in the area of infectious disease research, ranging all the way from the bench sciences (microbiology, virology, immunology, etc.) to health on the human and animal population level (epidemiology, ecology, veterinary population health, etc.). This certificate will further strengthen the department of Epidemiology and Biostatistics, the College of Public Health, and UGAs reputation in the area of infectious diseases.

   B. Describe the interdisciplinary nature of the proposed program. Which school(s) or college(s) and department(s) will be involved in the development of the program? Describe the expected stage of development for this program within five years.

   While the certificate will be housed in and administered by the Department of Epidemiology and Biostatistics in the College of Public Health, some of courses that can be counted toward earning this certificate are offered through other departments and colleges (see below). As such, the certificate crosses disciplines.

2. There must be a demonstrated and well-documented need for the program.

   A. Explain why this program is necessary.

   UGA overall has a well recognized strength in infectious disease research. The department of Epidemiology & Biostatistics also has a recognized strength in the area of infectious diseases. Many students in our department, college and across campus are interested in pursuing studies in the area of infectious diseases at the population level. Currently, there is no formal way for students to concentrate in this area and receive acknowledgement of such a concentration. This certificate would provide formal recognition to students specializing in infectious diseases at the population level.

   B. In addition, provide the following information:
      1. Semester/Year of Program Initiation
      2. Semester/Year Full Implementation of Program
      3. Semester/Year First Certificates will be awarded
      4. Annual Number of Graduates expected (once the program is established)
      5. Projected Future Trends for number of students enrolled in the program
We will implement this certificate program once it is fully approved. We expect that for most students, it will take about 2 years - as part of their regular graduate training - to take the courses required for the certificate. Since students can enter the certificate at any time, i.e. either before they have taken any or the required courses to fulfill the certificate, or after they have already taken some of those courses, we expect to award the first certificates within about a year of its implementation.

We expect to have around 5 students in the program during the first years. As increasing awareness of the program spreads, the number of PhD students in the College of Public Health increases, and other increases in infectious disease graduate training (e.g. the NSF funded IDEAS graduate training program housed in Ecology, which has several Epidemiology faculty as participants), we expect between 5-10 students to enroll each year. Overall, we expect a total of 10-20 students to be enrolled in the certificate at any time.

While for some students the - to be proposed - IDEAS certificate might be more suitable, these certificates will be significantly different such that enrollment of students in one or the other will only be slightly affected. Overall, we believe both this certificate and the IDEAS certificate will further highlight the training in infectious diseases available at UGA, and such having both certificates will have a positive net impact on the enrollment into both certificate programs.

3. There must be substantial evidence that student demand for the program will be sufficient to sustain reasonable enrollments in the program.

A. Provide documentation of the student interest in the program, and define what a reasonable level of enrollment is for a program of this type. Provide evidence that student demand will be sufficient to sustain reasonable enrollments.

Some of the following suggest that there is current and potential future student interest:

- Across UGA, infectious disease research is a recognized strength, and many graduate students in different colleges and schools, such as Public Health, Veterinary Medicine, Ecology, and others are engaged in infectious disease research and coursework.
- Every year during the fall semester, our department offers EPID 8500, Infectious Disease Epidemiology, and the usual enrollment is around 30 students. We also regularly offer other specialized graduate courses focused on infectious diseases within our department, which usually have enrollment of 10-20 students.
- A significant percentage of students who take our infectious disease epidemiology graduate classes are not graduate students in the College of Public Health and likely interested in earning recognition/a certificate in infectious disease epidemiology.
- One faculty member in our department, Dr. Whalen, is the PI of an NIH training grant in infectious disease epidemiology which trains 2 PhD epidemiology students a year. These students are very likely to participate in this certificate program.
- Dr. Ezenwa in Ecology is the PI on an NSF funded graduate program on infectious diseases (IDEAS) that will fund and train at least 6 students per year. Some of the students in this program are also likely candidates for this certificate.

To further quantify interest, we surveyed our existing MPH Epidemiology students. The survey went to 34 students asking them if they were potentially interested in earning an infectious disease certificate in addition to their MPH degree. 20 students responded to the survey, 19 indicated they would be interested, 1 student indicated no interest.

B. In addition, provide the following information:

To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

Since the main target group for this certificate program are current UGA graduate students, we expect the proportion of minority students to mirror that of the graduate student body among the students most likely to take this program (students in the Colleges of Public Health and Veterinary Medicine, School of Ecology, as well as other units across campus.)
4. *The design and curriculum of the program must be consistent with appropriate disciplinary standards and accepted practice.*

Provide the following information:

A. Present a detailed curriculum outline of the program listing specific course requirements (to include programs of study, course prefix, number, and title).

The program will consist of the following courses and requirements:

- Minimum 15 total graduate level credits

- Pre-requisites (see also #10 below):
  - Enrolled in a UGA graduate program of study
  - EPID 7010 & BIOS 7010 or equivalent knowledge (as determined by the certificate coordinator when students apply)
  - Good academic standing
  - Approval by major professor/advisor of the student

- 1 required course:
  - EPID 8500 - Infectious Disease Epidemiology

- 2 courses related to infectious disease epidemiology, selected from the following options:
  - EPID 8510 - Dynamical Systems Approach to Infectious Disease Epidemiology
  - EPID 8515 - Introduction to Infectious Disease Modeling
  - EPID 8560 or 8060 - Modern Applied (Infectious Disease) Data Analysis
  - EPID 8550 - HIV and AIDS: Global Issues and Perspectives
  - EPID 8200 - Molecular Epidemiology

- 2 courses broadly related to infectious disease epidemiology. The following is a listing of suitable elective courses we have currently identified.
  - EPID/BIOS 8150 - Spatial Epidemiology
  - EPID 8520 - Food Safety Epidemiology
  - EPID/EHSC 8540 - Microbial Quantitative Risk Assessment
  - EHSC 7310 - Public Health Microbiology
  - ECOL(BIOL) 6150 - Population Biology of Infectious Diseases
  - ECOL 8930 - Ecology and Evolution of Infectious Diseases
  - IDIS 8010 - Advanced Studies in Infectious Diseases
  - IDIS 8020 - Vaccines: From Design to Development
  - IDIS 8030 - Parasites and Parasitic Diseases
  - IDIS 8050 - Special Topics in Ecology and Evolution of Infectious Diseases

The list of courses will be updated as new appropriate courses are identified or become newly available. To be added to the list of courses, the new course must be deemed applicable by the certificate coordinator and the certificate review committee (see 5A).

Courses not listed can be counted if the certificate coordinator considers the course in question is appropriate for the purpose of the certificate.
Courses can be taken in any order, subject to requirements and prerequisites placed on individual courses by their instructors/departments.

To receive the certificate, students must receive a grade of B- or better in each course, and the average grade for all courses must be a B or better.

If students have taken any of the courses that can be counted toward the certificate before deciding to formally entering the certificate program, these course credits will be counted toward the certificate (provided the grade is a B- or better).

B. Identify which aspects of the proposed curriculum already exist and which constitute new courses.

All courses currently exist and have been offered in the past.

C. Identify model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.

All courses in this certificate are approved UGA graduate level courses. The prerequisites and required courses ensure that students pursuing this certificate receive a solid foundation in infectious disease epidemiology, the elective courses ensure a good mix of breadth and depth.

D. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

The certificate is fully housed within the College of Public Health and is therefore subject to assessment by the Council on Education for Public Health (CEPH), the college’s accreditation body, as part of the college’s regular accreditation process.

5. Faculty resources must be adequate to support an effective program.

A. Define the size, experience, and specializations of the full-time faculty needed to support an effective program. Identify the extent to which such faculty resources currently exist at the institution, and what additions to the faculty will be needed to fully implement the program. Specify how many full-time faculty will provide direct instructional support to this program.

The certificate consists entirely of courses already offered on a regular basis. As such, the only extra support for the program will need to be a certificate coordinator. This person will be a faculty member within the Department of Epidemiology and Biostatistics. Since we don’t anticipate this to be a large time commitment, it will be done by a faculty as part of their regular service activity.

The chair of the department of Epidemiology and Biostatistics appoints the certificate coordinator.

In addition to the certificate coordinator, there will be a 3 person certificate committee helping to oversee the certificate, approve new courses, and mediate if there any disagreements.
between the certificate coordinator and students. The members of this committee will be the
department chair in epidemiology and biostatistics, the faculty in the college of public health
holding the “Ernest Corn Professor of Infectious Disease Epidemiology” Chair (currently Dr.
Chris Whalen), and a third faculty selected by the department chair from outside the
department with expertise in infectious disease.

The work load for the committee is anticipated to be minor and will not require any additional
resources.

B. In addition, for each faculty member directly involved in this program, list:

1) Name, rank, degrees, academic specialty, educational background
2) Special qualifications related to this program
3) Relevant professional and scholarly activity for past five years
4) Projected responsibility in this program and required adjustments in
current assignments

We anticipate that Dr. Handel (Associate Professor in Epidemiology & Biostatistics) will serve
as the inaugural certificate coordinator.

Dr. Cordero, Professor in Epidemiology & Biostatistics, is the department chair and will serve
on the certificate committee.
Dr. Chris Whalen, the Ernest Corn Professor of Infectious Disease Epidemiology will also
serve on the certificate committee.
Dr. Vanessa Ezenva, Associate Professor of Ecology and Infectious Diseases, and director of
the Infectious Disease Ecology Across Scales PhD program in Ecology, has been asked and
agreed to serve as the inaugural faculty outside the department.

Other faculty are only involved inasmuch as they teach courses that can be counted toward the
certificate. However, these courses are offered independent of the certificate and as such, those
faculty have no direct involvement.

6. Library, computer, and other instructional resources must be sufficient to adequately support
   the program.

A. Describe the available library resources for this program and the degree to which they are
   adequate to support an effective program. Identify the ways and the extent to which
   library resources need to be improved to adequately support this program.

B. Likewise, document the extent to which there is sufficient computer equipment,
   instructional equipment, laboratory equipment, research support resources, etc. available
   to adequately support this program. Specify improvements needed in these support
   areas.

Since the program targets already enrolled students at UGA and consists of already existing
courses, no other resources will be needed.

7. Physical facilities necessary to fully implement the program must be available.

Describe the building, classroom, laboratory, and office space that will be available for
this program and evaluate their adequacy to fully support an effective program. Plans for
allocating, remodeling, or acquiring additional space to support the program's full
implementation of the program should also be identified.

Since the program targets already enrolled students at UGA and consists of already existing
courses, no other resources will be needed.
8. The expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program must be identified.

A. Detailed funding to initiate the program and subsequent annual additions required to fully implement the program are needed below. Estimates should be based upon funding needed to develop an effective and successful program and not upon the minimal investment required to mount and sustain a potentially marginal program.

<table>
<thead>
<tr>
<th>(1) Personnel</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Operating Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Capital Outlays</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Library Acquisitions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since the program targets already enrolled students at UGA and consists of already existing courses, no further financial resources will be needed. We do not expect that this certificate leads to any major changes in course enrollments. Most students who plan to earn this certificate are already interested in infectious disease epidemiology and therefore would take many of the courses listed as applicable for the certificate anyway. We expect some students might be enticed by this certificate to take a few of the courses that lead to the certificate that they would not take otherwise. As all the courses are upper level graduate courses, additional enrollment of a few students in the different courses should not have any impact on the classes with regards to increased need for resources.

B. Indicate the extent of student support (fellowships, assistantships, scholarships, etc.) available for this program, and evaluate the adequacy of this support. Assistantships funded from institutional (as opposed to sponsored) funds should be included in this funding analysis as well.

Students will not receive any additional support through this certificate program beyond any support they already receive as part of their regular program of study.

9. Commitments of financial support needed to initiate and fully develop the program must be secured.

A. Identify the sources of additional funds needed to support the program and the probability of their availability.

B. It is particularly important to include in this response the long-range plans for additional or expanded facilities necessary to support an effective program. Evaluate the timing and likelihood of such capital funding.

Since the program targets already enrolled students at UGA and consists of already existing courses, no further financial resources will be needed.

10. Provisions must be made for appropriate administration of the program within the institution and for the admission to and retention of students in the program in keeping with accepted practice.

Describe and evaluate the structure for the administration of the program. Explain the degree to which that structure is in keeping with good practice and accepted standards. Similarly, explain 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.
Students need to fulfill the following requirements to be eligible for the certificate program:

- Currently enrolled as degree-seeking graduate students at UGA and in good academic standing.
  - We expect the majority of students to be graduate students.
  - Undergraduate students, if they are at the same time enrolled as dual degree students in a graduate program (e.g., some of our dual BS/MPH students), can pursue the certificate, subject to their ability to fulfill the prerequisites and be able to take the required courses. Given the requirements of the certificate, we expect it to appeal to only a few undergraduate students.

- Evidence that they satisfy the prerequisites for the certificate (knowledge of material covered in EPID and BIOS 7010).

- Plan of study, outlining the sequence and times at which they anticipate taking the courses for the certificate.

- Written permission (which can be in the form of an email) from the advisor of their main program of study (either their major advisor or their graduate coordinator) allowing them to pursue the certificate.

Students can apply to participate in the certificate at any point in their study as long as they satisfy above requirements and have at least one semester remaining before graduation. Students will fill out an application form and plan of study, and provide additional information (e.g., proof that they have taken EPID or BIOS 7010 or equivalent and permission from their advisor). The application material is reviewed by the certificate coordinator and other material requested as needed.

If the student does not have formal proof of knowledge of EPID/BIOS 7010, the certificate coordinator will perform a short oral exam to probe student understanding of this material.

The certificate coordinator decides if all criteria are fulfilled and if the student presented a feasible plan of study. If so, students will be admitted and informed of their admission in writing (by email).

Students who are enrolled in the certificate will have to provide the certificate coordinator with an update on their plan of study each semester. This update can be provided by email.

Changes to the plan of study, such as a change in elective courses, must be approved by the certificate coordinator.

If, based on the reports provided by the student, the certificate coordinator finds that the student does not follow their agreed upon plan of study and does not make proper progress toward the certificate, there will be a meeting between student and certificate coordinator (preferably in person, online video or phone can be a viable alternative if necessary). Student and certificate coordinator discuss specific steps to remedy the situation. The certificate coordinator, in discussion with the student, comes up with a specific plan of action to ensure the student continues to make adequate progress. The main advisor of the student is informed of the outcome of the meeting. If the student fails to follow the plan of action and continues to show lack of progress, the certificate coordinator will inform the student that they are dropped from the certificate program.

Students can leave the certificate by informing the certificate coordinator and their major professor that they do not want to further pursue the certificate.

The certificate is fulfilled and granted once the student has completed the certificate requirements as stated in section 4A.
OUTLINE FOR AN
INTERDISCIPLINARY CERTIFICATE PROGRAM

I. Basic Information

1. Institution _______________ UGA _______________ Date ___________ 3/30/2016 _______________

2. School/College _______ College of Public Health ________________

3. Department/Division _______ Epidemiology & Biostatistics ________________

4. Certificate Title (as it will appear in the Bulletin) _Graduate Certificate in Infectious Disease Epidemiology_

5. Level (undergraduate or graduate) __________ Graduate ________________

6. Proposed starting date for program ______________ Once approved ______________

7. Abstract of the program for the University Council’s agenda:

Provide a one or two page summary of the proposed program that includes an overview and highlights of the response to the criteria in Section II.

This certificate will give currently enrolled students in the College of Public Health and other units at UGA who want to focus on the area of infectious disease epidemiology a formal recognition of their concentration in that area in the form of a certificate.

To earn the certificate, students have to take 15 credits of graduate coursework in courses that focus on different aspects of infectious diseases and epidemiology, especially as it relates to infectious diseases affecting human populations. Section 4 below describes the course requirements in more detail.

8. Submit 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 from Fred Quinn (Chair of the Infectious Disease department in the Vet School), Don Ham, Director of the Faculty of Infectious Diseases, and Vanessa Ezenwa, director of the Infectious Disease Ecology Across Scales PhD program in Ecology, and member of the initial committee overseeing the certificate (see below) are attached.

SIGNATURES:

_____________________________ ________________________________
Department Head Dean of School/College
II. Response to the Criteria for All Programs

The criteria that proposed new programs are expected to meet in order to be approved and implemented within the University of Georgia are listed below. Please provide sufficient explanation as to how the proposed program satisfies each criterion.

1. The purpose and educational objectives of the program must be clearly stated, and must be consistent with the role, scope, and long-range development plan of the institution.

   A. State the purpose and educational objectives of the program and explain how the program complements the role, scope, and long-range development plan of the institution.

   The purpose of this certificate is to provide students already enrolled at UGA, who have a strong interest in infectious diseases at the human population level, a program of study and formal recognition in this area. Infectious diseases continue to remain an important threat to public health. Recent outbreaks of Ebola, Zika and other diseases vividly illustrate the need to be well prepared against infectious disease threats. As such, students who can demonstrate strong training in the area of infectious diseases are and will remain in demand at organizations such as local and state health departments, the CDC, WHO, and many other institutions, both public and private, that deal with public health. By earning this certificate, our students will be able to explicitly demonstrate infectious disease related training and skills, which will make them more competitive.

   UGA has a recognized strength in the area of infectious disease research, ranging all the way from the bench sciences (microbiology, virology, immunology, etc.) to health on the human and animal population level (epidemiology, ecology, veterinary population health, etc.). This certificate will further strengthen the department of Epidemiology and Biostatistics, the College of Public Health, and UGA's reputation in the area of infectious diseases.

   B. Describe the interdisciplinary nature of the proposed program. Which school(s) or college(s) and department(s) will be involved in the development of the program? Describe the expected stage of development for this program within five years.

   While the certificate will be housed in and administered by the Department of Epidemiology and Biostatistics in the College of Public Health, some of courses that can be counted toward earning this certificate are offered through other departments and colleges (see below). As such, the certificate crosses disciplines.

2. There must be a demonstrated and well-documented need for the program.

   A. Explain why this program is necessary.

   UGA overall has a well recognized strength in infectious disease research. The department of Epidemiology & Biostatistics also has a recognized strength in the area of infectious diseases. Many students in our department, college and across campus are interested in pursuing studies in the area of infectious diseases at the population level. Currently, there is no formal way for students to concentrate in this area and receive acknowledgement of such a concentration. This certificate would provide formal recognition to students specializing in infectious diseases at the population level.

   B. In addition, provide the following information:
   1. Semester/Year of Program Initiation
   2. Semester/Year Full Implementation of Program
   3. Semester/Year First Certificates will be awarded
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3. There must be substantial evidence that student demand for the program will be sufficient to sustain reasonable enrollments in the program.

A. Provide documentation of the student interest in the program, and define what a reasonable level of enrollment is for a program of this type. Provide evidence that student demand will be sufficient to sustain reasonable enrollments.

Some of the following suggest that there is current and potential future student interest:
- Across UGA, infectious disease research is a recognized strength, and many graduate students in different colleges and schools, such as Public Health, Veterinary Medicine, Ecology, and others are engaged in infectious disease research and coursework.
- Every year during the fall semester, our department offers EPID 8500, Infectious Disease Epidemiology, and the usual enrollment is around 30 students. We also regularly offer other specialized graduate courses focused on infectious diseases within our department, which usually have enrollment of 10-20 students.
- A significant percentage of students who take our infectious disease epidemiology graduate classes are not graduate students in the College of Public Health and likely interested in earning recognition/a certificate in infectious disease epidemiology.
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To further quantify interest, we surveyed our existing MPH Epidemiology students. The survey went to 34 students asking them if they were potentially interested in earning and infectious disease certificate in addition to their MPH degree. 20 students responded to the survey, 19 indicated they would be interested, 1 student indicated no interest.

B. In addition, provide the following information:

To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

Since the main target group for this certificate program are current UGA graduate students, we expect the proportion of minority students to mirror that of the graduate student body among the students most likely to take this program (students in the Colleges of Public Health and Veterinary Medicine, School of Ecology, as well as other units across campus.)
4. The design and curriculum of the program must be consistent with appropriate disciplinary standards and accepted practice.

Provide the following information:

A. Present a detailed curriculum outline of the program listing specific course requirements (to include programs of study, course prefix, number, and title).

The program will consist of the following courses and requirements:

- Minimum 15 total graduate level credits

- Pre-requisites (see also #10 below):
  - Enrolled in a UGA graduate program of study
  - EPID 7010 & BIOS 7010 or equivalent knowledge (as determined by the certificate coordinator when students apply)
  - Good academic standing
  - Approval by major professor/advisor of the student

- 1 required course:
  - EPID 8500 – Infectious Disease Epidemiology

- 2 courses related to infectious disease epidemiology, selected from the following options:
  - EPID 8510 – Dynamical Systems Approach to Infectious Disease Epidemiology
  - EPID 8515 – Introduction to Infectious Disease Modeling
  - EPID 8560 or 8060 – Modern Applied (Infectious Disease) Data Analysis
  - EPID 8550 – HIV and AIDS: Global Issues and Perspectives
  - EPID 8200 – Molecular Epidemiology

- 2 courses broadly related to infectious disease epidemiology. The following is a listing of suitable elective courses we have currently identified.
  - EPID/BIOS 8150 – Spatial Epidemiology
  - EPID 8520 - Food Safety Epidemiology
  - EPID/EHSC 8540 - Microbial Quantitative Risk Assessment
  - EHSC 7310 - Public Health Microbiology
  - ECOL(BIOL) 6150 - Population Biology of Infectious Diseases
  - ECOL 8930 - Ecology and Evolution of Infectious Diseases
  - IDIS 8010 - Advanced Studies in Infectious Diseases
  - IDIS 8020 - Vaccines: From Design to Development
  - IDIS 8030 - Parasites and Parasitic Diseases
  - IDIS 8050 - Special Topics in Ecology and Evolution of Infectious Diseases

The list of courses will be updated as new appropriate courses are identified or become newly available. To be added to the list of courses, the new course must be deemed applicable by the certificate coordinator and the certificate review committee (see 5A).

Courses not listed can be counted if the certificate coordinator considers the course in question is appropriate for the purpose of the certificate.
• Courses can be taken in any order, subject to requirements and prerequisites placed on individual courses by their instructors/departments.

• To receive the certificate, students must receive a grade of B- or better in each course, and the average grade for all courses must be a B or better.

• If students have taken any of the courses that can be counted toward the certificate before deciding to formally entering the certificate program, these course credits will be counted toward the certificate (provided the grade is a B- or better).

B. Identify which aspects of the proposed curriculum already exist and which constitute new courses.

All courses currently exist and have been offered in the past.

C. Identify model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.

All courses in this certificate are approved UGA graduate level courses. The prerequisites and required courses ensure that students pursuing this certificate receive a solid foundation in infectious disease epidemiology, the elective courses ensure a good mix of breadth and depth.

D. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

The certificate is fully housed within the College of Public Health and is therefore subject to assessment by the Council on Education for Public Health (CEPH), the college's accreditation body, as part of the college's regular accreditation process.

5. Faculty resources must be adequate to support an effective program.

A. Define the size, experience, and specializations of the full-time faculty needed to support an effective program. Identify the extent to which such faculty resources currently exist at the institution, and what additions to the faculty will be needed to fully implement the program. Specify how many full-time faculty will provide direct instructional support to this program.

The certificate consists entirely of courses already offered on a regular basis. As such, the only extra support for the program will need to be a certificate coordinator. This person will be a faculty member within the Department of Epidemiology and Biostatistics. Since we don't anticipate this to be a large time commitment, it will be done by a faculty as part of their regular service activity.

The chair of the department of Epidemiology and Biostatistics appoints the certificate coordinator.

In addition to the certificate coordinator, there will be a 3 person certificate committee helping to oversee the certificate, approve new courses, and mediate if there any disagreements
between the certificate coordinator and students. The members of this committee will be the department chair in epidemiology and biostatistics, the faculty in the college of public health holding the “Ernest Cohn Professor of Infectious Disease Epidemiology” Chair (currently Dr. Chris Whalen), and a third faculty selected by the department chair from outside the department with expertise in infectious disease.

The work load for the committee is anticipated to be minor and will not require any additional resources.

B. In addition, for each faculty member directly involved in this program, list:

1) Name, rank, degrees, academic specialty, educational background
2) Special qualifications related to this program
3) Relevant professional and scholarly activity for past five years
4) Projected responsibility in this program and required adjustments in current assignments

We anticipate that Dr. Handel (Associate Professor in Epidemiology & Biostatistics) will serve as the inaugural certificate coordinator.

Dr. Cordero, Professor in Epidemiology & Biostatistics, is the department chair and will serve on the certificate committee.

Dr. Chris Whalen, the Ernest Cohn Professor of Infectious Disease Epidemiology will also serve on the certificate committee.

Dr. Vanessa Ezenwa, Associate Professor of Ecology and Infectious Diseases, and director of the Infectious Disease Ecology Across Scales PhD program in Ecology, has been asked and agreed to serve as the inaugural faculty outside the department.

Other faculty are only involved inasmuch as they teach courses that can be counted toward the certificate. However, these courses are offered independent of the certificate and as such, those faculty have no direct involvement.

6. Library, computer, and other instructional resources must be sufficient to adequately support the program.

A. Describe the available library resources for this program and the degree to which they are adequate to support an effective program. Identify the ways and the extent to which library resources need to be improved to adequately support this program.

B. Likewise, document the extent to which there is sufficient computer equipment, instructional equipment, laboratory equipment, research support resources, etc. available to adequately support this program. Specify improvements needed in these support areas.

Since the program targets already enrolled students at UGA and consists of already existing courses, no other resources will be needed.

7. Physical facilities necessary to fully implement the program must be available.

Describe the building, classroom, laboratory, and office space that will be available for this program and evaluate their adequacy to fully support an effective program. Plans for allocating, remodeling, or acquiring additional space to support the program’s full implementation of the program should also be identified.

Since the program targets already enrolled students at UGA and consists of already existing courses, no other resources will be needed.
8. The expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program must be identified.

A. Detailed funding to initiate the program and subsequent annual additions required to fully implement the program are needed below. Estimates should be based upon funding needed to develop an effective and successful program and not upon the minimal investment required to mount and sustain a potentially marginal program.

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Since the program targets already enrolled students at UGA and consists of already existing courses, no further financial resources will be needed. We do not expect that this certificate leads to any major changes in course enrollments. Most students who plan to earn this certificate are already interested in infectious disease epidemiology and therefore would take many of the courses listed as applicable for the certificate anyway. We expect some students might be enticed by this certificate to take a few of the courses that lead to the certificate that they would not take otherwise. As all the courses are upper level graduate courses, additional enrollment of a few students in the different courses should not have any impact on the classes with regards to increased need for resources.

B. Indicate the extent of student support (fellowships, assistantships, scholarships, etc.) available for this program, and evaluate the adequacy of this support. Assistantships funded from institutional (as opposed to sponsored) funds should be included in this funding analysis as well.

Students will not receive any additional support through this certificate program beyond any support they already receive as part of their regular program of study.

9. Commitments of financial support needed to initiate and fully develop the program must be secured.

A. Identify the sources of additional funds needed to support the program and the probability of their availability.

B. It is particularly important to include in this response the long-range plans for additional or expanded facilities necessary to support an effective program. Evaluate the timing and likelihood of such capital funding.

Since the program targets already enrolled students at UGA and consists of already existing courses, no further financial resources will be needed.

10. Provisions must be made for appropriate administration of the program within the institution and for the admission to and retention of students in the program in keeping with accepted practice.

Describe and evaluate the structure for the administration of the program. Explain the degree to which that structure is in keeping with good practice and accepted standards. Similarly, explain 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.
Students need to fulfill the following requirements to be eligible for the certificate program:

- Currently enrolled as degree-seeking graduate students at UGA and in good academic standing.
  - We expect the majority of students to be graduate students.
  - Undergraduate students, if they are at the same time enrolled as dual degree students in a graduate program (e.g., some of our dual BS/MPH students), can pursue the certificate, subject to their ability to fulfill the prerequisites and be able to take the required courses. Given the requirements of the certificate, we expect it to appeal to only a few undergraduate students.
- Evidence that they satisfy the prerequisites for the certificate (knowledge of material covered in EPID and BIOS 7010).
- Plan of study, outlining the sequence and times at which they anticipate taking the courses for the certificate.
- Written permission (which can be in the form of an email) from the advisor of their main program of study (either their major advisor or their graduate coordinator) allowing them to pursue the certificate.

Students can apply to participate in the certificate at any point in their study as long as they satisfy above requirements and have at least one semester remaining before graduation. Students will fill out an application form and plan of study, and provide additional information (e.g., proof that they have taken EPID or BIOS 7010 or equivalent and permission from their advisor). The application material is reviewed by the certificate coordinator and other material requested as needed. If the student does not have formal proof of knowledge of EPID/BIOS 7010, the certificate coordinator will perform a short oral exam to probe student understanding of this material.

The certificate coordinator decides if all criteria are fulfilled and if the student presented a feasible plan of study. If so, students will be admitted and informed of their admission in writing (by email).

Students who are enrolled in the certificate will have to provide the certificate coordinator with an update on their plan of study each semester. This update can be provided by email.

Changes to the plan of study, such as a change in elective courses, must be approved by the certificate coordinator.

If, based on the reports provided by the student, the certificate coordinator finds that the student does not follow their agreed upon plan of study and does not make proper progress toward the certificate, there will be a meeting between student and certificate coordinator (preferably in person, online video or phone can be a viable alternative if necessary). Student and certificate coordinator discuss specific steps to remedy the situation. The certificate coordinator, in discussion with the student, comes up with a specific plan of action to ensure the student continues to make adequate progress. The main advisor of the student is informed of the outcome of the meeting. If the student fails to follow the plan of action and continues to show lack of progress, the certificate coordinator will inform the student that they are dropped from the certificate program.

Students can leave the certificate by informing the certificate coordinator and their major professor that they do not want to further pursue the certificate.

The certificate is fulfilled and granted once the student has completed the certificate requirements as stated in section 4A.
CERTIFICATE PROGRAM PROPOSAL
INTERDISCIPLINARY GRADUATE CERTIFICATE IN SUSTAINABILITY

I. Basic Information

**Institution:** University of Georgia, Graduate School  
**Date:** December 8, 2016

**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 of consisting 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.
    The expected graduation of students from the program is about 10 students per
    academic year.

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 a 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 would 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 a job in sustainability 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. The expected graduation of students from the program is about 10 students per academic year.

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 (α = .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 1st and 2nd 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. 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**

   At UGA, there are three existing certificates that are most similar to the Interdisciplinary Graduate Certificate in Sustainability (IGCS): the Local Food Systems (LFS) Certificate, the Environmental Ethics Certificate (EEC), and the Graduate Certificate in Obesity and Weight Management (OWM).

   - The LFS Certificate requires all students enrolled to take basic required courses and then choose from a cluster area of focus in one of three areas. The IGCS will require students to select at least one course from each sphere instead of
choosing just one sphere, which along with the seminar and the anchor course, will ensure an adequate foundation in all three spheres of sustainability.

- The EEC is awarded to students who successfully complete at least 18 hours of course work, including at least 7 credit hours in core courses (one 3- or 4-hour course in ecology, one 3-hour course in ethics, and one 1-hour course in environmental ethics seminar), 7 or 8 hours in approved elective courses, and 3 hours for an approved research paper in environmental ethics.

- The OWM is offered through multiple colleges with a rotating directorship. Similarly, the IGCS is offered through multiple schools and colleges. The academic home and directorship will rotate on a 3-year basis.

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 hour 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 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).

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 Certificate in Sustainability will be conferred by the Graduate School 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).

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 second intern (at the graduate level) 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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director Buyout</td>
<td>$5,000</td>
<td>Franklin College (years 1-3)</td>
<td>One course buyout per year</td>
</tr>
<tr>
<td>Administrative Specialist</td>
<td>$10,580</td>
<td>Participating colleges and schools</td>
<td>30% of the CICR Administrative Specialist’s salary</td>
</tr>
</tbody>
</table>

Interdisciplinary Graduate Certificate in Sustainability  11/08/16
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). Ongoing funding for the Interdisciplinary Graduate Certificate in Sustainability will come from participating schools and colleges. Participating colleges commit to provide $1,500 or more per year, 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. 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. Partial funding for one graduate-level student intern at the Office of Sustainability is needed from the Graduate School. The additional support provided by the intern will be needed as program enrollment increases. From June to September 2016, the Undergraduate Certificate in Sustainability enrollment increased 33%. As of October 2016, 55 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.

   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.

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. This 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.

**References**


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 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.)

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Name</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 6010</td>
<td>Historical Ecology</td>
<td>fall semester every year</td>
<td>ANTH 1102</td>
</tr>
<tr>
<td>CRSS 6010</td>
<td>Principles of Sustainable Management</td>
<td>spring semester every year</td>
<td>BIOL 1107 and BIOL 1107L and BIOL 1108 and BIOL 1108L</td>
</tr>
<tr>
<td>ECOL 6140</td>
<td>Principles of Conservation Ecology and Sustainable Development II</td>
<td>spring semester every year</td>
<td>ECOL 6080</td>
</tr>
<tr>
<td>ECOL(FANR) 6220</td>
<td>Foundations of Restoration Ecology</td>
<td>Offered spring semester every even-numbered year</td>
<td>ECOL 3500-3500L or ECOL 3505H-3505L or FANR 3200 or permission of department</td>
</tr>
<tr>
<td>ECOL 8710/JURI 5290</td>
<td>Environmental Law Practicum</td>
<td>Offered fall and spring semester every year</td>
<td>Permission of department</td>
</tr>
<tr>
<td>EDES 6650</td>
<td>City Planning</td>
<td>Not offered on a regular basis</td>
<td>Unknown</td>
</tr>
<tr>
<td>ENGR 6660</td>
<td>Sustainable Building Design</td>
<td>fall semester every year</td>
<td>Permission of department</td>
</tr>
<tr>
<td>ENVE 6230</td>
<td>Energy in Nature, Civilization, and Engineering</td>
<td>Offered every year</td>
<td>ENVE 3210 or MCHE 3140 or permission of department</td>
</tr>
<tr>
<td>FANR 6273S</td>
<td>Field Studies in Sustainable Development</td>
<td>Study Abroad</td>
<td>Not open to students with credit in FANR 4273/6273</td>
</tr>
<tr>
<td>GEOG 6020</td>
<td>Fluvial Geomorphology</td>
<td>fall and spring semester every year</td>
<td>GEOG 1111 or GEOG 1113 or POD</td>
</tr>
<tr>
<td>GEOG 6350</td>
<td>Remote Sensing of Environment</td>
<td>fall and spring semester every year</td>
<td>GEOG 4330/6330-4330L/6330L or POD</td>
</tr>
<tr>
<td>GEOG 6460</td>
<td>Field Methods in Remote Sensing</td>
<td>Spring semester every year</td>
<td>GEOG 4350/6350-4350L/6350L or permission of department</td>
</tr>
<tr>
<td>Course ID</td>
<td>Course Name</td>
<td>Offered</td>
<td>Prerequisites</td>
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<tr>
<td>HORT 6030S</td>
<td>Sustainable Community Food Production</td>
<td>Offered fall and summer semester every year</td>
<td>CRSS 2010-2010L or HORT 2000 or BIOL 1107-1107L or PBIO(BIOL) 1210 or permission of department</td>
</tr>
<tr>
<td>LAND 6030</td>
<td>Nature and Sustainability</td>
<td>fall semester every year</td>
<td>Co-req: EDES 6530</td>
</tr>
<tr>
<td>LAND 6310</td>
<td>Landscape Ecology: Materials and Processes</td>
<td>fall semester every year</td>
<td>Unknown</td>
</tr>
<tr>
<td>LAND 6350</td>
<td>Ecological Landscape Restoration</td>
<td>spring semester every year</td>
<td>Unknown</td>
</tr>
<tr>
<td>LAND 6410</td>
<td>Field Sketching and Watercolor</td>
<td>Summer semester every year</td>
<td>None</td>
</tr>
<tr>
<td>LAND 6730</td>
<td>Issues and Practices in Sustainable Design</td>
<td>spring semester every year</td>
<td>LAND 4380 and LAND 4570</td>
</tr>
</tbody>
</table>

### SOCIAL SUSTAINABILITY COURSES – GRADUATE

<table>
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<th>Course ID</th>
<th>Course Name</th>
<th>Offered</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>ANTH(GEOG) 6275*</td>
<td>Conservation and Development in Costa Rica</td>
<td>every year</td>
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<tr>
<td>ANTH 6400</td>
<td>Green Culture: Environment, Sustainability, and Environmental Awareness</td>
<td>Unknown</td>
<td>ANTH 1102 or ANTH 2120H or permission of department</td>
</tr>
<tr>
<td>ANTH 8515</td>
<td>Institutional Dimensions of Sustainability</td>
<td>spring semester every year</td>
<td>Unknown</td>
</tr>
<tr>
<td>ANTH 8540</td>
<td>Conservation and Community</td>
<td>spring semester every year</td>
<td>Permission of department</td>
</tr>
<tr>
<td>ANTH (ICON) 8560</td>
<td>Conservation and Development Practice</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>CRSS 6020S</td>
<td>Social Sustainability in Agricultural and Food Systems</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>EETH 6190</td>
<td>Agricultural Ethics</td>
<td>fall and spring semester every year</td>
<td>Unknown</td>
</tr>
<tr>
<td>ENVE 6530</td>
<td>Energy and Environmental Policy Analysis</td>
<td>every year</td>
<td>Permission of department</td>
</tr>
<tr>
<td>Course ID</td>
<td>Course Name</td>
<td>Offered</td>
<td>Prerequisites</td>
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</tr>
<tr>
<td>ENVM 6250</td>
<td>Environmental and Public Health Law</td>
<td>Spring semester every year</td>
<td>Third-year student standing and (POLS 1101 or HIST 2111 or HIST 2112)</td>
</tr>
<tr>
<td>ENVM 6930/E</td>
<td>Environmental Law and Governmental Regulation</td>
<td>Offered fall semester every odd year</td>
<td>Third year standing and (POLS 1101 or HIST 2111 or HIST 2112)</td>
</tr>
<tr>
<td>HPRB 7920</td>
<td>Health Behavior</td>
<td>When offered by Pam Orpinas</td>
<td>Permission of department</td>
</tr>
<tr>
<td>LAND 6040</td>
<td>Community and Place</td>
<td>spring semester every year</td>
<td>Co-req: EDES 6540</td>
</tr>
<tr>
<td>NRRT 7400</td>
<td>Parks and Ecotourism Management</td>
<td>spring semester every year</td>
<td>Not open to students with credit in FORS 5400/7400-5400L/7400L</td>
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<tr>
<td>NRRT 7900</td>
<td>Ecotourism and Sustainable Development</td>
<td>fall semester every year</td>
<td>FANR 3400-3400D or RLST(NRRT) 3310 or FANR 4202/6202-4202D/6202D</td>
</tr>
<tr>
<td>PHIL 8900</td>
<td>Environmental Philosophy</td>
<td>Spring semester every year</td>
<td>Permission of department</td>
</tr>
<tr>
<td>PHIL(EETH) 4220/6220</td>
<td>Environmental Ethics</td>
<td>Spring semester every even-numbered year</td>
<td>Any 3000-level PHIL course or permission of department</td>
</tr>
<tr>
<td>PHIL(EETH) 6250</td>
<td>Philosophy of Technology</td>
<td>Spring semester every odd-numbered year</td>
<td>Any 3000-level PHIL course or permission of department</td>
</tr>
<tr>
<td>WMST 6170</td>
<td>Environment, Gender, Race, Class</td>
<td>Offered every year</td>
<td>WMST 4010/6010 or permission of department</td>
</tr>
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</table>

**ECONOMIC SUSTAINABILITY COURSES – GRADUATE**

<table>
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<th>Course Name</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>ENVM 6800</td>
<td>Water Resource Economics and Management</td>
<td>fall semester every year</td>
<td>Third year standing and (AAEC 2580 or ECON 2106 or ECON 2106H)</td>
</tr>
<tr>
<td>FANR 6810</td>
<td>Natural Resources Law</td>
<td>spring semester every year</td>
<td>Not open to students with credit in FANR 5850/7850 or FORS 5820/7820</td>
</tr>
<tr>
<td>MIST 6550</td>
<td>Energy Informatics</td>
<td>Every year</td>
<td>None</td>
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### CAPSTONE COURSES – GRADUATE

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</thead>
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<tr>
<td>ICON 8111</td>
<td>Integrative Conservation Internship</td>
<td>Fall, spring, and summer semester every year</td>
<td>ICON 8001 or ICON 8002 or permission of department (only open to students in the ICON PhD program)</td>
</tr>
<tr>
<td>HORT 6125</td>
<td>Organic Agricultural Systems</td>
<td>Spring semester every year</td>
<td>HORT 3300 or permission of department</td>
</tr>
<tr>
<td>STAT 7700</td>
<td>Internship in Statistics</td>
<td>Fall, spring, and summer semester every year</td>
<td>NA</td>
</tr>
</tbody>
</table>

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
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
December 28, 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 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
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
December 9, 2016

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

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,

[Signature]

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

Kathy Abusow
President & CEO
Sustainable Forestry Initiative Inc.
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
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
Office of Curriculum Systems  
319 New College  
The University of Georgia  
Athens, GA 30602  
CAMPUS  

Re: Non-thesis Masters of Science in Comparative Biomedical Sciences  

To whom it may concern:  

The Graduate Affairs Committee of the College of Veterinary Medicine has voted in favor of my forwarding this proposal for a new non-thesis option for the Masters in Comparative Biomedical Sciences.  

The biomedical sciences incorporate careers that do not necessarily require a traditional thesis degree. Examples include: biomedical technician, scientific writing, research communication, technical and sales support, and science teaching. A non-thesis MS degree will also allow post-baccalaureate students to explore the possibility of graduate/professional school and their ability to undertake the rigorous curriculum without the requirement of a hypothesis-driven research project. Administration of the program will be provided by the Office of Graduate Affairs in the College of Veterinary Medicine. The funds, required courses and space required to start the program are in place.  

Sincerely,  

Harry W. Dickerson, B.V.Sc., Ph.D.  
Associate Dean for Research and Graduate Affairs  

HWD/vte  
Enclosures  
cc: Dean Sheila Allen
Proposal to Add a Non-Thesis Option to the M.S. in Comparative Biomedical Sciences

College of Veterinary Medicine

Submitted to:  Dr. Suzanne Barbour
Dean, Graduate School
Terrell Hall
210 S. Jackson St.
University of Georgia

Submitted by: Dr. Kaori Sakamoto, Director
Prepared by:  Graduate Affairs Committee
College of Veterinary Medicine
University of Georgia

Basic Information:

Proposed Change: Non-thesis option for students pursuing a, professionally-oriented track.

Start Date: Fall 2017

Program Description

The College of Veterinary Medicine proposes a non-thesis option for the M.S. in Comparative Biomedical Sciences (CBS). This option is intended for students pursuing a non-research, professionally-oriented program of study and is consistent with our long-term goal to enhance and broaden the CBS M.S. degree. The non-thesis M.S. degree will be interdisciplinary and designed as a broad foundation for students who intend to pursue professional careers, such as veterinarian, physician, biomedical engineer and biomedical or diagnostic technician, and who require knowledge of animal physiology and immunology, microbiology, and biomedical and diagnostic techniques for industry or governmental labs.

The program of study contains all of the courses already required of thesis-track M.S. students. The required courses for the current thesis option include: 12 credits of courses only open to graduate students (not including 7000 and 7300), VETM 8001 (Research Communications), and either GRSC 8550 (Responsible Conduct of Research). The remaining minimum of 16 credits must come from courses at the 6000, 7000, or 8000 level (may include 7000 and 7300); however, because CBS is an umbrella program, we allow flexibility in the courses allowed, as long as they are approved by the student’s thesis advisory committee. In lieu of the research and thesis credits required for thesis-track students, the non-thesis M.S. would require 6 credits of electives from outside the college (Education, Business, Social Work, Engineering, Communication, etc) in an area broadly related and relevant to their professional goals. The total credit hours for the non-thesis M.S. would thus be 30, the same as for the thesis M.S. option.

At the time of application, the student must choose via admissions either the non-thesis or thesis M.S. option. If the student is currently enrolled, a degree objective change is required.
The current M.S. thesis option will not change. The following table outlines the program of study that requires a thesis and the proposed non-thesis option.

<table>
<thead>
<tr>
<th>Current M.S. with Thesis</th>
<th>Proposed M.S. Non-Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core: (12 credits)</td>
<td>Core: (12 credits)</td>
</tr>
<tr>
<td>VETM 8001 – Research Communications</td>
<td>VETM 8001 – Research Communications</td>
</tr>
<tr>
<td>GRSC 8550 – Responsible Conduct of Research</td>
<td>GRSC 8550 – Responsible Conduct of Research</td>
</tr>
<tr>
<td>10 credits only open to graduate students</td>
<td>10 credits only open to graduate students</td>
</tr>
<tr>
<td>Electives: (12 credits)</td>
<td>Concentration: (12 credits)</td>
</tr>
<tr>
<td>All 6000-level or higher coursework in the area of thesis research</td>
<td>All 6000-level or higher coursework in the area of study</td>
</tr>
<tr>
<td>Thesis: (6 credits)</td>
<td>Electives: (6 credits)</td>
</tr>
<tr>
<td>VETM 7000, VETM 7300</td>
<td>Related 6000-level or higher courses outside of the department</td>
</tr>
<tr>
<td>Oral Defense of MS Thesis</td>
<td>Oral Exam based on Written Report</td>
</tr>
<tr>
<td>Minimum Total Credit Hours: 30</td>
<td>Minimum Total Credit Hours: 30</td>
</tr>
</tbody>
</table>

In lieu of a thesis, the student must write a written report, such as a literature review, based on the material covered in the area of concentration. The oral examination will be based on the material in this report and administered by the student’s committee during the final semester of the student’s program, and the chair will assign a pass/fail grade with input from the committee. Should the student fail the oral exam, he/she will have one more opportunity to pass the exam, but he/she will have to enroll to take the exam the following semester. Any student failing the oral exam twice will not be permitted to obtain a Non-Thesis MS.

Faculty Vote

The Graduate Affairs Committee of the College of Veterinary Medicine voted yes in favor of the proposed Non-Thesis MS option. The faculty vote, taken on 10/10/16, was 9 Yes (in favor), 0 No, and 0 Abstentions.

Justification for the Proposed Non-Thesis M.S. Option

A non-thesis option in our program is needed for several reasons.

- Post-baccalaureate work in biomedical sciences can be beneficial to a student’s goals without the inclusion of a research-specific component. Best examples are students whose long-term goals are broader than the traditional biomedical sciences student, e.g., students whose goals are to work in fields such as clinical medicine (veterinary or human), diagnostics, biomedical engineering, or science education. Other examples include students interested in working in industry or government laboratories in capacities that are science but not research-related. The background coursework in
biomedical sciences and electives in other programs provided by the non-thesis M.S. would be invaluable in successfully integrating multiple disciplines in order to provide innovative new training programs for the jobs of the future. In the cases described above, the research and thesis requirement delays the completion of the student’s degree for at least a year, and does not necessarily contribute to the work the student will eventually do.

- Post-baccalaureate coursework without a research/thesis component can be very beneficial to students whose primary goals are in secondary school education. It is widely accepted that science education in secondary schools could benefit greatly from improved discipline-specific training of our teachers. This course-based M.S. program described above would provide, in conjunction with Science Education training, a superb background for teaching any of the biological sciences. A thesis requirement does not necessarily prepare the future secondary school teacher as well as additional graduate-level coursework in the subject.

- Some students are not sure they want to invest the 5 years that are typically necessary for obtaining a PhD in the biomedical sciences. These students often come in as M.S. students to “try out” the discipline. This course of action often requires 2-3 years to complete. If a student decides that they would prefer to go to veterinary, medical, or dental school, they will be delayed in their ability to apply or more typically, quit the M.S. program, which greatly hurts our program. Those who do leave without defending their thesis have no degree to show for their coursework. Furthermore, PhD students who are not making adequate progress in their research, but who have performed adequately in their coursework, also have no option to leave our program with a degree.

- Virtually every single peer and aspirational institution for UGA already has a non-thesis M.S. option. Even within UGA, there is a non-thesis program, Master of Animal and Dairy Science (MADS), which takes many of our pre-veterinary students, as we do not have a similar option in our College. By not having a non-thesis option, we are at a disadvantage both within and outside of our university.

**Admission Procedure for Domestic Applicants**

The admissions standards are the same for both the thesis or non-thesis options. Admissions are open to all qualified graduates of accredited institutions. Admission materials are available through the Graduate Admissions Office. All prospective students should send to the Graduate School: 1) a completed application, 2) two official transcripts from each institution of higher education attended, 3) Graduate Record Examination (GRE) general scores, and 4) a brief essay describing the applicant’s background, interests, goals, aspirations, etc.

**Admission Procedure for International Applicants**

The admissions standards are the same for both the thesis and non-thesis options. Admissions are open to all qualified graduates of accredited institutions. Admission materials are available through the Graduate Admissions Office. All prospective students should send to the Graduate School: 1) a completed application, 2) two official transcripts from each institution of higher education attended, 3) Graduate Record Examination (GRE) general scores, 4) a brief essay describing the applicant’s background, interests, goals, aspirations, etc., and 5) official TOEFL or IELTS scores not more than two years old.
**Impact on Current Students**

There would be no adverse impact on current MS thesis degree students in the College. Students currently enrolled in the MS degree would have the option of changing to the non-thesis option or completing their MS with thesis. The programs of study of current students selecting the non-thesis MS option would have to reflect the new course requirements described above. We anticipate that perhaps 2-3 students currently enrolled as MS students will switch to the non-thesis option. These are students who applied with clear intentions to apply to veterinary school. Future students will have the choice of electing either a thesis or non-thesis MS degree option.

**Financial Impact**

No new course, faculty, facilities, or services will be required to implement a non-thesis option for the MS degree. Thus, no new funds are required.
### Appendix A

<table>
<thead>
<tr>
<th>Peer Institution</th>
<th>CVM Non-Thesis Masters offered</th>
<th>Related Field Non-Thesis Masters offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina State</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>University of Wisconsin</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Texas A&amp;M</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aspirational Institution</th>
<th>CVM Non-Thesis Masters offered</th>
<th>Related Field Non-Thesis Masters offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornell</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>University of Pennsylvania</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>University of California Davis</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Colorado State University</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Article II. The Graduate Council

Section 1. Responsibilities

1. The Graduate Council is the policymaking body of the Graduate Faculty. The Council functions on behalf of the Graduate Faculty in all matters within the authority of that Faculty, except the amendment of these bylaws. The Graduate Faculty may, however, supersede any action of the Council.

2. All members of the Council represent the entire Graduate Faculty, not merely those of the department, division, college, or school from which they come. The concern of every Council member shall be with the general welfare of the Graduate School and its programs, rather than with that of only a part.

Section 2. Membership

1. The Council consists of the dean of the Graduate School or a representative designated by the dean, who chairs the Council but votes only to break a tie; the president of the UGA Graduate Student Association who serves as an ex-officio member; and the following elected members, one-third of whom are chosen each year:

   a. One member from each of the fifteen colleges and schools listed below, elected by the members of the Graduate Faculty in the college or school;
   b. Fifteen members-at-large elected by the whole Graduate Faculty from nominations of the following six groups of colleges and schools:
      1. College of Agricultural & Environmental Sciences;
      2. College of Arts & Sciences;
      3. Terry College of Business;
      4. College of Education;
      5. College of Veterinary Medicine,
         College of Journalism & Mass Communication,
         College of Public Health
         School of Social Work,
         School of Public & International Affairs;
      6. College of Family & Consumer Sciences,
         College of Pharmacy,
         College of Environment & Design,
         School of Forestry & Natural Resources,
         School of Ecology,
         College of Engineering.

2. The number of Council positions assigned to each of the six groups listed above is to be reallocated every year according to the following formula:

   Ratio 1:
   
   \[
   \frac{\text{number of graduate students within group on campus Fall Semester}}{\text{total number of graduate students across groups on campus Fall Semester}}
   \]
Ratio 2:
\[
\frac{\text{Number of graduate faculty members within group Fall Semester}}{\text{Total Number of graduate faculty members across groups Fall Semester}}
\]

Ratio 3:
\[
\frac{\text{Ratio 1 + Ratio 2}}{2}
\]

Allocation = 15 x Ratio 3

3. The allocation is to be rounded off to the nearest whole number, with the provisions (1) that the total allocations shall be fifteen, with rounding adjusted to achieve that end, and (2) that each of the six groups listed above shall be allocated at least one Council member.

4. If a reallocation changes the number of positions assigned to any of the six groups, the currently elected members of the Council shall serve out their full three-year terms, and adjustments shall be made (allocations moved from one group to another) as terms of currently elected members expire. Thus the reallocation shall be phased in over a period as long as two years.

Section 3. Eligibility for Membership
Members of the Graduate Faculty are eligible for membership on the Graduate Council. An elected member of the Council shall not serve immediately successive full terms.

Section 4. Term of Membership and Time of Elections
Each member shall serve a three-year term of office beginning Fall Semester after the Graduate Council election held each Spring Semester.

Section 5. Nomination and Election Procedures
1. Graduate Council positions that do not involve joint election by several colleges or schools shall have twice as many candidates as allotted positions. Council positions that involve joint election shall have one candidate from each college or school in the group. All ballots shall also provide space for write-in votes.

2. Graduate Faculty members may nominate any Graduate Faculty member who does not hold an administrative appointment at the department head level or higher.

3. Nominations of candidates shall take account of the following principles of distribution, and nominations of persons not in accord with these distribution requirements are not valid:
   a. In colleges and schools with a departmental structure, no department shall have more than one member on the Council at a time.
   b. In the College of Arts and Sciences, which has a divisional structure, and in any other college or school with a similar divisional structure, each division shall have at least one member on the Council, and other Council members from the college or school shall be chosen at large. If, however, a college or school has more divisions than Council members allocated to it, a system of rotation among the divisions shall be devised.
   c. If a member of the Council is elected by several colleges or schools as a group, under Section 2b(5,6), that member’s successor shall come from another college or school in the group.

4. To determine the candidates for election, nominations shall be called for from all Graduate Faculty eligible to vote in an election. Then a preliminary ballot shall be distributed, on which the names of all nominees appear. The requisite number of candidates, as specified in Section 5a, shall be those nominees who receive the largest number of votes on the preliminary ballot. The names of those candidates shall then be sent to the dean of the Graduate School, who will supervise the final election.
Section 6. Vacancies during a Term

1. If a position on the Graduate Council falls vacant during the term of an elected member, a replacement shall be nominated by the Administrative Committee of the Council and approved by a majority of those voting at a meeting of the Council. The replacement member shall be from the same academic unit that elected the former member and shall serve until the expiration of the term of the former member. The Administrative Committee shall determine when a position falls vacant.

2. Members of the Council shall not designate or be represented by proxies if they are absent from a Council meeting.

Section 7. Meetings of the Graduate Council

1. The dean of the Graduate School shall call meetings of the Graduate Council as often as required to transact the business of the School but at least two times a year. The Dean shall call a meeting if requested to do so by written notice signed by at least five (5) members of the Council.

2. A quorum for actions at a Council meeting shall be a majority of its elected members.

3. The agenda for each meeting, along with pertinent information on items that the Council will discuss, shall normally be available and distributed to the Council members at least ten days prior to meetings. Items may be placed on the agenda by the dean of the Graduate School, by the Administrative Committee, or by a two-thirds vote of members present and voting at the Council meeting.

Section 8. Committees of the Graduate Council

1. Standing committees of the Graduate Council shall be appointed annually by the dean of the Graduate School from the membership of the Council. The dean or a representative designated by the dean is an ex-officio member of all committees, but votes only to break a tie. The dean shall appoint a member of each committee to serve as chair. The following standing committees of the Council act on the matters indicated and on others, as charged by the dean:
   a. The Administrative Committee shall (a) recommend to the Council policy for the governance of graduate education, (b) hear student petitions for exceptions to Graduate School rules other than those relating to admission and retention, and (c) hear student appeals from administrative decisions relating to any aspect of the graduate program other than admission and retention. The Committee shall make recommendations on petitions and appeals to the dean and report its activities to the Council.
   b. The Program Committee shall review (a) proposals for new degree programs and changes to existing programs, and (b) reports of committees evaluating existing programs. The committee shall make recommendations to the Council concerning the approval, revision, continuation, or termination of all graduate programs.
   c. The Curriculum Committee shall review proposals for new graduate courses and for changes in existing graduate courses. The committee shall make recommendations to the University Curriculum Committee and shall report its activities to the Council.
   d. The Strategic Planning Committee shall work with the dean to develop strategic initiatives to enhance and re-envision graduate education at UGA. It shall include a graduate student member and report its activities to the Council.
   e. The Appeals Committee shall hear appeals from (a) applicants denied admission to graduate study by the Graduate School, (b) students denied a change of degree objective by the Graduate School, (c) students dismissed by the academic unit and/or the Graduate School, (d) graduate student grade appeals, and (e) faculty whose membership in the Graduate Faculty has been removed or revoked. The committee shall make recommendations to the dean and report its activities to the Council.

2. The Council may select or the dean may appoint such other, ad hoc committees as they deem necessary to conduct the business of the Graduate School.