

CHANGE DOCTORAL DEGREE PROGRAM FORM

GENERAL INFORMATION

College:	<u>Education</u>	Department:	<u>STEM Education</u>
Current Major Name:	<u>Education Sciences</u>	Proposed Major Name:	_____
Current Degree Title:	<u>PhD in Education Sciences</u>	Proposed Degree Title:	_____
Current Formal Option(s):	<u>STEM Education</u>	Proposed Formal Option(s):	_____
Current Specialty Fields w/in Formal Option:	_____	Proposed Specialty Fields w/in Formal Option:	_____
Date of Contact with Institutional Effectiveness ¹ (OSPIE@l.uky.edu):	<u>10/11/18</u>		
Bulletin (yr & pgs):	_____	CIP Code ¹ :	<u>13.0601</u> Today's Date: <u>10/8/18</u>
Accrediting agency (if applicable):	<u>N/A</u>		
Requested Effective Date:	<input checked="" type="checkbox"/> Semester following approval.	OR	<input type="checkbox"/> Specific Date ² : _____
Dept Contact Person:	<u>Molly Fisher</u>	Phone:	<u>859-257-1643</u> Email: <u>molly.fisher@uky.edu</u>

CHANGE(S) IN PROGRAM REQUIREMENTS

	<u>Current</u>	<u>Proposed</u>
1. Number of transfer credits allowed: <i>(Maximum is Graduate School limit of total of 9 hours (or 25% of the credit hours needed to fulfill the pre-qualifying residency requirement.)</i>	_____	_____
2. Residence requirement: <i>(Minimum of one year before and after Qualifying Exams.)</i>	_____	_____
3. Language(s) and/or skill(s) required:	_____	_____
4. Provisions for monitoring progress and termination criteria:	_____	_____
5. Total credit hours required:	_____	_____
6. Required courses:	<u>See Attached</u>	<u>See Attached</u>
7. Required distribution of courses within program:	_____	_____
8. Minor area or courses outside program required:	_____	_____
9. Distribution of courses levels required (400G-500/600-700):	_____	_____
10. Qualifying examination requirements:	_____	_____
11. Explain whether the proposed changes to the program (as described in numbers 1 through 10) involve courses		

¹ Prior to filling out this form, you MUST contact Institutional Effectiveness. That office can also assist with the CIP code.

² Programs are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

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offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

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. Other requirements not covered above:

N/A

13. What is the rationale for the proposed 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.

CHANGE DOCTORAL DEGREE PROGRAM FORM

Signature Routing Log

General Information:

Proposal Name: PhD in Education Sciences (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	
EPE	1/22/19	Kelly Bradley (chair) / 74923 / kelly.bradley@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 Revision³
Undergraduate Council			
Graduate Council	4/16/19	Roshan Nikou	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

³ 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 STEM Education strand of the Education Sciences PhD:

Change to be made in Education Sciences Required Coursework:	Reason for change:
Add prerequisites for quantitative courses	Increases ease of advising
Update course prefixes	Many courses are cross-listed between EDP and EPE departments and this needs to be better reflected
Add Advanced Methodology Suggested Coursework	Increases ease of advising
Change to be made in STEM Education Required Coursework:	Reason for change:
Remove SEM 701, SEM 670, SEM 674	Courses no longer offered
Update GS 699	Course is only viable for students in the Teaching and Learning certificate program
Require "Permission from Instructor" for SEM 770	Many SEM 770 courses are specialized courses and aren't open enrollment for all students
Update course numbers for SEM 575, SEM 504	Course numbers have changed
Formally Remove STEM Education Electives	These courses were removed from the program many years ago, so they should be removed from the curriculum contract
Remove "(9-12 hours)" from Electives and replace with "(9 hours)"	The range was originally in place to allow advisors flexibility in recommending additional coursework for students. The range has become confusing for students/advisors, so it should be removed.
Add EPE 797 as a History of Education option	This course is being offered regularly and is a good option for a History of Education course.



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Department of Science, Technology, Engineering, and Mathematics (STEM) Education
Education Sciences Ph.D. - STEM Education Strand
Doctoral Program Plan and Curriculum Sheet

Name				
Email				
Address	Street		City	State
				Zip
Phone	Home	Work	Cell/Other	Semester of Admission to Doctoral Program

Professional Goals: Briefly describe the professional growth goals you hope to meet in pursuing the STEM Education Doctoral Degree.

Program Goals: In helping you develop your own professional goals, the STEM Strand of the Education Sciences Interdisciplinary Ph.D. program will focus on helping you:

1. Connect theory and practice through reflection, teaching, scholarship, and STEM educational action research.
2. 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 and learning.
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.
6. Develop, implement, and assess Academic Standards, instructional practices, and College and Career Readiness, geared towards increasing student achievement.

Program Identifiers:

College:	GS
Major:	EDSC, (STEM Ed strand abbrev: PHDEDSCSED)
Degree:	PHD
CIP code:	13.0601

Education Sciences Required Coursework

(minimum 12 credit hours)

Required coursework in the Education Sciences Program includes 12 credit hours in both quantitative and qualitative research methods. A minimum of three credit hours is required in both methodologies. Therefore, students may concentrate coursework in quantitative methods, qualitative methods, or both methodologies, earning a minimum of three credits in each methodology. Note that EDP/EPE 557 is a prerequisite course for ALL quantitative methods classes, but a course that does not count toward the EDI required coursework; EDP/EPE 557 will apply toward the required 9 credit hours outside STEM Education. Use the selections that follow to identify courses for the Education Science requirements.

Quantitative Methodology: Choose a minimum of one course from the following and/or other courses selected by the doctoral committee. (EDP/EPE 557 or 558 is a pre-requisite for all of the following courses) (3 – 6 credit hours)

Course	Title	Term	Grade	Credits
EDP 656	Methodology of Education Research (Prerequisite: EDP/EPE 557 but 558 is preferred)			3
EDP/EPE 660	Research Design and Analysis in Education (Prerequisite: EDP/EPE 558 or 557 but EDP/EPE 558 is preferred)			3
EDP/EPE 707	Multivariate Analysis in Education Research (Prerequisite: EDP/EPE 660)			3
EPE 619	Survey Research Methods in Education: Education Data (Prerequisite: EDP/EPE 557 or permission of instructor)			3
EDP/EPE 620	Topics and Methods of Evaluation (Prerequisite: EDP/EPE 557.)			3
EDP/EPE 621	Advanced Topics and Methods of Evaluation (Prerequisite: EDP/EPE 620 or SOC 622 or permission of instructor)			3
EDP/EPE 679	Introduction to Measurement Theory and Techniques (Prerequisite: EDP/EPE 660, but EDP/EPE 522 is also helpful to take prior to 679, but not required)			3

Qualitative Methodology: Choose a minimum of one course from the following - additional courses may be selected by the doctoral committee (other course options might include SOC 680, SOC 681, SOC 682) (3 – 6 credit hours)

Course	Title	Term	Grade	Credits
EPE 663	Field Studies in Educational Institutions			3
EPE 763	Advanced Field Studies			3
				3
				3
				3

Advanced Methodology Course: Choose a minimum of one course from the following – to be selected by doctoral committee (3 credits hours)

Course	Title	Term	Grade	Credits
EDP/EPE 679	Introduction to Psychometric Methods (Prerequisite: EDP/EPE 660, but EDP/EPE 522 is also helpful to take prior to 679, but not required)			3
EDP/EPE 707	Multivariate Analysis in Education Research (Prerequisite: EDP/EPE 660)			3
EDP/EPE 711	Advanced Quantitative Methods (can be repeated up to maximum of 12 hours)			3
EDP/EPE 712	Advanced Psychometric Methods (can be repeated up to maximum of 12 hours)			3

STEM Education Strand Required Coursework (minimum 36 credit hours)

The STEM Education Strand within the EDI program requires a minimum of Required STEM Education Core:
Choose a minimum of 5 courses (15 credit hours)

Course	Title	Term	Grade	Credits
SEM 603	Curriculum and Instruction in STEM Education			3
SEM 620	Equity in STEM Education			3
SEM 706	Research in STEM Education			3
SEM 613	Effective Use of Technology for Modeling-Based Inquiry in STEM Education			3
History of Education (Select 1)				
SEM 604	History of STEM Education			3
EPE 651	(P-20) History of Education in the United States			3
EPE 653	History of Higher Education			3

Required STEM Methods Core: Choose a minimum of 3 courses
(9 credit hours)

Course	Title	Term	Grade	Credits
SEM 575	See Blue 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
EPE 672	College Teaching and Learning			3
GS 699	Practicum for College Teaching (<i>only for those in the College Teaching and Learning certificate program</i>)			3

Electives Outside STEM Education: Choose a minimum of 3 courses. (9 hours)

Outside elective credits may include courses in specific STEM content disciplines (i.e., science, technology, engineering, mathematics), STEM Education, Education, or other content disciplines. Doctoral committee may select additional electives based on student needs and program focus. Strong recommendations: EPE 557, EPE 558.

Course	Title	Term	Grade	Credits
EDP/EPE 557	Gathering, Analyzing, and Using Educational Data			3
				3
				3
				3
				3

Total Credit Hours	
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45 credit hours required for Qualifying Exam

Doctoral Committee Members

The doctoral committee should be selected by the time the student completes 18 credit hours in the program. Committee members must sign below to indicate approval of coursework to proceed with the qualifying exam.

Name	Role	Department	Graduate Faculty Status	Program Approval Signature	Signature Date
	Chair				
	member				
	member				
	member				

Student Signature	Date
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Program Progression

Activity	Date/Semester	Other	Advisor Signature, Date
Semester Admitted			
Semester Coursework Initiated			
Qualifying Exam		<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
Dissertation Approval			
Dissertation Defense		<input type="checkbox"/> Pass <input checked="" type="checkbox"/> Fail	



Subject: Substantive Change Decision

Date: Thursday, October 11, 2018 at 6:08:21 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 **PhD in Education Sciences - STEM Education Strand, Doctoral (13.0601)**.

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):

· This strand of the Education Sciences PhD program was developed in 2011. Since then, program documents have not been updated. They are in need of updates to reflect changes in coursework over the years. The only changes being requested are changes in required coursework due to course names/numbers changing, course offerings changing, and updates to courses that are a better fit for the program.

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/?](https://proxy.qualtrics.com/proxy/?url=http%3A%2F%2Fwww.uky.edu%2Fie&token=w%2BXHkAS0tASxS4xDceQ8e0MxnHdJ2Eu4smnkDcYodCE%3D)

[url=http%3A%2F%2Fwww.uky.edu%2Fie&token=w%2BXHkAS0tASxS4xDceQ8e0MxnHdJ2Eu4smnkDcYodCE%3D](https://proxy.qualtrics.com/proxy/?url=http%3A%2F%2Fwww.uky.edu%2Fie&token=w%2BXHkAS0tASxS4xDceQ8e0MxnHdJ2Eu4smnkDcYodCE%3D)

Subject: Re: Changes to STEM Ed strand of EDI PhD
Date: Monday, January 28, 2019 at 2:23:24 PM Eastern Standard Time
From: Bradley, Kelly
To: Fisher, Molly

Sorry - yes we voted to approve.

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From: Fisher, Molly <molly.fisher@uky.edu>
Sent: Monday, January 28, 2019 1:08 PM
To: Bradley, Kelly
Subject: Re: Changes to STEM Ed strand of EDI PhD

Hi Kelly,

I just wanted to check in and see if this change was approved at your department meeting last week.

Thanks for taking it to the meeting!



Molly H. Fisher, Ph.D.

Associate Professor of Mathematics Education
Director of Graduate Studies, STEM Education

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Office: (859) 257-1643 Cell/Text: (704) 517-5093
molly.fisher@uky.edu www.uky.edu/~mfi223

From: "Bradley, Kelly"
Date: Tuesday, January 22, 2019 at 9:46 AM
To: mfi223
Subject: Re: Changes to STEM Ed strand of EDI PhD

Our department meeting is today. Historical Research, 797, to be included in STEM's history option. That is what you need our support on, Correct?

Kelly D. Bradley, Ph.D.

Professor; Educational Policy Studies & Evaluation
Chair of Educational Policy Studies & Evaluation
Program Chair of Research Methods in Education
University of Kentucky; College of Education
131 Taylor Education Building
Lexington, KY 40506
kelly.bradley@uky.edu
www.uky.edu/~kdbrad2

From: Fisher, Molly
Sent: Monday, January 21, 2019 2:42:07 PM
To: Bradley, Kelly
Subject: Re: Changes to STEM Ed strand of EDI PhD

Hi Kelly,

I just thought I'd check back in on our curriculum contract changes. I wasn't sure when your next department meeting would take place, but if anyone has any questions, I'm happy to answer.

We're hoping to get this on the February agenda for the C&C committee.

Thanks!



Molly H. Fisher, Ph.D.

**Associate Professor of Mathematics Education
Director of Graduate Studies, STEM Education**

University of Kentucky College of Education
113 Taylor Education Building
Office: (859) 257-1643 Cell/Text: (704) 517-5093
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From: "Bradley, Kelly" <kelly.bradley@uky.edu>
Date: Wednesday, January 9, 2019 at 4:19 PM
To: Molly Fisher <molly.fisher@uky.edu>
Subject: Re: Changes to STEM Ed strand of EDI PhD

Got it!

Kelly D. Bradley, Ph.D.

Professor, Educational Policy Studies & Evaluation
Chair of Educational Policy Studies & Evaluation
Program Chair of Research Methods in Education
University of Kentucky; College of Education
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From: Fisher, Molly
Sent: Wednesday, January 9, 2019 2:12:44 PM
To: Bradley, Kelly
Subject: Re: Changes to STEM Ed strand of EDI PhD

Haha! All of the hoops....fun stuff! We have a history requirement in our STEM coursework. Over the years,

we've stepped off of teaching the History of STEM Education because there's a bunch of other viable history options available. We've been using a list of history courses (listed on the curriculum contract), but for some reason, EPE 797 was never put on that list. We've been unofficially using it for students, so we're just now hoping to officially add it to the curriculum contract as a viable history option for our crew so we don't have to approve it on a case-by-case basis. :)

cid:6C67A657-C681-46CC-81F0-70152B83D78B



From: "Bradley, Kelly"

Date: Wednesday, January 9, 2019 at 1:42 PM

To: mfi223

Subject: Re: Changes to STEM Ed strand of EDI PhD

Great. So, what do you need me to vote on? LOL!

Kelly D. Bradley, Ph.D.

Professor; Educational Policy Studies & Evaluation

Chair of Educational Policy Studies & Evaluation

Program Chair of Research Methods in Education

University of Kentucky; College of Education

131 Taylor Education Building

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From: Fisher, Molly

Sent: Wednesday, January 9, 2019 1:09:31 PM

To: Bradley, Kelly

Subject: Re: Changes to STEM Ed strand of EDI PhD

Oh, good to know! We've made some case-by-case substitutions for 663 in the past so I'll add this to the list as a potential substitution.

Thanks!

cid:94095392-B3E1-416B-A6C7-6DAB0DB943ED



From: "Bradley, Kelly"
Date: Wednesday, January 9, 2019 at 12:34 PM
To: mfi223
Subject: Re: Changes to STEM Ed strand of EDI PhD

Note that 797 Historical Research counts as a Qualitative course for most programs as well. Given the increased enrollment in Field Studies, you might consider this.

Kelly D. Bradley, Ph.D.

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From: Fisher, Molly
Sent: Wednesday, January 9, 2019 11:58:22 AM
To: Bradley, Kelly
Subject: Changes to STEM Ed strand of EDI PhD

Hi Kelly!

I am in the process of updating the curriculum contracts for the STEM Education strand of the EDI PhD program. It has been at least 7 years since they were developed and because of changing course names/numbers, new course offerings, etc, they're in need of some "freshening up".

We would like to add EPE 797 to our list of potential options for a History course requirement in our STEM Education strand coursework. Since we're adding that course from your department, we'll need approval from your group on making that change prior to sending the paperwork off to the C&C committee.

At your next department meeting, can you have a vote on the proposed changes to our program? I have attached all of the documentation on the changes for your faculty to review. Please let me know if there are any questions.

Thank you!

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