

## Program Curriculum Changes

### Masters of Education in Science Education

#### Proposed to change to

### Masters of Education in Science, Technology, Engineering, and Mathematics Education

**Background:** The STEM Education Department seeks to combine its three Master's programs to be consistent with its reorganization of its doctoral programs. In 2017 our doctoral degrees became a Ph.D. in Learning and Teaching in STEM Education. Similarly, we request to merge our three Master's programs - in mathematics education, science education and technology education - into one STEM Education Master's degree program. We want to have three concentrations: Mathematics and Statistics Education, Science Education and Engineering and Technology Education. Each of these degrees will have a shared course, and will consist of 30 credit hours.

We will accomplish our reorganization by (1) discontinuing our Master of Education programs in Mathematics Education and Technology Education, and (2) renaming our master's program in Science Education to Science, Technology, Engineering, and Mathematics Education.

Note that our current MS programs are not affected by this change and we will make sure to communicate that to our MS students.

#### Proposed changes:

##### Name Change:

Prior name: Science Education

New Name: **Science, Technology, Engineering, and Mathematics Education**

b) Number of credit hours: change from 36 hrs to 30 hours.

c) Admissions requirements are the same. 3 references, min 3.0 undergraduate GPA, personal statement.

d) New preferred CIP code: 13.1399

#### Logistics:

This change will go into effect Fall 2019. Current students will be allowed to switch over to the new option if they desire, or continue in their Plan of Work until completion. The teach out plan for current students is that if they have already started in our old plan, as late as Fall 2018, they will be allowed to choose to stay in the plan until graduation, no later than Fall 2024 (maximum 6 year window). We will start the recruitment process in spring of 2019

## **Current Curriculum--36 hrs**

### **Science Education Core (12 semester hours)**

- EMS 575 Foundations of Science Education (3)
- EMS 521 Advanced Methods in Science Education I (3)
- EMS 522 Advanced Methods in Science Education II (3)
- EMS 573 Technology Tools for Science Teaching (3)

### **Focus Area (6 semester hours)**

Courses may be taken to develop expertise in areas such as College Science Education, Teacher Education (Elementary, Middle or High School) or Informal Education. Focus areas include but are not limited to:

Middle School Education (ECI 550, ECI 551, PSY 582)

Special Populations (ECI 500, ECI 570, ELP 515)

Thesis Research (EMS 695)

Mentoring Preservice/Inservice Teachers (ECI 641, ECI 651)

Science (additional 6 hours in a specific content concentration)

### **Science Courses (15 semester hours) 400-level or above**

(Note: No more than six credit hours of 400-level courses may be counted toward the degree, and they may not come from the major field). 3 hours may be a research experience.

### **Research (3 hrs)**

- EMS 531 Introduction to Research in Science Education (3)

## Proposed Curriculum--30 hrs

### Core Course 3 hrs

EMS 573 Design of Tools and Learning Environments in STEM Education

### Concentration-specific Courses 27 hrs

**Three concentrations: Science Education, Engineering and Technology Education, Mathematics and Statistics Education**

For each concentration, there will be 12 hours of courses specific to the concentration (mathematics education, science education, technology education) and 15 hrs of specialty content courses that students can take to deepen their content disciplinary knowledge (e.g., ST 508, MA 509, EAC 559, NTR 515)

- Transcript Notation: This degree will be noted on the student's transcript as either:
- Program Name: **"Master of Education in Science, Technology, Engineering and Mathematics Education"**
- Concentrations: [Student will choose one of these subplans]
  - **Science Education**
  - **Engineering and Technology Education**
  - **Mathematics and Statistics Education**

## M.Ed. in Science Technology Engineering and Mathematics Education

### Curriculum: 30 hrs

**Core Course 3 hrs (All three concentrations take this course. Existing course that will undergo only a name change)**

EMS 573 Design of Tools and Learning Environments in STEM Education

### Speciality Courses 27 hrs

#### *Science Education Concentration*

- 12 hrs of science education courses
  - EMS 521 Advanced Methods in Science Education I (3)
  - EMS 522 Advanced Methods in Science Education II (3)
  - EMS 531 Introduction to Research in Science Education (3)
  - EMS 575 Foundations of Science Education (3)
- 15 hrs of specialty content courses from an estimated 200 options, such as: Bio 592, BCH 553, NTR 515, NTR 624, FOR 595, FOR 501, HS 541, MEA 517, MEA 582, EA 501, EA 503, PHY 552, PY 582.

#### *Mathematics and Statistics Education Concentration*

- 12 hrs of mathematics education
  - EMS 513 Teaching and Learning Algebra
  - EMS 514 Teaching and Learning Geometry
  - EMS 519 Teaching and Learning Statistics
  - EMS 580 Teaching Mathematics with Technology or EMS 510 Interactions in Mathematics Classrooms or EMS 581 Advanced Application of Technology in Math Ed
- 15 hrs of specialty content courses from an estimated 20 options, such as: MA 501, MA 502, MA 508, MA 511, MA 513, MA 523, MA 580, MA 591.

#### *Engineering and Technology Education Concentration*

- 12 hrs of Engineering and Technology Education
  - TED 530
  - TED 558
  - TED 552
  - TED 555
- 15 hrs of specialty content courses from an estimated 300 options, such as: ED 572, ECI 514, ECI 511, EAC 539, EAC 551, EAC 559, EAC 580, EAC 582, EAC 585, ECI 716, ECI 719.

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### Admissions Requirements and Process

(no GRE)

3 references, min 3.0 GPA, personal statement

Applicants will select a subspeciality on application time and then routed to subspeciality review.

Admit for Summer and Fall,

**Combined Master's Program for STEM Education  
North Carolina State University**

This request has been reviewed and approved by the appropriate campus committees and authorities.

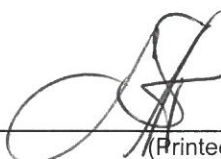
**Endorsed By:**

 Aaron C. Cook 2/26/18  
Head, Department/Director of Graduate Program (Printed Name and Signature) Date


**Recommended By:**

 Karen F. Hollebrands 3/29/18  
Chair, College Graduate Studies Committee (Printed Name and Signature) Date


**Endorsed By:**

 Lee V. Stiff 4/3/18  
College Dean (Printed Name and Signature) Date

**Recommended By:**

 Thomas R. M. McCreary 4/17/18  
Vice Provost, DELTA (if DE degree) (Printed Name and Signature) Date

**Approved By:**

Peter J. Harris  9/27/18  
Dean of the Graduate School (Printed Name and Signature) Date

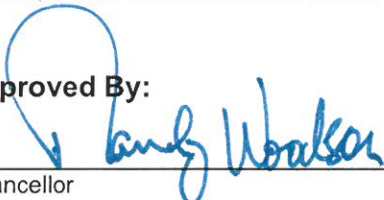
**Recommended By:**

 Duane K. Larick 10/26/18  
Dean's Council (Printed Name and Signature) Date

**Approved By:**

 W. RANDOLPH Woodson 11/1/18  
Executive Vice Chancellor and Provost (Printed Name and Signature) Date

**Approved By:**

 W. RANDOLPH Woodson 11/1/18  
Chancellor (Printed Name and Signature) Date

**UNIVERSITY OF NORTH CAROLINA  
REQUEST TO DISCONTINUE  
A DEGREE PROGRAM, SITE OR DELIVERY MODE**

Date: 8/26/18

Constituent Institution: N C State University

Is the program a joint degree program? Yes No X

Joint Partner campus

Title of Authorized Program: Technology Education Degree Abbreviation: TEDMED

CIP Code (6-digit): 13.1309 Level: B M X I D

CIP Code Title: Technology Teacher Education/Industrial Arts Teacher Education

If the degree program has associated UNC Teacher Licensure Specialty Area Codes that, upon this discontinuation, should be attributed to a different degree program, then complete the following:

UNC Teacher Licensure Specialty Area Code (one per line; add as needed)	Degree Program to Receive Specialty Area Code		
	Title	Degree awarded	6-Digit CIP
109	Technology Teacher Education/Industrial Arts Teacher Education	M.Ed.	131309

Term of Proposed Discontinuation (when new students will no longer be admitted):

term Spring year 2019

1. What type of program discontinuation is being requested? (if b/c/d, one or more can be selected)
  - a) Discontinue - Permanent. (While course offerings already shared across degree programs may continue, the program components will not become a significant or distinct component of another program. Degree program is discontinued in full in Academic Program Inventory (API), including any approved off-campus sites and alternate means of delivery; requires action of Board of Governors)
  - b) **Discontinue - Delivery**. Eliminate one or more delivery types and keep the program active.

- On-campus delivery of program
- Online delivery of program
- Site-based delivery of program
  - Instructor present (off-campus delivery)
  - Instructor not present (site-based distance education)

c)  **Discontinue - Consolidate.** Program components will become a significant or distinct component in another degree program (e.g. concentration/track).

- Existing degree program (BOG approved)
  - Program title, degree, CIP \_\_\_\_\_
- New degree program (Request to Establish and BOG approval generally required)
  - Proposed program title, degree, CIP STEM Education. 13.1399 (new. re-named degree)

If (b) is selected and sites are to be discontinued, please list them (add lines as needed).

Site #1

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(address, city, county, state)

(date of site authorization by GA)

Site #2

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(address, city, county, state)

(date of site authorization by GA)

Site #3

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(address, city, county, state)

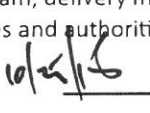
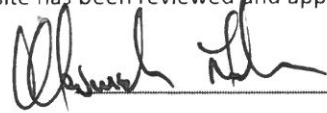
(date of site authorization by GA)

2. Explain why the program, site, or delivery mode is being discontinued.
- a. If the program, site or delivery mode addresses high priority needs, how will those needs be addressed by other programs? **Consolidation of Mathematics Ed, Science Ed and Technology Ed into a Master's of Education in STEM Ed for feasibility and function.**
  - b. Describe how affected parties (faculty, staff, students) will be informed of the impending closure and, where applicable, of any additional charges/expenses to students. **Web page announcements, email, faculty meeting announcements. Will be a cost benefit to students due to reduced course hours.**
  - c. Describe steps to be taken to allow students enrolled in the program, site or delivery mode to complete their courses of study. **They may remain in the current degree, or choose to go into the new option. The "teach-out-plan" for current students is that if they have already started in the old plan, as late as Spring 2019, they will be allowed to choose to stay in the plan until graduation, no later than Fall 2024 [maximum 6 year window]. All courses required of the existing degree programs will continue to be offered until Fall 2024 so students will be able to satisfy all requirements for the current degree programs. We anticipate this will involve fewer than 10 students.**

3. Discuss the reassignment of any faculty, staff and EHRA non-faculty, including number of each type of personnel to be reassigned. **N/A**
  
4. Discuss the discontinuation of the employment of any faculty, staff and EHRA non-faculty, including number of each type of personnel to be discontinued. **N/A**
  
5. Discuss reallocation or reduction of costs resulting from each discontinuation(s), including specific amounts related to each discontinuation. **Consolidation of 3 programs and the Distance Ed delivery will reduce overall costs by having a shared course for the 3 concentrations.**
  
6. Name, title, telephone, and e-mail of contact person for this notification of discontinuation:  
**Dr. Margaret R. Blanchard, Director of Graduate Programs, STEM Ed, NC State,  
919-515-1771, mrblanch@ncsu.edu**

This request to discontinue a degree program, delivery mode, or site has been reviewed and approved by the appropriate institutional committees and authorities.

Signature of Chief Academic Officer:

Signature of Chief Academic Officer (Joint Campus partner) \_\_\_\_\_



**UNIVERSITY OF NORTH CAROLINA  
REQUEST TO DISCONTINUE  
A DEGREE PROGRAM, SITE OR DELIVERY MODE**

Date: 8/26/2018

Constituent Institution: North Carolina State University

Is the program a joint degree program? Yes No

Joint Partner campus

Title of Authorized Program: Mathematics Education Degree Abbreviation: MEDMED

CIP Code (6-digit): 13.1311 Level: B M  I \_\_\_ D

CIP Code Title: Mathematics Teacher Education

If the degree program has associated UNC Teacher Licensure Specialty Area Codes that, upon this discontinuation, should be attributed to a different degree program, then complete the following:

UNC Teacher Licensure Specialty Area Code (one per line; add as needed)	Degree Program to Receive Specialty Area Code		
	Title	Degree awarded	6-Digit CIP
0901	Mathematics Education	M.Ed.	131311

Term of Proposed Discontinuation (when new students will no longer be admitted):

term Spring year 2019

1. What type of program discontinuation is being requested? (if b/c/d, one or more can be selected)
  - a)  **Discontinue - Permanent.** (While course offerings already shared across degree programs may continue, the program components will not become a significant or distinct component of another program. Degree program is discontinued in full in Academic Program Inventory (API), including any approved off-campus sites and alternate means of delivery; requires action of Board of Governors)
  - b)  **Discontinue - Delivery.** Eliminate one or more delivery types and keep the program active.
    - o  On-campus delivery of program

- Online delivery of program
  - Site-based delivery of program
    - Instructor present (off-campus delivery)
    - Instructor not present (site-based distance education)
- c)  **Discontinue - Consolidate.** Program components will become a significant or distinct component in another degree program (e.g. concentration/track).
- Existing degree program (BOG approved)
    - Program title, degree, CIP \_\_\_\_\_
  - New degree program (Request to Establish and BOG approval generally required)
    - Proposed program title, degree, CIP STEM Education. 13.1399 (new, re-named degree)

If (b) is selected and sites are to be discontinued, please list them (add lines as needed).

Site #1

---

(address, city, county, state)

(date of site authorization by GA)

Site #2

---

(address, city, county, state)

(date of site authorization by GA)

Site #3

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(address, city, county, state)

(date of site authorization by GA)

2. Explain why the program, site, or delivery mode is being discontinued.
- a. If the program, site or delivery mode addresses high priority needs, how will those needs be addressed by other programs? **Consolidation of Mathematics Ed, Science Ed and Technology Ed into a Master's of Education in STEM Ed for feasibility and function. Students will be able to enroll in the M.Ed. in Science Technology Engineering and Mathematics Education and pursue a concentration in Mathematics and Statistics Education**
  - b. Describe how affected parties (faculty, staff, students) will be informed of the impending closure and, where applicable, of any additional charges/expenses to students. **Currently enrolled students will be notified via email about the option to continue in the program or switch to the M.Ed. in Science Technology Engineering and Mathematics Education and pursue a concentration in Mathematics and Statistics Education**
  - c. Describe steps to be taken to allow students enrolled in the program, site or delivery mode to complete their courses of study. **The "teach-out-plan" for current students is that if they have already started in the old plan, as late as Spring 2018, they will be allowed to choose to stay in the plan until graduation, no later than Fall 2024 (maximum 6 year window). All courses required of the existing degree programs will continue to be offered until Fall 2024 so students will be able to satisfy all requirements for the current degree programs. We anticipate this will involve fewer than 10 students.**

All students currently enrolled in the program will be allowed to continue until completion. They will also be given the option to switch programs to the revised degree in Science Technology Engineering and Mathematics Education

3. Discuss the reassignment of any faculty, staff and EHRA non-faculty, including number of each type of personnel to be reassigned.

No reassignment of faculty. Faculty will continue offering courses in EMS that will now be part of revised degree in Science Technology Engineering and Mathematics Education

4. Discuss the discontinuation of the employment of any faculty, staff and EHRA non-faculty, including number of each type of personnel to be discontinued.

NONE

5. Discuss reallocation or reduction of costs resulting from each discontinuation(s), including specific amounts related to each discontinuation.

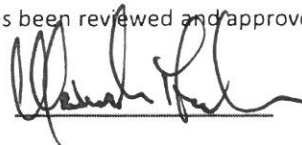
NONE

6. Name, title, telephone, and e-mail of contact person for this notification of discontinuation:

Karen Hollebrands, Professor and Graduate Coordinator, 919-513-0505, kfholleb@ncsu.edu

This request to discontinue a degree program, delivery mode, or site has been reviewed and approved by the appropriate institutional committees and authorities.

Signature of Chief Academic Officer:



Signature of Chief Academic Officer (Joint Campus partner) \_\_\_\_\_

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