



The University of Georgia

University Council
Athens, Georgia 30602

August 19, 2016

UNIVERSITY CURRICULUM COMMITTEE – 2016-2017

Dr. William K. Vencill, Chair
Agricultural and Environmental Sciences – Dr. Elizabeth Little
Arts and Sciences - Dr. Sujata Iyengar (Arts)
Dr. Rodney Mauricio (Sciences)
Business - Dr. Myra L. Moore
Ecology – Dr. Sonia Altizer
Education - Dr. Seock-Ho Kim
Engineering - Dr. Sudhagar Mani
Environment and Design - Mr. David Spooner
Family and Consumer Sciences - Dr. Patricia Hunt-Hurst
Forestry and Natural Resources - Dr. John C. Maerz
Journalism and Mass Communication - Dr. Alison F. Alexander
Law - Ms. Elizabeth Weeks Leonard
Pharmacy – Dr. Robin Southwood
Public and International Affairs - Dr. Robert Grafstein
Public Health – Dr. Anne Marie Zimeri
Social Work - Dr. David O. Okech
Veterinary Medicine - Dr. Kira L. Epstein
Graduate School - Dr. Timothy L. Foutz
Ex-Officio - Provost Pamela S. Whitten
Undergraduate Student Representative – Ms. Gabrielle Roth
Graduate Student Representative – Ms. Ashley E. Fallaize

Dear Colleagues:

The attached proposal for a new Interdisciplinary Undergraduate Certificate in Environmental Education will be an agenda item for the August 26, 2016, Full University Curriculum Committee meeting.

Sincerely,

William K. Vencill, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav



The University of Georgia

College of Agricultural and Environmental Sciences
Department of Agricultural Leadership, Education, and Communication
135 Four Towers Building - Athens, GA 30602
P: 352.226.1199 - F: 706.542.0262

February 22, 2016

Dear CAES Undergraduate Affairs and Curriculum Committee,

The Department of Agricultural Leadership, Education, and Communication (ALEC) recently voted on the attached proposal for an Environmental Education Certificate. The proposal is currently being reviewed by the Undergraduate Affairs and Curriculum Committee in the Warnell School of Forestry and Natural Resources as it will be jointly offered in CAES and Warnell. Dr. Nick Fuhrman will serve as the director for CAES and Dr. Kris Irwin will serve as the director for Warnell.

The votes from ALEC faculty were tallied and of those faculty who voted, the results were:

Yes, approve and move forward = 6 votes

No, disapprove = 0 votes

Needs discussion = 0 votes

This represents a majority of ALEC faculty in support of the proposal. Dr. Kay Kelsey, ALEC Department Head, also provides her support through her attached signature.

Thanks so much for your work in reviewing this! We look forward to hearing the results of your review.

Very sincerely yours,

Nicholas E. Fuhrman, Ph.D.
Co-director, Proposed Environmental Education Certificate Program
Associate Professor & Graduate Coordinator



The University of Georgia®

Daniel B. Warnell School of Forestry and Natural Resources
Forestry, Fisheries and Wildlife, Water and Soil Resources
Natural Resources Recreation and Tourism

Office of the Dean

February 26, 2016

Dr. William Vencill, Professor and Chair
University Curriculum Committee
Department of Crop & Soil Sciences
4103 Miller Plant Sciences Building
Campus

Dear Dr. Vencill,

On behalf of faculty of the Warnell School of Forestry and Natural Resources, I am pleased to fully support the creation of the Environmental Education Certificate Program. Our faculty approved this with a unanimous vote at our February 25, 2016, faculty meeting.

Please contact me if you have any questions.

Sincerely,

W. Dale Greene
Dean

INTERDISCIPLINARY CERTIFICATE PROGRAM PROPOSAL

Environmental Education Certificate Program

I. Basic Information

1. **Institution:** University of Georgia **Date:** August 17, 2016
2. **School/College:** Warnell School of Forestry and Natural Resources & College of Agricultural and Environmental Sciences (CAES)
3. **Department/Division:** Warnell School of Forestry and Natural Resources & Department of Agricultural Leadership, Education, and Communication, CAES
4. **Certificate Title:** Environmental Education Certificate Program
5. **Level:** Undergraduate
6. **Proposed starting date for program:** Fall Semester 2016
7. **Abstract:**

Environmental education (EE) moves individuals from awareness to action. Specifically, EE develops an individual's: (1) *awareness* of local and global environmental issues, (2) *knowledge* of the environment and its associated problems, (3) *motivation* to actively participate in environmental improvement, (4) *skills* for identifying and solving environmental problems, and (5) ability to *act* toward resolving environmental problems (UNESCO, 1978).

The **purpose** of the **Environmental Education Certificate Program (EECP)** is to build students' environmental content knowledge, communication skills (through a capstone teaching experience), critical thinking ability about environmental issues, and commitment to being an environmentally responsible citizen. There are four educational objectives of the EECP. As a result of participating in this certificate program, students will be able to:

1. Create new knowledge (environmental knowledge, natural history knowledge, etc.) related to environmental and life sciences;
2. Develop effective teaching and communication skills appropriate for EE;
3. Implement a variety of strategies for assessing EE learning outcomes; and
4. Demonstrate content knowledge, teaching ability, and assessment strategies through an experiential learning capstone course.

There is a **documented need** for the EECP. A total of 17 colleges and universities from across the nation were identified (from Vermont to Florida to Alaska) as offering an EE certificate or degree at the undergraduate or graduate level. Only one (6%) offered an undergraduate EE degree, while the other 16 (94%) offered either a master's degree or certificate in EE. In the southeast, the closest EE-related program to UGA is at Montreat College in North Carolina where they offer a master's degree in EE. In addition, the majority of these programs emphasized contextual experiences (e.g., pedagogy) over content knowledge (e.g., ornithology, entomology, ecology).

Unlike existing programs, the EECP at UGA will require a balance of experiential learning (context) and environmental and life science coursework (content) for successful completion (Table 1). Therefore, offering an EE certificate at the undergraduate level at UGA will provide students with a program of study that equally emphasizes content and contextual learning. This approach is aligned with current professional guidelines (North American Association for

Environmental Education, 2010) and with UGA's initiative to provide students with experiential learning opportunities.

The EE Certificate will bolster a student's resume when applying for environmental educator positions, for example, 4-H Environmental Education camps, Sandy Creek Nature Center operated by Athens-Clarke County, Charlie Elliott Wildlife Center operated by the Georgia Department of Natural Resources, zoos, aquariums, and the National Park Service.

Student demand for the EECP is also evident. The EECP Directors (Drs. Irwin and Fuhrman) recently collaborated with a team of undergraduate and graduate students enrolled in an EE service-learning course to collect data across the UGA campus regarding student interest in an EE certificate. Of the 152 questionnaires completed, 137 (90%) UGA students agreed that an EE certificate should be offered and that they would be interested in completing it. Specifically, when asked about their familiarity with the field of EE, freshmen, sophomores, and juniors reported knowing the least about environmental education and expressed an interest in learning more via coursework. These students represent a target audience to recruit for the undergraduate EECP. Based on this sample, an EE certificate is likely to be successful with UGA undergraduate students.

The **design and curriculum** of the EECP is rigorous and modeled after the Advanced Training for Environmental Education in Georgia (ATEEG) Program of which Dr. Irwin and Dr. Fuhrman are heavily involved. The ATEEG Program is the first EE certification program in the United States to receive accreditation status from the North American Association for Environmental Education (NAAEE). Specifically, students enrolled in the EECP will build content knowledge in the environmental and life sciences (6 credit hrs.), develop pedagogical/communication skills (6 credit hrs.), create and apply appropriate evaluation strategies (3 credit hrs.), and demonstrate their ability to teach through an experiential learning capstone course (3 credit hrs.). These four areas (content knowledge, pedagogy, program evaluation, and teaching capstone) are consistent with the standards and accepted practices recognized by the NAAEE (2010). In all, the EECP curriculum would require a total of 18 credits.

Faculty resources are specialized and adequate to support an effective Environmental Education Certificate Program. Dr. Nick Fuhrman and Dr. Kris M. Irwin will lead the EECP. Dr. Nick Fuhrman, Associate Professor and Graduate Coordinator in the Department of Agricultural Leadership, Education, and Communication (ALEC) in the College of Agricultural and Environmental Sciences (CAES), has worked in the field of EE for nearly 20 years. He holds B.S. and M.S. degrees in Forestry from Virginia Tech and a Ph.D. in Agricultural Education and Communication with a specialization in Environmental Education and Program Evaluation from the University of Florida. Dr. Kris M. Irwin, Senior Public Service Associate at the Warnell School of Forestry and Natural Resources, has worked in the field of EE for nearly 20 years. He holds a B.S. in Forestry from the University of Missouri at Columbia, an M.S. in Forestry from the University of Florida, and a Ph.D. in Learning, Design, and Technology from the University of Georgia. Dr. Irwin is the co-founder of the nationally accredited ATEEG Program, past president of the Georgia Environmental Education Alliance, and is state co-coordinator for the Georgia Project Learning Tree Program. Drs. Fuhrman and Irwin will each provide direct instructional support to the EECP.

Library, computer, and other instructional resources are sufficient to adequately support the EECP. Existing library EE journal subscriptions, search engines (e.g., Agricola and Web of Science), and staff are sufficient to ensure program support for student coursework. In addition, the **physical facilities** of the ALEC Department and Warnell School have classrooms and computer resources sufficient to support student classroom activities and assignments. For outdoor learning experiences, Warnell's Whitehall Forest (4 miles from campus) will serve as an 840-acre teaching and learning laboratory. The EECP Coordinator's office will be located at the Warnell School.

As proposed, **funding to support the EECP is currently covered in existing budgets for faculty/staff, operating, capital, and library—no additional funding is anticipated for implementation at this time.** The extent of student support needed for participation in the EECP is minimal. The interdisciplinary nature of the EECP is designed to fit into existing undergraduate course sequences, making the need for assistantships, fellowships, and scholarships nonexistent.

Sources of additional funds needed to support EECP coursework and the capstone experience would be secured through Student Technology Fees, NIFA Higher Education Challenge Grants, and Environmental Protection Agency Environmental Education grant funds. Drs. Fuhrman and Irwin have been successful in securing funds from these sources in the past.

Dr. Fuhrman (CAES) and Dr. Irwin (Warnell) will serve as **co-directors** of the EECP. The EECP Program Coordinator (Ms. Jenny Yearwood) will provide **program administrative support**. Ms. Yearwood is a member of the administrative support staff at the Warnell School and will manage student documents, recruiting, and retention. The co-directors will coordinate efforts with the Certificate in Sustainability Advisory Group and faculty.

Students accepted in the EECP will have: (a) completed an application that includes current contact information, major, and a 500-word narrative describing how and why the EECP will benefit them professionally and/or personally, (b) submitted their application by either October 1 for the spring cohort or March 1 for the fall cohort, (c) a minimum cumulative GPA of 2.50 or greater, and (d) successfully completed an in-person interview with Dr. Irwin and Dr. Fuhrman. All applications will be submitted to Ms. Yearwood, and the EECP co-directors will review applications and ask selected students to participate in an interview within 30 days of the closing dates for the spring (October 1) and fall (March 1) cohorts.

II. Response to the Criteria for All Programs:

1. Program Purpose and Educational Objectives:

- A. The **purpose** of the Environmental Education Certificate Program (EECP) is to build students' environmental content knowledge, communication skills (through a capstone teaching experience), critical thinking ability about environmental issues, and commitment to being an environmentally responsible citizen.

There are four **educational objectives** of the EECP. Participating students will:

- (1) acquire new knowledge (environmental knowledge, natural history knowledge, etc.) related to environmental and life sciences;
- (2) develop effective

teaching and communication skills appropriate for EE; (3) implement a variety of strategies for assessing EE learning outcomes; and (4) demonstrate content knowledge, teaching ability, and assessment strategies through an experiential learning capstone course.

B. The EECF is **interdisciplinary in nature**. Environmental education is a discipline that builds public awareness of environmental issues using innovative content delivery strategies which move citizens to pro-environmental action. The EECF requires completion of courses that build students' agricultural and environmental content knowledge as well as enhance their ability to convey such content to the general public.

The Warnell School of Forestry and Natural Resources (Warnell) is Dr. Irwin's academic home and provides environmental and natural resource content courses as well as courses in EE. Warnell will provide expertise ensuring that EECF students receive relevant content knowledge they can then deliver through their capstone experience and beyond. Dr. Irwin currently teaches an EE-focused course (Foundations of Environmental Education) which will serve as a required course for the EECF (Table 1) and has been taken by ALEC students in the past.

The Department of Agricultural Leadership, Education, and Communication (ALEC) is Dr. Fuhrman's academic home and serves as the pedagogical arm of the College of Agricultural and Environmental Sciences (CAES). The ALEC Department will provide expertise ensuring that EECF students receive adequate training in delivering the agricultural and environmental knowledge gained in their content courses offered through Warnell and beyond. The effective delivery of content knowledge will be particularly important in the required EECF capstone experience. Dr. Fuhrman currently teaches several EE-focused courses applicable to the EECF which have been taken by Warnell students in the past. Drs. Irwin and Fuhrman have worked collaboratively for eight years and have developed a synergy that has enabled students and faculty in CAES and Warnell to benefit from each entity's collective expertise.

The expected stage of development for the EECF within five years includes a vision for expanding student enrollment (goal: 50 EECF students), recognition by students, faculty, and employers as providing a relevant skill set, and increased departmental and college involvement beyond CAES and Warnell. In addition, systematic formative and summative evaluation of the EECF will be completed and data collected will be shared within UGA and the NAAEE national community.

2. *Documented Need for the Program:*

A. There is a **documented need** for the EECF. A total of 17 colleges and universities from across the nation were identified (from Vermont to Florida to Alaska) that are offering an EE certificate or degree at the undergraduate or graduate level. Only one (6%) offered an undergraduate EE degree, while the other 16 (94%) offered either a master's degree or certificate in EE. In the southeast, the closest EE-related program to UGA is at Montreat College in North Carolina where they offer a master's degree

in EE. In addition, the majority of these programs emphasized contextual experiences (e.g., pedagogy) over content knowledge (e.g., ornithology, entomology, ecology). Unlike existing programs, the EECP at UGA will require a balance of experiential learning (context) and environmental and life science coursework (content) for successful completion (Table 1). Therefore, offering an EE certificate at the undergraduate level at UGA will provide students with a program of study that equally emphasizes content and contextual learning. The EECP is aligned with current professional guidelines (NAAEE, 2010) and supports UGA's newly created experiential learning requirement for all undergraduate students.

B. Additional Information

1. Semester/Year of Program Initiation: Spring, 2016
2. Semester/Year of Full Implementation of Program: Fall, 2016
3. Semester/Year First Certificates will be Awarded: Fall, 2017
4. Annual Number of Graduates Expected: 10 students
5. Projected Future Trends for Numbers of Students Enrolled: EECP faculty project a 15-20% increase in student enrollment annually.

3. *Student Demand for Sustainable Program Enrollment:*

- A. **Student demand and interest** for the EECP is also evident. The EECP Directors (Irwin and Fuhrman) recently collaborated with a team of undergraduate and graduate students enrolled in an EE service-learning course to collect data across the UGA campus regarding student interest in a new EE certificate. Of the 152 questionnaires completed, 137 (90%) UGA students agreed that an EE certificate should be offered and that they would be interested in completing it. Specifically, when asked about their familiarity with the field of EE, freshmen, sophomores, and juniors reported knowing the least. These students represent a target audience to recruit for the undergraduate EECP. Based on this sample, an EE certificate is likely to be successful with UGA undergraduate students.
- B. **Minority student enrollment** is expected to be equivalent to the proportion of minority students in the total student body. All students will be equally recruited and encouraged to participate in the EECP.

4. *Program Design and Curriculum:*

- A. For a **curriculum outline**, please see Table 1 documenting specific course requirements to complete the certificate. The **design and curriculum** of the EECP is rigorous and modeled after the Advanced Training for Environmental Education in Georgia (ATEEG) Program of which Dr. Irwin and Dr. Fuhrman are heavily involved. The ATEEG Program is the first EE certification program in the United States to receive accreditation status from the North American Association for Environmental Education (NAAEE). Specifically, students enrolled in the EECP will build background knowledge about environmental education during the required introductory course, Foundations of Environmental Education (3 credit hrs.), create new content knowledge in the environmental and life sciences (3 credit hrs.),

develop pedagogical/communication skills (6 credit hrs.), create and apply appropriate evaluation strategies (3 credit hrs.), and demonstrate their ability to teach through a required experiential learning capstone course (3 credit hrs.). Students enrolled in an internship for their degree program may qualify for the internship to count toward the capstone experience in the EECP. Drs. Fuhrman and Irwin will consider the internship experience on a case-by-case basis, with specific emphasis on the student gaining teaching experience through the internship for it to count toward the EECP. These four areas (content knowledge, pedagogy, program evaluation, and teaching capstone) are consistent with the standards and accepted practices recognized by the NAAEE (2010). The EECP curriculum requires a total of 18 credits.

- B. Currently, **existing courses** at UGA satisfy all requirements of the EECP. **No new courses** are necessary for full implementation of this program at this time.

- C. The new Environmental Education Certificate Program is **aligned with the disciplinary standards and practices** set forth by the North American Association for Environmental Education under their *Guidelines for the Preparation and Professional Development of Environmental Educators* (NAAEE, 2010). The six themes (i.e., standards) recognized as essential for environmental educators are: 1) Environmental Literacy—educators must possess skills and knowledge about the natural environment and current issues at the local, regional, and global scales; 2) Foundations of Environmental Education—educators must have a basic understanding of the goals, theory, practice, and history of the field of environmental education; 3) Professional Responsibilities of the Environmental Educator—educators must recognize and accept the responsibilities associated with practicing environmental education; 4) Planning and Implementing Environmental Education—educators must be able to design and implement effective instruction; 5) Fostering Learning—educators must enable learners to engage in open inquiry and investigation of controversial issues that requires reflection of all perspectives; and 6) Assessment and Evaluation—educators must possess the skills and commitment to integrate assessment and evaluation strategies into instruction and programs. Table 1 shows the extent that the EECP is consistent with the NAAEE standards.

- D. **Program accreditation** will not be sought for the EECP at this time or in the future as accreditation is not available for environmental education within a university setting (only externally for educational practitioners).

Table 1. Courses that fulfill the requirements for the Environmental Education Certificate Program.

EE Certificate Component	Sample listing of Courses (Students select 12 of 18 total credits)	Objectives (NAAEE^a Themes) Addressed
Foundations of Environmental Education	REQUIRED COURSE FANR 4444S/6444S: Foundations of Environmental Education (3 credits)	Objectives 1 & 4 (Theme 2)
Environmental and Life Science Content Knowledge	Choose 1 course (Minimum of 3 credits) ANTH 3090: Evolution of Human Ecosystems (3 credits) BIOL 1103: Basic Concepts of Biology or BIOL 1104: Organismal Biology (3 credits) CRSS 3050: Introduction to Water Quality (4 credits) ECOL 1000: Ecological Basis of Environmental Issues (3 credits) ENTO(BIOL) 2010: Insects and the Environment (3 credits) FANR(MARS) 1100: Natural Resources Conservation (3 credits) WILD(FISH) 3000: Introduction to Fish and Wildlife Management (2 credits) GEOG 1125: Resources, Society, and the Environment (3 credits)	Objective 2 (Themes 1, 2, 3)
Pedagogical/ Communication Skills	Choose 2 courses (Minimum of 6 credits) AGED 2001 ^b : Teaching with Animals (3 credits) AGED 4350/6350: Curriculum Planning in Agricultural Education (3 credits) AGED 4360/6360: Instructional Strategies in Agricultural Education (3 credits) AGED 4370/6370: Agricultural Science for Teachers (3 credits) ALDR(AFST)(LACS) 3820: Reflections on Fighting Hunger (3 credits) EDUC(ESPY) 2130: Exploring Learning and Teaching (3 credits) ESCI 4430: Science Curriculum for the Middle Grades (3 credits)	Objectives 1 & 2 (Themes 3, 4, 5)
Program Development and Evaluation	Choose 1 course (Minimum of 3 credits) AGCM 3600: Event and Instructional Planning for Agricultural and Environmental Sciences (3 credits) AGED 4340/6340: Developing Community Programs in Agriculture (3 credits) ALDR(AFST)(LACS) 4710/6710: International Agricultural Development (3 credits) EDIT 4180/6180: Instructional Development (3 credits) EDIT 4210: Learning Environments Design (3 credits)	Objectives 1 & 3 (Theme 6)
Teaching Capstone Experience ^c	REQUIRED COURSE (select one) AGED 4000: Directed Project in Agricultural Education (3 credits) AESC(FCID) 4920S/6920S: Project FOCUS (3 credits)	Objectives 1, 2, 3, & 4 (Themes 3, 4, 5, 6)

Notes. ^aAppendix A. *Guidelines for the Preparation and Professional Development of Environmental Educators* (2010), North American Association for Environmental Education, Washington, DC; Themes defined: 1 – Env. Literacy; 2 – Foundations of Env. Edu.; 3 – Professional Responsibilities of the Environmental Educator; 4 – Planning and Implementing EE Programs; 5 – Fostering Learning; and 6 – Assessment and Evaluation.

^bThis course is currently under review in CAPA as AGED 4000: Teaching with Animals

^c Students must complete 6 credits of Content Knowledge and 6 credits of Pedagogical/Communication Skills before enrolling in the Teaching Capstone Experience

5. *Faculty Resources:*

A. *Size, Experience, and Specializations of Full-time Faculty*

There are two full-time UGA faculty directing this program: Dr. Nick Fuhrman (College of Agricultural and Environmental Sciences) and Dr. Kris M. Irwin (Warnell School of Forestry & Natural Resources). Drs. Fuhrman and Irwin will each provide direct instructional support to the EECF.

Dr. Nick Fuhrman, Associate Professor and Graduate Coordinator in the Department of Agricultural Leadership, Education, and Communication (ALEC) in the College of Agricultural and Environmental Sciences (CAES) has worked in the field of EE for nearly 20 years. He holds B.S. and M.S. degrees in Forestry from Virginia Tech and a Ph.D. in Agricultural Education and Communication with a specialization in Environmental Education and Program Evaluation from the University of Florida. Dr. Fuhrman's academic specialty is program evaluation and environmental education. Relevant professional and scholarly activity for the past five years includes: 17 peer-reviewed journal publications; 64 extension trainings; 25 national television appearances; nearly \$1 million in grants as either PI or Co-PI, completed 14 master's students as Chair; and has been recognized as a Lilly Teaching Fellow (2011), selected as one of 10 UGA Top Teachers voted by Student Government Association (2014), and a CAES Early Career Teaching Award (2015).

Dr. Kris M. Irwin, Senior Public Service Associate at the Warnell School of Forestry and Natural Resources, has worked in the field of EE for nearly 20 years. He holds a B.S. in Forestry from the University of Missouri at Columbia, an M.S. in Forestry from the University of Florida, and a Ph.D. in Learning, Design, and Technology from the University of Georgia. Dr. Irwin is the co-founder of the nationally accredited ATEEG Program, past president of the Georgia Environmental Education Alliance, and is state co-coordinator for the Georgia Project Learning Tree Program. Dr. Irwin's academic specialty is environmental education and instructional materials development. Relevant professional and scholarly activity for the past five years includes: 8 outreach articles; 4 instructional material documents; 10 technical reviews; 14 state and national presentations; over \$202,000 in grants as either PI or Co-PI, completed 8 master's students as Chair, and was recognized with the 2015 UGA Service-Learning Teaching Excellence Award.

In addition to Dr. Fuhrman and Dr. Irwin who will serve as program directors, four additional full-time faculty will provide direct support to the EECF. Dr. Jay Shelton will guide content course requirements; Dr. Eric Rubenstein will guide pedagogical/communication skill requirements; Dr. Milton Newberry will provide additional environmental education and evaluation expertise; and Dr. David Knauft will guide the capstone teaching requirement.

B. Faculty Details

1. **Dr. Jay Shelton**, Associate Professor at the Warnell School of Forestry & Natural Resources. He holds a B.S. in Marine Biology from Nicholls State University, and an M.S. and Ph.D. in Fisheries Science from Auburn University. Dr. Shelton has extensive experience teaching required content courses for all students at the Warnell School including Field Measurements (*FANR 3000*) and Ecology of Natural Resources (*FANR 3200*). In addition, he also teaches Introduction to Fish and Wildlife Management (*FISH 3000*), Conservation Aquaculture (*FISH 4550/6550*), and a Maymester course, Georgia Fishes Field Study (*FISH 4650/6650L*).

2. **Dr. Eric Rubenstein**, Assistant Professor in the Department of Agricultural Leadership, Education, and Communication holds a B.S. in Agricultural and Extension Education from the Pennsylvania State University and an M.S. and Ph.D. in Agricultural Education and Communication from the University of Florida. He specializes in training agricultural education teachers and in experiential learning methods and will provide pedagogical expertise to the EECF. Dr. Rubenstein has published his work on supervised agricultural experiences in the agricultural education discipline's leading peer-reviewed journal—one article of which was awarded the outstanding research article for 2013.

3. **Dr. Milton G. Newberry, III**, Assistant Professor in the Department of Agricultural Leadership, Education, and Communication has worked in the field of environmental education for nearly 10 years. He holds a B.S. in Wildlife & Fisheries Science from the Pennsylvania State University, a Master's of Agricultural Leadership from the University of Georgia, and a Ph.D. in Agricultural Education and Communication with a specialization in Environmental Education and Program Evaluation from the University of Florida. He specializes in nonformal teaching methods and survey methodology and will provide environmental education and survey methods expertise to the EECF.

4. **Dr. David Knauff**, Emeritus Professor in the Department of Horticulture, College of Agricultural and Environmental Sciences, holds a B.S. in Botany from the University of Wisconsin and a Ph.D. in Plant Breeding and Biometry from Cornell University. Dr. Knauff teaches Project Focus (*AESC (FCID) 4920S/6920S*), and this course will serve as one of two options (*AGED 4000* as the other option) for students enrolled in the EECF to complete the required capstone teaching experience. He is also the faculty coordinator for the Organic Agriculture Certificate Program. His experience with this certificate program will strengthen the EECF.

C. No **additional faculty** will be needed to fully develop the EECF.

6. *Library, Computer, and Other Instructional Resources:*

A. Library resources are sufficient to adequately support the EECF. Existing library EE journal subscriptions, search engines (e.g., Agricola and Web of Science), and staff are sufficient to ensure program support for student coursework.

- B. Computer, instructional, and laboratory equipment are sufficient to adequately support the EECP.

7. *Physical Facilities:*

- A. The **physical facilities** of the ALEC Department and Warnell School have classrooms and computer resources sufficient to support student classroom activities and assignments. For outdoor learning experiences, Warnell’s Whitehall Forest (4 miles from campus) will serve as a 840-acre teaching and learning laboratory. The EECP coordinator’s office will be located at the Warnell School.

8. *Program Expenses:*

- A. Funding to Initiate the Program

Item	First Year	Second Year	Third Year
Personnel [#]	\$5,000	\$5,000	\$5,000
Operating Costs [*]	\$1,000	\$1,000	\$1,000
Capital Outlays	0	0	0
Library Acquisitions	0	0	0
Total	\$6,000	\$6,000	\$6,000

[#]This item represents costs for the EECP program coordinator and Warnell staff for administrative support.

^{*}This item represents costs for promotion and advertising the EECP.

- B. The EECP will build **student support through fellowships, assistantships, and scholarships**. Higher Education Challenge Grants will be acquired through the USDA National Institute of Food and Agriculture (NIFA) and used to cover graduate student assistantship stipends to assist with program evaluation. External funds will also help provide travel support for unique student learning experiences during their EECP capstone course. For example, external support may be acquired to assist with EECP student travel to UGA’s Costa Rica campus to provide instructional support.

9. *Commitments of Financial Support:*

- A. Sources of additional funds needed to support EECP coursework and the capstone experience will be secured through Student Technology Fees, NIFA Higher Education Challenge Grants, and Environmental Protection Agency Environmental Education grant funds. Drs. Fuhrman and Irwin have been successful in securing funds from these sources in the past, making the probability of securing such funds in the future likely. Other funds may come from departmental sources within the Department of Agricultural Leadership, Education, and Communication or from the Warnell School of Forestry and Natural Resources.
- B. Long-range plans for additional or expanded facilities include the development of an Environmental Education B.S. and master’s degree program. The likelihood of completion of these initiatives will not be until 2020 and is dependent upon sustained enrollment and growth of the EECP.

10. *Program Administration within the Institution:*

Dr. Fuhrman (CAES) and Dr. Irwin (Warnell) will serve as **co-directors** of the EECF. The EECF Program Coordinator (Ms. Jenny Yearwood) will provide **program administrative support**. Ms. Yearwood is a member of the administrative support staff at the Warnell School and will manage student documents, recruiting, and retention. Both Warnell and CAES will serve as the certifying units for students who complete all requirements for the EECF.

Students accepted in the EECF will have: (a) completed an application that includes current contact information, major, and a 500-word narrative describing how and why the EECF will benefit them professionally and/or personally, (b) submitted their application by either October 1 for the spring cohort or March 1 for the fall cohort, (c) a minimum cumulative GPA of 2.50 or greater, and (d) successfully completed an in-person interview with Dr. Irwin and Dr. Fuhrman. All applications will be submitted to Ms. Yearwood, and the EECF co-directors will review applications and ask selected students to participate in an interview within 30 days of the closing dates for the spring (October 1) and fall (March 1) cohorts.

References

North American Association for Environmental Education [NAAEE] (2010). *Guidelines for the preparation and professional development of environmental educators*. Washington, DC: Author.

UNESCO (1978). *Final report of intergovernmental conference on environmental education*. New York: Author, 14-16.