The University of Georgia

University Council
Athens, Georgia 30602

January 8, 2016

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Dear Colleagues:

The attached proposal for a new Area of Emphasis in Teaching Advanced Mathematics under the major in Mathematics Education (B.S.Ed.) and under the dual degree in Mathematics (B.S.) and Mathematics Education (B.S.Ed.) will be an agenda item for the January 15, 2016, Full University Curriculum Committee meeting.

Sincerely,

William K. Vencill

William K. Vencill, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav

The University of Georgia

College of Education
*Department of Mathematics and Science Education*

October 28, 2015

COE Curriculum Committee
Aderhold Hall
Campus

Dear Committee:

Attached is a proposal to establish a new Area of Emphasis for the Mathematics Education program, entitled "Teaching Advanced Mathematics." We have some students who wish to have the content knowledge and skills that we offer through our program but who do not want to become certified teachers in the state of Georgia. Students who complete this program will be prepared to continue their education in mathematics or mathematics education and pursue careers in teaching and research at the collegiate level. As part of this area of emphasis, we have designed a new course, Teaching and Learning Undergraduate Mathematics, and a new internship, College Mathematics Teaching Internship, both of which have been submitted to this committee for review. The new course will be open to our regular mathematics education students as an elective, to mathematics majors who are interested in pursuing study in mathematics education, and to master's degree and doctoral students in both Mathematics and Mathematics Education. We are submitting two identical proposals because we need to make sure this track is available to dual Mathematics/Mathematics Education majors as well. The Mathematics Department is supportive of this proposal.

A new policy of the Georgia Professional Standards Commission (PSC) now requires teacher preparation programs to collect and report key assessment data on all students in teacher preparation programs. These data are supposed to reflect only those who intend to pursue certification to teach. Thus we, along with other teacher preparation programs at UGA, needed to create a clear area of emphasis for those students who do not intend to pursue certification in order for clear and valid data to be collected. Having this area of emphasis will allow appropriate classification of students in the COE data and avoid the consequences of invalid data for the College of Education and our program. Please let me know if you have any questions or concerns.

Sincerely,

AnnaMarie Conner

AnnaMarie Conner
Associate Professor
Mathematics Education Program Coordinator

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# PROPOSAL FOR AREA OF EMPHASIS

1. School/College: College of Education

2. Department/Division: Mathematics and Science Education

3. Major: Mathematics Education (B.S.Ed.)

*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.*

4. Major Requirements: Attach a list of requirements for the major. Undergraduate programs may attach a copy of the major requirements from the online bulletin. Graduate programs may provide a list of general requirements for the major.
   *See attached list from bulletin.*

5. Area of Emphasis Title (as it will appear in the *Bulletin*): Teaching Advanced Mathematics

6. Proposed starting date: Fall 2016

7. Area of Emphasis Description:
   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.

   The *Teaching Advanced Mathematics* emphasis will follow all Mathematics Education degree requirements with the following exception:
   EMAT 5460/7460 is no longer a requirement, and is replaced with:
   Choose 12 hours from the following:
   EMAT 4920/6920 (3 cr.)
   EMAT 5700 (6 cr.)
   EMAT Elective (3 cr.)
   EMAT 5460/7460 (12 cr.)

# PROPOSAL FOR AREA OF EMPHASIS

1. School/College: College of Education/Franklin College of Arts and Sciences

2. Department/Division: Mathematics and Science Education/Mathematics

3. Major: Mathematics Education (B.S.Ed.)/Mathematics (B.S.) Dual Degree

*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.*

4. Major Requirements: Attach a list of requirements for the major. Undergraduate programs may attach a copy of the major requirements from the online bulletin. Graduate programs may provide a list of general requirements for the major.
   *See attached list from bulletin.*

5. Area of Emphasis Title (as it will appear in the *Bulletin*): Teaching Advanced Mathematics

6. Proposed starting date: Fall 2016

7. Area of Emphasis Description:
   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.

   The *Teaching Advanced Mathematics* emphasis will follow all Mathematics Education/Mathematics Dual degree requirements with the following exception:
   EMAT 5460/7460 is no longer a requirement, and is replaced with:
   Choose 12 hours from the following:
   EMAT 4920/6920 (3 cr.)
   EMAT 5700 (6 cr.)
   EMAT Elective (3 cr.)
   EMAT 5460/7460 (12 cr.)

# Mathematics Education - B.S.Ed. DRAFT

**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**

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**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 1113E or MATH 2200 or MATH 2250 or MATH 2250E or MATH 2300H or MATH 2400 or MATH 2400H or MATH 2410 or MATH 2410H
Preferred course: MATH 2250 or MATH 2250E (MATH 2250 is a prerequisite for upper division courses in the major)

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**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):** PHYS 1211-1211L

**Life Sciences (3-4 hours)**

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

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**III. QUANTITATIVE REASONING (3-4 HOURS)**

**Preferred Course(s):** MATH 2250 or MATH 2250E or MATH 2260 or MATH 2300H
Preferred course: MATH 2260

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**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)**

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

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**V. SOCIAL SCIENCES (9 HOURS)**

- Students who have not met the Georgia and U.S. Constitution requirement by examination should enroll in POLS 1101 or POLS 1101E or POLS 1105H.
- 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 or HIST 2111E or HIST 2111H or HIST 2112 or HIST 2112E or HIST 2112H Examinations are given at University Testing Services. Reexamination is permitted. Contact University Testing Services at (706) 542-3183 for information.

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

**Area VI**
EDUC 2110 or EDUC 2110E or EDUC 2110H
EDUC 2120 or EDUC 2120E or EFND 2120H
EDUC(EPSY) 2130 or EPSY 2130H
MATH 2270* or MATH 2500 or MATH 2700
SPED 4030/6030 or SPED 4030E/6030E
STAT 2000 or PHYS 1211-1211L or PHYS 1212-1212L

*MATH 2270 is preferred. Students may not receive credit in both MATH 2270 and MATH 2500.

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

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**Entrance Requirements**
All teacher education candidates are required to have a GaPSC pre-service certificate prior to beginning field experience. Click on the link for the Pre-Service Requirements and instructions:
http://epr.coe.uga.edu/gapsc/pre-service-certificate/

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**High-Demand Major–Selection Criteria**
All students must meet the following minimum qualifications to be admitted:
- Overall GPA of 2.75 or higher,
- Passing scores on GACE basic skills test or exemption,
- Grade of "C" (2.0) or higher in MATH 2250 or MATH 2250E or MATH 2260, MATH 3200
- Completion of one of the following courses: MATH 2500, MATH 2700, MATH 3000
- Documented completion of at least 30 clock hours of tutoring students in mathematics of grades 6-12 in a structured setting.

All students meeting these requirements will then be ranked using the following formula:
(Grade in MATH 2250 x 5) + (Grade in MATH 2260 x 5) + (Grade in MATH 3200 x 5) + (Grade in MATH 2500 or MATH 3000 or MATH 2700 x 5) + (Overall grade point average x 5).

A minimum of 57.25 points is required to be considered for admission. Students who have at least 57.25 points will then be rank ordered, and the 25 students having the highest point totals will be admitted to the program each semester.

In the event of a "tie," we will admit 26 students. A student who has been admitted for a given semester and is unable to enroll due to an emergency will automatically be allowed into the next cohort s/he is able to join. Students can reapply as many times as they wish.

**Mathematics Education Application:** http://www.coe.uga.edu/mse/academic-programs/mathematics-education/b-s-e-d/program-information/

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**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.

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**Required Courses** (51 hours)

(A minimum grade of "C" (2.0) or higher is required.)

EMAT 3700
EMAT 3800
EMAT 3900
EMAT 4800
EMAT 4800L
EMAT 4850
EMAT 4850L
EMAT 4900
EMAT 4900L
EMAT 4950/6950
~~EMAT 5460/7460 (12 hours)~~
MATH 3000
MATH 3200
MATH 4000/6000
MATH 5200/7200
STAT 4070/6070 or STAT 4210 or MATH 4600/6600

Teacher Certification Option: (12 hours)
EMAT 5460/7460 or EMAT 5460H

Area of Emphasis in Teaching Advanced Mathematics:
Choose 12 hours from the following:
EMAT 4920/6920 (3 hours)
EMAT 5460/7460 or EMAT 5460H (12 hours)
EMAT 5700 (6 hours)
EMAT Elective (3 hours)

**Major Electives** (9 hours)

Complete a total of nine (9) hours. You must choose at least one MATH course and at least one EMAT course from the options below:
EMAT 4000/6000 or above (except EMAT 5280/7280, EMAT 5290/7290, EMAT 5320/7320)
MATH 2270* or MATH 2500*
MATH 2700*
MATH 3000 or above (except MATH 5001/7001, MATH 5002/7002, MATH 5003/7003, MATH 5020/7020, MATH 5030/7030, MATH 5035/7035)
STAT 4210**
STAT 4220

*MATH 2270 is preferred. Students may not earn credit in both MATH 2270 and MATH 2500. If taken above in Area VI, you must choose another course to satisfy Major Elective requirements.
**If taken above in Required Courses, you must choose another course to satisfy Major Elective Requirements.

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

# Mathematics/Mathematics Education - Dual Degree - B.S., B.S.Ed. DRAFT

**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**

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**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 1113E or MATH 2200 or MATH 2250 or MATH 2250E or MATH 2300H or MATH 2400 or MATH 2400H or MATH 2410 or MATH 2410H
Preferred course: MATH 2250 or MATH 2250E

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**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):** PHYS 1211-1211L or PHYS 1311-1311L

**Life Sciences (3-4 hours)**

**Preferred Course(s):** Please consider the Franklin College's Biological Sciences requirement when selecting courses from the Core Curriculum. Some courses approved for the core curriculum do not satisfy the Franklin College requirement.

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**III. QUANTITATIVE REASONING (3-4 HOURS)**

**Preferred Course(s):** MATH 2250 or MATH 2250E or MATH 2300H or MATH 2260
Preferred course: MATH 2260 (MATH 2260 is a prerequisite for upper-division MATH courses.)

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**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)**

**Preferred Course(s):** Foreign Language recommended.

**Humanities and the Arts (3 hours)**

**Preferred Course(s):** See Franklin College Literature and Fine Art/Pilosophy/Religion Requirements.

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**V. SOCIAL SCIENCES (9 HOURS)**

- Students who have not met the Georgia and U.S. Constitution requirement by examination should enroll in POLS 1101 or POLS 1101E or POLS 1105H.
- 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 or HIST 2111E or HIST 2111H, HIST 2112 or HIST 2112E or HIST 2112H. Examinations are given at University Testing Services. Reexamination is permitted. Contact University Testing Services at (706) 542-3183 for information.

**Preferred Course(s):** See Franklin College Social Science Requirement.

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**Area VI**
EDUC 2110 or EDUC 2110E or EDUC 2110H
EDUC 2120 or EDUC 2120E or EFND 2120H
EDUC(EPSY) 2130 or EPSY 2130H
MATH 2270 (preferred) or MATH 2500 (waived by MATH 3510 or MATH 3510H)
SPED 4030/6030 or SPED 4030E/6030E

Choose one course from the following that has not been taken in Area III*:
PHYS 1211-1211L or PHYS 1311-1311L
PHYS 1212-1212L or PHYS 1312-1312L
CSCI 1301-1301L or higher
CSCI 1302

*STAT 4210 may satisfy requirements for one of these courses. Any other courses (not used elsewhere in the Core) can be used to complete 18 hours in Area VI.

Note: Two courses from the following: PHYS 1211-1211L, PHYS 1212-1212L, PHYS 1311-1311L, PHYS 1312-1312L,CSCI 1301-1301L, CSCI 1302, or STAT 4210 are required and may be taken in areas other than VI.

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)

All MATH, STAT, EMAT, EFND, EDUC, and EPSY courses must have a grade of "C" (2.0) or higher.

Note: Mathematics requires individual review of non-equivalent transfer courses before they can be used to satisfy Area VI and Major Requirements.

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**Entrance Requirements**
Overall GPA of at least 2.75 and completion of MATH 2250 or MATH 2250E (or MATH 2400 or MATH 2400H ), MATH 2260 (or MATH 2310H or MATH 2410 or MATH 2410H), MATH 3200 and one course from MATH 2270, MATH 2500, MATH 2700, or MATH 3000 with a grade of "C" (2.0) or higher, and 30 hours of tutoring. Pass or exempt the GACE Basic Skills Assessment test. Students may apply to Mathematics Education with MATH 2270 and MATH 3200, MATH 2500 or MATH 2700 (MATH 2700 does NOT count in Area VI for the dual EMAT/MATH major) in progress. Students who intend to pursue the dual EMAT/MATH major are encouraged to contact the departmental coordinators as soon as possible.

**Mathematics Education Application: http://www.coe.uga.edu/mse/academic-programs/mathematics-education/b-s-e-d/program-information/**

All teacher education candidates are required to have a GaPSC pre-service certificate prior to beginning field experience. Click on the link for the Pre-Service Requirements and instructions: http://epr.coe.uga.edu/gapsc/pre-service-certificate/

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**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.
Students in the Franklin College must earn a grade of "C" (2.0) or better in major required courses.

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**Required Courses** (54 hours)
**Required Content Courses (18 hours):**
MATH 3000
MATH 3100 or MATH 3100H
MATH 3200
MATH 4000/6000
MATH 4600/6600 or STAT 4510/6510
MATH 5200/7200

**Required Professional Courses (36 hours):**
EMAT 3700
EMAT 3800
EMAT 3900
EMAT 4800 and EMAT 4800L
EMAT 4850 and EMAT 4850L
EMAT 4900 and EMAT 4900L
EMAT 4950/6950
~~EMAT 5460/7460 or EMAT 5460H (12 hours)~~

Teacher Certification Option: (12 hours)
EMAT 5460/7460 or EMAT 5460H

Area of Emphasis in Teaching Advanced Mathematics:
Choose 12 hours from the following:
EMAT 4920/6920 (3 hours)
EMAT 5460/7460 or EMAT 5460H (12 hours)
EMAT 5700 (6 hours)
EMAT Elective (3 hours)

**Major Electives** (6 hours)
One course of MATH 4100/6100 or MATH 4150/6150, or MATH 4250/6250
One additional MATH elective - choose from list of 3000-level or above courses (Except MATH 5001/7001, MATH 5002/7002, MATH 5003/7003, MATH 5020/7020, MATH 5030/7030, or MATH 5035/7035)

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