The University of Georgia

University Council
Athens, Georgia 30602

August 19, 2016

UNIVERSITY CURRICULUM COMMITTEE – 2016-2017
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Ex-Officio - Provost Pamela S. Whitten
Undergraduate Student Representative – Ms. Gabrielle Roth
Graduate Student Representative - TBD

Dear Colleagues:

The attached proposal to make the following changes to combine programs in the College of Agricultural and Environmental Sciences will be an agenda item for the August 26, 2016, Full University Curriculum Committee meeting:

Terminate the major in Environmental Chemistry (B.S.E.S.)
Create a new Area of Emphasis in Environmental Chemistry under the major in Environmental Resource Science (B.S.E.S.)
Create a new Area of Emphasis in Resource Management under the major in Environmental Resource Science (B.S.E.S.)

Sincerely,

William K. Vencill

William K. Vencill, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav

OUTLINE FOR DEACTIVATION OR TERMINATION OF A GRADUATE OR UNDERGRADUATE DEGREE PROGRAM

I. Basic Information

1. Institution University of Georgia_____ Date 9 March 2016_____

2. School/College College of Agricultural and Environmental Sciences_____

3. Department/Division Crop & Soil Sciences_____

4. Program
   Degree BSES_____

   Major Environmental Chemistry_____

5. Deactivation _____ or Termination _____X_____

6. Last date students will be admitted to this program Fall 2016_____

7. Last date students will graduate from this program Spring 2020_____

8. Abstract of the deactivated or terminated program
   Provide a brief summary of the deactivated or terminated program that includes an overview and highlights of the response to the criteria in Section II.

   The Environmental Chemistry major has been designated as a low performing major (<10 graduates per year). The program will become an Area of Emphasis under the Environmental Resoruce Science major (BSES).

9. Signatures

Department Head	Dean of School/College	Dean of Graduate School

II. Conditions for Deactivating or Terminating Programs

The deactivation (temporary suspension) or termination (discontinuation) of programs is expected to address satisfactorily the conditions listed below in order to be approved and implemented within the University of Georgia. Please provide sufficient information to confirm each condition.

1. Provide copies of the studies and decisions that warrant deactivation or termination of the program.

The Environmental Chemistry (BSES) major has been an underperforming major (<10 graduate per year).

2. State the reasons for deactivating or terminating the program.

See #1

3. State the plans for allowing those students already in a program to complete degree requirements, including specific information on a.) how students will be notified of the program termination and b.) how students will be counseled on completing the program.

We plan to offer the courses in the program so students currently enrolled will not negatively be impacted.

4. What will be done to minimize the impact or termination of the program upon the personal and professional lives of the faculty and staff involved, specifically a.) how will faculty and staff be notified of the termination and b.) how will faculty and staff be re-deployed?

There will be no negative impact here as the courses that comprise the major are offered for several other programs and will continue.

5. What will be done to insure that deactivation or termination of the program does not weaken other programs (graduate, undergraduate, or professional) for which the department may be responsible?

The program will be converted into an Area of Emphasis under the Environmental Resource Science major so will continue in many ways. The lack of graduates indicates minimal impact on graduate enrollment.

6. What plans, if any, is there for subsequent reactivation or reinstatement, respectively, of the deactivated or terminated program?

There will be no plans to reinstate in the foreseeable future.

PROPOSAL FOR AREA OF EMPHASIS

School/College: College of Agricultural and Environmental Sciences

Department/Division: Crop & Soil Sciences

Major: Environmental Resource Science
If major has more than one area of emphasis, submit all areas of emphasis under one major together. A course may appear in more than one area of emphasis, but each area of emphasis should have a distinct focus.

Area of Emphasis Title (as it will appear in the Bulletin): **Resource Management**
Proposed starting date: Fall 2016

Area of Emphasis Description: The Resource Management Area of Emphasis will provide students with an opportunity to learn about using science to improve the environment and urban area resource management. Graduates of this program will obtain problem-solving skills and practical knowledge that prepares them for career opportunities in environmental research laboratories, environmental consulting firms, government, environmental horticulture production and management positions.

Include prefixes, numbers and titles of required courses, number of credit hours required; residency requirements (if any); and grade requirements (if any). Graduate Areas of Emphasis may refer to groups of courses if necessary.

See attached

Signatures:

Department Head Department Date

School/College Curriculum Committee Chair School/College Date

Dean of Graduate School Date

University Curriculum Committee Chair Date

Proposal for Area of Emphasis

Resource Management
Required (21 hours)

AESC 3510 - Digital Imaging and Computer Applications in Agriculture (3 hours)
CRSS(FANR) 3060 - Soils and Hydrology (3 hours), CRSS(FANR) 3060L - Soils and Hydrology Laboratory (1 hour)
CRSS(MIBO) 4610/6610-4610L/6610L - Soil Microbiology (3 hours)
HORT(CRSS) 4430/6430 – Plant Physiology (3 hours)
HORT 4990/6990 - Environmental Issues in Horticulture (1 hour)
CRSS 4960L - Undergraduate Research in Crop and Soil Sciences (3 hours)
CRSS 3050 - Introduction to Water Quality (4 hours)

Electives (22 hours)
AAEC 4050/6050 - Agribusiness Law (3 hours)
AESC 3920 - Agricultural and Environmental Sciences Internship (3 hours)* or
ENTO 3910 - Entomology Internship (3 hours)* or
CRSS 3920 – Environmental Soil Science Internship (3 hours)

AESC 3150 - Topics in International Agriculture (1-3 hours)
ALDR 3900S - Leadership and Service (3 hours)
BCMB 3100 - Introductory Biochemistry and Molecular Biology (4 hours)
ENVM 3060 - Principles of Resource Economics (3 hours)
ENVM(EHSC) 4250/6250 - Environmental and Public Health Law (3 hours)
ENVM 4800/6800 - Water Resource Economics and Management (3 hours)
ENVM(AAEC) 4930/6930 - Environmental Law and Governmental Regulation (3 hours)
CRSS 4050/6050 - Improving Nutrient and Energy Efficiency with Geographic Information Systems (4 hours)
FANR 3200 - Ecology of Natural Resources (3 hours), FANR 3200L - Ecology of Natural Resources Laboratory (1 hour)
CRSS 4580/6580 - Soil Erosion and Conservation (3 hours)
HORT 4990/6990 - Environmental Issues in Horticulture (1 hour)
CRSS(WASR) 4660/6660 - Hydrogeochemical Characterization of Environmental Field Sites (3 hours)
MIBO 3500 - Introductory Microbiology (3 hours)
EETH 4230/6230 - Environmental Values and Policy (3 hours)
WASR(CRSS)(ECOL)(ENGR)(GEOG)(GEOL) 4700L/6700L - Hydrology, Geology, and Soils of Georgia (3 hours)

* No more than 3 credit hours of the following internship courses may be used as a major elective: AESC 3920 - Agricultural and Environmental Sciences Internship (3

hours), CRSS 3920 - Environmental Soil Science Internship (3 hours), ENTO 3910 - Entomology Internship (3 hours), and PATH 3910 - Plant Pathology Internship (3 hours).

** No more than 3 credit hours of the following courses may be used as a major elective: AESC 4950 - Special Problems in Agricultural and Environmental Sciences (1-3 hours), CRSS 4960L - Undergraduate Research in Crop and Soil Sciences (3 hours) , ENTO 3900 - Special Problems in Entomology (1-3 hours), and PATH 3990 - Special Problems in Plant Pathology (1-3 hours).

PROPOSAL FOR AREA OF EMPHASIS

School/College: College of Agricultural and Environmental Sciences

Department/Division: Crop & Soil Sciences

Major: Environmental Resource Science
If major has more than one area of emphasis, submit all areas of emphasis under one major together. A course may appear in more than one area of emphasis, but each area of emphasis should have a distinct focus.

Area of Emphasis Title (as it will appear in the Bulletin): Environmental Chemistry
Proposed starting date: Fall 2016

Area of Emphasis Description: Throughout their program, students may create an environmental chemistry program focused on biogeochemistry, contaminant mitigation/remediation, or pursue a dual degree in chemistry. In all cases, students will be exposed to hands-on laboratory and field training in analyzing and interpreting samples. Students gain interdisciplinary education and experiences to prepare them for a career in a constantly developing field. The environmental chemistry discipline encompasses soil chemistry, water chemistry, atmospheric chemistry, and ecotoxicology and is essential to many other disciplines.

Include prefixes, numbers and titles of required courses, number of credit hours required; residency requirements (if any); and grade requirements (if any). Graduate Areas of Emphasis may refer to groups of courses if necessary.

See attached

Signatures:

Department Head Department Date

School/College Curriculum Committee Chair School/College Date

Dean of Graduate School Date

University Curriculum Committee Chair Date

Proposal for Area of Emphasis

Environmental Chemistry:
Required Major Courses

Course ID Course Title Credit Hours

Required Courses (26 hours)
BCMB 3100 - Introductory Biochemistry and Molecular Biology (4 hours)
CRSS(WASR) 4660/6660 - Hydrogeochemical Characterization of Environmental Field Sites (3 hours)
CHEM 2300 - Quantitative Analytical Chemistry (3 hours)
CRSS 4670/6670 - Environmental Soil Chemistry (3 hours)
CHEM 3110 - Fundamentals of Physical Chemistry (3 hours)
EHSC 4080/6080 - Environmental Air Quality (3 hours)
CRSS(FANR) 3060 - Soils and Hydrology (3 hours), CRSS(FANR) 3060L - Soils and Hydrology Laboratory (1 hour)
EHSC 4610 - Water Pollution and Human Health (3 hours)

Electives (24 hours)
Choose 24 hours from the following:

CHEM 3300 - Modern Instrumental Methods of Analysis (3 hours)
CHEM 3400 - Modern Inorganic Chemistry (3 hours)
CHEM 3511-3511L - Experimental Methods I (3 hours)
CHEM 4500 - Scientific Information Acquisition and Dissemination (3 hours)
CRSS 3920 - Environmental Soil Science Internship (3 hours)
ENGR 4480/6480 - Instrumentation for Environmental Quality (3 hours)
CRSS 4600/6600 - Soil Physics (3 hours), CRSS 4600L/6600L - Soil Physics Laboratory (1 hour)
MIBO 3500 - Introductory Microbiology (3 hours)
CRSS(MIBO) 4610/6610-4610L/6610L - Soil Microbiology (3 hours)
STAT 2000 - Introductory Statistics (4 hours)
EHSC 3910 - Internship in Environmental Health Science (3 hours)
EHSC 4150 - Solid and Hazardous Waste Management (3 hours)
EHSC(FDST)(MIBO) 4310/6310-4310L/6310L - Environmental Microbiology (4 hours)
EHSC 4350-4350L - Environmental Chemistry (3 hours)
EHSC 4490/6490 - Environmental Toxicology (3 hours)

DRAFT

Environmental Resource Science (B.S.E.S.)

DEGREE REQUIREMENTS

Entrance Requirements for the Major

General Education Core Curriculum
(Selected with the advice of an academic advisor)

Areas I II III IV V

Area VI

Major Requirements

College-wide Requirements must be satisfied in order to graduate with this major

TOTAL DEGREE HOURS 120 hours

I. FOUNDATION COURSES (9 HOURS)

ENGL 1101 or ENGL 1101E or ENGL 1101S
ENGL 1102 or ENGL 1102E or ENGL 1103 or ENGL 1050H or ENGL 1060H
MATH 1113 or MATH 2200 or MATH 2250 or MATH 2300H or MATH 2400 or MATH 2400H or MATH 2410 or MATH 2410H

II. SCIENCES (7-8 HOURS)

At least one of the physical science or life science courses must include a laboratory.

Physical Sciences (3-4 hours)

Preferred Course(s): (CHEM 1211* and CHEM 1211L*) or (CHEM 1311H* and CHEM 1311L*)

* In addition to meeting upper-level core prerequisites, this course can be used to satisfy the College of Agricultural and Environmental Sciences graduation requirements.

Life Sciences (3-4 hours)

Preferred Course(s): (BIOL 1107, BIOL 1107L)* or (BIOL 2107H, BIOL 2107L)* or (PBIO 1210*, PBIO 1210L*)

* In addition to meeting upper-level core prerequisites, this course can be used to satisfy the College of Agricultural and Environmental Sciences graduation requirements.

III. QUANTITATIVE REASONING (3-4 HOURS)

Preferred Course(s): STAT 2000 or STAT 2100H or MATH 2200 or MATH 2300H

IV. WORLD LANGUAGES AND CULTURE, HUMANITIES AND THE ARTS (12 HOURS)

Note: Course credit received as a result of a score on a departmental foreign language placement test will not satisfy the General Education Core Curriculum requirements in Area IV, World Languages and Culture, Humanities and the Arts.

World Languages and Culture (9 hours)

No preferred courses for this area. See Core Curriculum view.

Humanities and the Arts (3 hours)

Preferred Course(s): COMM 1100* or COMM 2150H*

* In addition to meeting upper-level core prerequisites, this course can be used to satisfy the College of Agricultural and Environmental Sciences graduation requirements.

V. SOCIAL SCIENCES (9 HOURS)

- Students who have not met the Georgia and U.S. Constitution requirement by examination should enroll in POLS 1101.
- A passing grade on an examination on the history of the United States and Georgia is required to satisfy the United States and Georgia History Requirement for all persons receiving a baccalaureate degree from the University, unless exempted by one of the following courses: HIST 2111, HIST 2112. Examinations are given at University Testing Services. Reexamination is permitted. Contact University Testing Services at (706) 542-3183 for information.

Preferred Course(s): ECON 2106 or ECON 2106H

Area VI
(BIOL 1108, BIOL 1108L) or (BIOL 2108H, BIOL 2108L)
CHEM 1212, CHEM 1212L or CHEM 1312H, CHEM 1312L
CHEM 2100, CHEM 2100L or CHEM 2311H, CHEM 2311L or CHEM 2312H, CHEM 2312L

Choose six (6) hours from the following list:
CHEM 2211, CHEM 2211L or CHEM 2311H, CHEM 2311L
CHEM 2212, CHEM 2212L or CHEM 2312H, CHEM 2312L
CSCI 1100-1100L
ECON 2105 or ECON 2105H or ECON 2106 or ECON 2106H
MATH 2200 or MATH 2300H

MATH 2310H or MATH 2400H or MATH 2410H
PHYS 1111-1111L
PHYS 1112-1112L
STAT 2000 or STAT 2100H

If any of the courses in Area VI have been used to satisfy Areas II-V of the Core Curriculum, General Electives may be taken here. (Refer to College-wide requirements when selecting General Electives)

MAJOR REQUIREMENTS

A baccalaureate degree program must require at least 21 semester hours of upper division courses in the major field and at least 39 semester hours of upper division work overall.

Required Courses (21 hours)

AESC 3510
CRSS(MIBO) 4610/6610-4610L/6610L
AESC 4960 (3 hours)
CRSS 3050
CRSS(FANR) 3060, CRSS(FANR) 3060L
EETH(AESC) 4190/6190 or HORT 4990/6990
HORT(CRSS) 4430/6430

Major Electives (22 hours)

AAEC 4050/6050
AESC 3920*
AESC 3150
AESC 4950**
ALDR 3900S
APTC(EHSC) 3080
BCMB 3100
CRSS(AGCM) 3100
CRSS 3270, CRSS 3270L
CRSS 3540
CRSS 3920*
CRSS 4050/6050
CRSS 4220/6220
CRSS 4340/6340
CRSS(HORT) 4400/6400
ENTO 3740-3740L
ENTO 3900**
ENTO 3910*
ENTO 4000/6000-4000L/6000L
ENTO(CRSS)(PATH) 4250/6250
ENTO 4500/6500-4500L/6500L
ENTO(CRSS)(PATH) 4740/6740
ENVM 3060
ENVM(EHSC) 4250/6250
ENVM 4800/6800
ENVM(AAEC) 4930/6930
FANR 3200, FANR 3200L
GENE 3200-3200D
HORT(ANTH)(PBIO) 3440
HORT 3620-3620L

CRSS(GEOL) 4540/6540-4540L/6540L	HORT(CRSS) 4440/6440-4440L/6440L
CRSS 4580/6580	HORT 4990/6990
CRSS(WASR) 4660/6660	MIBO 3500
CRSS 4670/6670	MIBO 3510L
CRSS 4960L**	PATH 3530-3530L
ECOL 3500-3500L	PATH 3910*
EETH(AESC) 4190/6190	PATH 3990**
EETH 4230/6230	PGEN 3580
ENTO(EHSC) 3590-3590L	WASR(CRSS)(ECOL)(ENGR)(GEOG)(GEOL) 4700L/6700L

* No more than 3 credit hours of the following internship courses may be used as a major elective: AESC 3920, CRSS 3920,ENTO 3910, and PATH 3910.

** No more than 3 credit hours of the following courses may be used as a major elective: AESC 4950, CRSS 4960L , ENTO 3900, and PATH 3990.

Area of Emphasis in Environmental Chemistry (50 hours)

Required Courses (26 hours)
BCMB 3100
CHEM 2300
CHEM 3110
CRSS(FANR) 3060, CRSS(FANR) 3060L
CRSS(WASR) 4660/6660
CRSS 4670/6670
EHSC 4080/6080
EHSC 4610

Electives (24 hours)
Choose 24 hours from the following:

CHEM 3300
CHEM 3400
CHEM 3511-3511L
CHEM 4500
CRSS 3920
CRSS 4600/6600, CRSS 4600L/6600L
CRSS(MIBO) 4610/6610-4610L/6610L
EHSC 3910
EHSC 4150
EHSC(FDST)(MIBO) 4310/6310-4310L/6310L
EHSC 4350-4350L
EHSC 4490/6490
ENGR 4480/6480
MIBO 3500
STAT 2000

Area of Emphasis in Resource Management (43 hours)

Required Courses (21 hours)
AESC 3510
CRSS 3050
CRSS(FANR) 3060, CRSS(FANR) 3060L
CRSS(MIBO) 4610/6610-4610L/6610L
CRSS 4960
HORT(CRSS) 4430/6430
HORT 4990/6990

Electives (22 hours)

AAEC 4050/6050
AESC 3920* or ENTO 3910* or CRSS 3920
AESC 3150
ALDR 3900S
BCMB 3100
CRSS 4050/6050
CRSS 4580/6580
CRSS(WASR) 4660/6660
EETH 4230/6230
ENVM 3060
ENVM(EHSC) 4250/6250
ENVM 4800/6800
ENVM(AAEC) 4930/6930
FANR 3200, FANR 3200L
HORT 4990/6990
MIBO 3500
WASR(CRSS)(ECOL)(ENGR)(GEOG)(GEOL) 4700L/6700L

* No more than 3 credit hours of the following internship courses may be used as a major elective: AESC 3920, CRSS 3920, ENTO 3910, and PATH 3910.

** No more than 3 credit hours of the following courses may be used as a major elective: AESC 4950, CRSS 4960L, ENTO 3900, and PATH 3990.

General Electives (17 hours)
0-3 hours upper division

(This total does not include the 1-hour P.E. requirement)