# CHANGE MASTERS DEGREE PROGRAM FORM

## 1. GENERAL INFORMATION

| | | | |
|---|---|---|---|
| College: | Education | Department: | STEM Education |

| | | | |
|---|---|---|---|
| Current Major Name: | Science, Technology, Engineering, and Mathematics Education | *Proposed Major Name:* | |

| | | | |
|---|---|---|---|
| Current Degree Title: | MS in STEM Education | *Proposed Degree Title:* | |

| | | | |
|---|---|---|---|
| Formal Option(s): | | *Proposed Formal Option(s):* | |

| | | | |
|---|---|---|---|
| Specialty Fields w/in Formal Option: | | *Proposed Specialty Fields w/in Formal Options*: | |

| | |
|---|---|
| Date of Contact with Institutional Effectives[1]: | 10/11/18 |

| | | | | | |
|---|---|---|---|---|---|
| Bulletin (yr & pgs): | | CIP Code[1]: | 13.1399 | Today's Date: | 10/8/18 |

| | |
|---|---|
| Accrediting Agency (if applicable): | N/A |

| | |
|---|---|
| Requested Effective Date: | ☒ Semester following approval.   OR   ☐ Specific Date[2]: |

| | | | | | |
|---|---|---|---|---|---|
| Dept. Contact Person: | Molly Fisher | Phone: | 859-257-1643 | Email: | molly.fisher@uky.edu |

## 2. CHANGE(S) IN PROGRAM REQUIREMENTS

| | | Current | *Proposed* |
|---|---|---|---|
| 1. | Number of transfer credits allowed | | |
| | (Maximum is Graduate School limit of 9 hours or 25% of course work) | | |
| 2. | Residence requirement (if applicable) | | |
| 3. | Language(s) and/or skill(s) required | | |
| 4. | Termination criteria | | |
| 5. | Plan A Degree Plan requirements[3] (thesis) | | |
| 6. | Plan B Degree Plan requirements[3] (non-thesis) | | |
| 7. | Distribution of course levels required | | |
| | (At least one-half must be at 600+ level & two-thirds must be in organized courses.) | | |
| 8. | Required courses (if applicable) | See Attached | *See Attached* |
| 9. | Required distribution of courses within program (if applicable) | | |
| 10. | Final examination requirements | | |

---

[1] Prior to completing out this form, you MUST contact Institutional Effectiveness, which can provide you with the CIP (OSPIE@l.uky.edu or 257-1962).

[2] Program changes are typically made effective for the semester following approval. No changes will be made effective until all approvals are received.

[3] If there is only one plan for the degree, plans involving a thesis (or the equivalent in studio work, etc.) should be discussed under Plan A and those not involving a thesis should be discussed under Plan B.

## CHANGE MASTERS DEGREE PROGRAM FORM

| 11. | Explain whether the proposed changes to the program (as described in sections 1 to 10) involve courses offered by another department/program. <u>Routing Signature Log must include approval by faculty of additional department(s).</u> |
|---|---|
| | The proposed coursework changes involve changes affecting the following departments:  EDL, EDP, and EPE. All departments were consulted on the changes and final approvals were granted by department vote. |
| 12. | List any other requirements not covered above? |
| | N/A |
| 13. | Please explain the rationale for changes. If the rationale involves accreditation requirements, please include specific references to those requirements. |
| | Curriculum contracts for the program have not been updated since the program began in 2011.  Changes in course names, numbers, and topics occur over time and these updates should be reflected in program documents. |

**General Information:**

Proposal Name:    MS in STEM Education

Proposal Contact Person Name:    Molly Fisher        Phone: 71643        Email: molly.fisher@uky.edu

INSTRUCTIONS:
Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

**Internal College Approvals and Course Cross-listing Approvals:**

| Reviewing Group | Date Approved | Contact Person (name/phone/email) | Signature |
|---|---|---|---|
| STEM | 11/30/18 | Jennifer Wilhelm (chair) / 71291 / jennifer.wilhelm@uky.edu | |
| EDL | 1/23/19 | John Nash (chair) / 77845 / john.nash@uky.edu | |
| COE C&C Committee | 2/27/19 | Jane Jensen/257-1929/jane.jensen@uky.edu | |
| College of Education | 3/15/19 | Melody Noland/323-7482/mnola01@email.uky.edu | |
| | | /       / | |

**External-to-College Approvals:**

| Council | Date Approved | Signature | Approval of Revision[4] |
|---|---|---|---|
| Undergraduate Council | | | |
| Graduate Council | 4/16/19 | Roshan Nikou | |
| Health Care Colleges Council | | | |
| Senate Council Approval | | University Senate Approval | |

Comments:

---

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Updates to the MS in STEM Education **(Rank Change)** Program:

| Change to be made in **required STEM Education Core**: | Reason for change: |
|---|---|
| Remove SEM 670, SEM 674, SEM 701 | Courses no longer offered |
| Remove SEM 706 | Offered only for PhD students |
| Require "Permission from Instructor" for SEM 770 | Many SEM 770 courses are specialized courses and aren't open enrollment for all students |
| Change to be made in **Specialization in STEM Coursework**: | Reason for change: |
| Replace "outside the College of Education" with "outside the Department of STEM Education" | This is to allow students to complete ISD courses in the EDC department as Technology content coursework |
| Change to be made in **Elective Leadership Coursework:** | Reason for change: |
| Remove term offerings for leadership coursework | This allows more flexibility in scheduling |
| Remove ELS 624 | Course name changed and is no longer an appropriate option |
| Remove ELS 612 | Course no longer offered |
| Move EDL 662 from "Technology Leadership" section of Elective Leadership coursework to "Leadership in Learning" section. | More appropriate placement for this course |
| Update the name of EDL 662 to "Leading for Next Generation Learning" | Course has changed names |
| Update name of ELS 600 to "Leadership in Learning-Centered Schools" | Course has changed names |
| Update name of ELS 604 to "Leadership in Communities of Practice" | Course has changed names |
| Update name of ELS 620 to "Leading Action Research and Inquiry 1 (TL)" | Course has changed names |
| Update name of ELS 621 to "Leading Action Research and Inquiry 2 (TL)" | Course has changed names |
| Update name of EDL 663 to "Leadership for School Program Improvement". | Course has changed names |
| Move EDL 663 from "Leadership in Learning" section of Elective Leadership coursework to "Technology Leadership" section. | More appropriate placement for this course |
| Add EDL 669 | This is a new course appropriate for leadership coursework |
| Add EDL 638 | This is a newly redeveloped course appropriate for leadership coursework |
| Remove ELS 616 | No longer an appropriate option |
| Remove ELS 691 | Only a one credit hour course and not an appropriate option |

| | |
|---|---|
| Remove ELS 608 | No longer offered |
| Add EDL 628 | This is a regularly offered course that is appropriate for leadership coursework |

Updates to the MS in STEM Education **(No Certification)** Program:

| Change to be made in **required STEM Education Core**: | Reason for change: |
|---|---|
| Remove SEM 670, SEM 674, SEM 701 | Courses no longer offered |
| Remove SEM 706 | Offered only for PhD students |
| Add SEM 610 | This course is for rank change program, but is also suitable for non-certification program |
| Require "Permission from Instructor" for SEM 770 | Many SEM 770 courses are specialized courses and aren't open enrollment for all students |
| Change to be made in **Specialization in STEM Coursework**: | |
| Replace "outside the College of Education" with "outside the Department of STEM Education" | This is to allow students to complete ISD courses in the EDC department as Technology content coursework |

UNIVERSITY OF **KENTUCKY**® see blue.

## Department of Science, Technology, Engineering, and Mathematics (STEM) Education
## Curriculum Contract – Master's Verification
## Option II - Master's Degree– STEM Education – no certification option
*STEM PLUS[+] – Producing +eacher Leaders for rUral/Urban Schools*

| Name | | | | |
|---|---|---|---|---|
| Email | | | | |
| Address | | | | |
| | Street | City | State | Zip |
| Phone | | | | |
| | Home | Work | Cell/Other | Semester of Admission to Master's Program |

**Professional Goals:** Briefly describe the professional growth goals you hope to meet in pursuing the Rank II Certification and STEM Education Master's Degree.

| |
|---|

**Program Goals:** In helping you develop your own professional goals, the STEM PLUS[+] Master's degree program will also focus on helping you:

1. Connect theory and practice through reflection, teaching, scholarship, and STEM educational action research.
2. Use student achievement data to design authentic, innovative, project-based learning experiences that consider students of diverse backgrounds and perspectives.
3. Explore uses of appropriate assessments and technological tools to enhance STEM teaching, learning, student achievement, and College and Career Readiness.
4. Develop communication skills through multiple forms of discourse and written, oral, and on-line narratives.
5. Explore and implement innovative and engaging curricula, especially around the Kentucky Core Academic Standards and College and Career Readiness, geared towards increasing student achievement.

**Required STEM Education Core:** SEM 603 is required, then select 3 additional courses (Include courses addressing pedagogy, history, equity, and technology) (12 hours)

| Course | Title | Term | Grade | Credits |
|---|---|---|---|---|
| SEM 603 | Curriculum and Instruction in STEM Education | | | 3 |
| SEM 604 | History of STEM Education | | | 3 |
| SEM 610 | Teacher Leadership in STEM Education | | | 3 |

| SEM 613 | Effective Use of Technology for Modeling-Based Inquiry in STEM Education | | | 3 |
|---------|---------------------------------------------------------------|--|--|---|
| SEM 620 | Equity in STEM Education | | | 3 |
| SEM 575 | Mathematics Clinic | | | 3 |
| SEM 504 | Designing Project-Enhanced Environments in STEM Education | | | 3 |
| SEM 708 | Engineering in STEM Education | | | 3 |
| SEM 770 | Special Topics in STEM Education (permission from instructor) | | | 3 |

**Specialization STEM Coursework:** Choose 12 hours in STEM content area(s) <u>outside the Department of STEM Education</u>. See attached list for course suggestions. *(Recommended: 6 hours in your area of expertise and 6 hours outside of your area of expertise).* (12 hours)

| Course | Title | Term | Grade | Credits |
|--------|-------|------|-------|---------|
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |

**Specialization Electives:** Choose 6 hours of coursework electives in research, STEM education, education, or other area (independent study permitted) to further develop expertise or thesis. (Suggested coursework, but not limited to: EDP/EPE 557, EDP/EPE 558, EPE 660, EDP 610, EDP 611, EDP 612)

| Course | Title | Term | Grade | Credits |
|--------|-------|------|-------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **Total Credit Hours** | | | | |

*Minimum 30 credit hours required for graduation and Rank II certification*

**Master's Committee Coursework Approval:**

| Member | Department |
|--------|------------|
| **, Chair** | |
| | |
| | |

Student Signature                                                      Date

Advisory Signature                                                                                  Date

**Department of Science, Technology, Engineering, and Mathematics (STEM) Education**
**Curriculum Contract – Master's Verification**
**Option I – Master's Degree with Rank II Certification – STEM Education**
*STEM PLUS+ – Producing +eacher Leaders for rUral/Urban Schools*

| Name | |
|---|---|
| Email | |

| Address | | | | |
|---|---|---|---|---|
| | Street | City | State | Zip |

| Phone | | | | |
|---|---|---|---|---|
| | Home | Work | Cell/Other | Semester of Admission to Master's Program |

**Professional Goals:** Briefly describe the professional growth goals you hope to meet in pursuing the Rank II Certification and STEM Education Master's Degree.

| |
|---|

**Program Goals:** In helping you develop your own professional goals, the STEM PLUS+ Master's degree program will also focus on helping you:

1. Connect theory and practice through reflection, teaching, scholarship, and STEM educational action research.
2. Use student achievement data to design authentic, innovative, project-based learning experiences that consider students of diverse backgrounds and perspectives.
3. Explore uses of appropriate assessments and technological tools to enhance STEM teaching, learning, student achievement, and College and Career Readiness.
4. Develop communication skills through multiple forms of discourse and written, oral, and on-line narratives.
5. Explore and implement innovative and engaging curricula, especially around the Kentucky Core Academic Standards and College and Career Readiness, geared towards increasing student achievement.

**Required STEM Education Core:** SEM 610 required; choose 3 additional courses (Include courses addressing pedagogy, history, equity, and technology) (12 hours)

| Course | Title | Term | Grade | Credits |
|---|---|---|---|---|
| SEM 603 | Curriculum and Instruction in STEM Education | | | 3 |
| SEM 604 | History of STEM Education | | | 3 |
| SEM 610 | Teacher Leadership in STEM Education (required) | | | 3 |

| Course | Title | Term | Grade | Credits |
|--------|-------|------|-------|---------|
| SEM 613 | Effective Use of Technology for Modeling-Based Inquiry in STEM Education | | | 3 |
| SEM 620 | Equity in STEM Education | | | 3 |
| SEM 575 | Mathematics Clinic | | | 3 |
| SEM 504 | Designing Project-Enhanced Environments in STEM Education | | | 3 |
| SEM 708 | Engineering in STEM Education | | | 3 |
| SEM 770 | Special Topics in STEM Education (permission from instructor) | | | 3 |

**Specialization STEM Coursework:** Choose 12 hours in STEM content area(s) outside the Department of STEM Education *(Recommended: 6 hours in your area of expertise and 6 hours outside of your area of expertise).* (12 hours)

| Course | Title | Term | Grade | Credits |
|--------|-------|------|-------|---------|
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |
| | | | | 3 |

**Elective Leadership Coursework:** Choose from the following (6 hours)

| Course | Title | Term | Grade | Credits |
|--------|-------|------|-------|---------|
| **Assessment Leadership** | | | | |
| EDC/EPE/EDP 522 | Educational Assessment | | | 3 |
| EDL 664 | Assessment Leadership | | | 3 |
| **Technology Leadership** | | | | |
| EDC 548 | Instructional Technology Leadership | | | 3 |
| EDL 661 | School Technology Leadership | | | 3 |
| EDL 663 | Leadership for School Program Improvement | | | 3 |
| EDL 665 | School Technology Leadership for Digital Citizenship | | | 3 |
| **Leadership in Curriculum Design** | | | | |
| EDC 732 | Curriculum Design for Learning and Leading | | | 3 |
| EDC 733 | Leadership in Curriculum & Instruction: Strategies for Analytic Practice | | | 3 |
| **Leadership in Learning** | | | | |
| EDL 662 | Leading for Next Generation Learning | | | 3 |
| ELS 600 | Leadership in Learning-Centered Schools | | | 3 |
| ELS 604 | Leadership in Communities of Practice | | | 3 |
| ELS 620 | Leading Action Research and Inquiry 1 (TL) | | | 3 |
| ELS 621 | Leading Action Research and Inquiry 2 (TL) | | | 3 |
| EDL 638 | Instructional Coaching and Mentoring | | | 3 |
| EDL 669 | Leadership for Creative Problem Solving | | | 3 |
| **Leadership in School Law** | | | | |
| EDL 628 | School Law and Ethics (TL) | | | 3 |

| Total Credit Hours | |
|---|---|

*Minimum 30 credit hours required for graduation and Rank II certification*

**Master's Committee Approval of Coursework:**

| Member | Signature |
|---|---|
| **, Chair** | |
| | |
| | |

_____          _____
Student Signature                                                                      Date


_____          _____
Advisory Signature                                                                    Date

**Subject:** Substantive Change Decision

**Date:** Thursday, October 11, 2018 at 6:06:45 PM Eastern Daylight Time

**From:** noreply@qualtrics-survey.com

**To:** Fisher, Molly

Dear Molly Fisher,
Thank you for your email regarding the proposed program change(s) to **MS in STEM Education, Master's (13.1399)**.

My email will serve 2 purposes:  1.) Next steps for SACSCOC, and 2.) Verification and notification that you have contacted OSPIE—a Senate requirement for proposal approval.

1. **Next steps for SACSCOC:**  None required
2. **Verification that OSPIE has reviewed the proposal:** Based on the proposal documentation presented and Substantive Change Checklist, the proposed program changes (refer to list below) are not substantive changes as defined by the University or SACSCOC, the university's regional accreditor. Therefore, no additional information is required by the Office of Strategic Planning & Institutional Effectiveness at this time. The proposed program change(s) may move forward in accordance with college and university-level approval processes.

Description of Proposed Change(s):
· The program documents for this program have not been updated in several years. Revisions to the required courses are being requested due to course name and numbers changing over the years, better courses to fit criteria being developed, and courses offerings have changed over time.

Should you have questions or concerns about UK's substantive change policy and its procedures, please do not hesitate contacting our office.

Office of Strategic Planning & Institutional Effectiveness
University of Kentucky
Visit the Institutional Effectiveness Website: https://proxy.qualtrics.com/proxy/?url=http%3A%2F%2Fwww.uky.edu%2Fie&token=w%2BXHkAS0tASxS4xDceQ8e0MxnHdJ2Eu4smnkDcYodCE%3D

| | |
|---|---|
| **Subject:** | STEM Education Program Request |
| **Date:** | Wednesday, January 23, 2019 at 9:21:00 PM Eastern Standard Time |
| **From:** | Nash, John |
| **To:** | Fisher, Molly |
| **Attachments:** | 3C7C3F7C-2711-4CF2-8BB5-FD563FFD801E[2].png |

Dear Dr. Fisher,

I'm pleased to let you know the faculty in EDL voted unanimously in favor of the STEM Ed proposal.

All the best,
--->john

Sent from my TRS-80