

## REQUEST FOR NEW COURSE

<b>1. General Information.</b>					
a.	Submitted by the College of: Education	Today's Date: 11.06.09			
b.	Department/Division: Curriculum & Instruction				
c.	Contact person name: Margaret Schroeder	Email: m.mohr@uky.edu	Phone: 257.3073		
d.	Requested Effective Date: <input checked="" type="checkbox"/> Semester following approval OR <input type="checkbox"/> Specific Term/Year <sup>1</sup> : _____				
<b>2. Designation and Description of Proposed Course.</b>					
a.	Prefix and Number: EDC 770				
b.	Full Title: Special Topics in STEM Education: (Subtitle Required)				
c.	Transcript Title (if full title is more than 40 characters): Sp Topics in STEM Ed				
d.	To be Cross-Listed <sup>2</sup> with (Prefix and Number): N/A				
e.	Courses must be described by <u>at least one</u> of the meeting patterns below. Include number of actual contact hours <sup>3</sup> for each meeting pattern type.				
	<input type="checkbox"/> Lecture	<input type="checkbox"/> Laboratory <sup>1</sup>	<input type="checkbox"/> Recitation	1.5 Discussion	<input type="checkbox"/> Indep. Study
	<input type="checkbox"/> Clinical	<input type="checkbox"/> Colloquium	<input type="checkbox"/> Practicum	1.5 Research	<input type="checkbox"/> Residency
	<input type="checkbox"/> Seminar	<input type="checkbox"/> Studio	<input type="checkbox"/> Other – Please explain: _____		
f.	Identify a grading system: <input checked="" type="checkbox"/> Letter (A, B, C, etc.) <input type="checkbox"/> Pass/Fail				
g.	Number of credits: 3				
h.	Is this course repeatable for additional credit?				YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	If YES: Maximum number of credit hours: _____				
	If YES: Will this course allow multiple registrations during the same semester?				YES <input type="checkbox"/> NO <input type="checkbox"/>
i.	<p><b>Course Description for Bulletin:</b> This course is a seminar of topical offerings with variable topics in the study of philosophy, principles, trends and research associate with STEM Education. This seminar is designed to cover topical issues around current research and strategies in STEM Education as they relate to P-20 implementation. STEM Education is transdisciplinary and constantly changing. This course will address content specific and transdisciplinary issues within the context of new directives and initiatives. May be repeated to a maximum of nine credits.</p>				
j.	Prerequisites, if any: EDC 603 and/or EDC 706 or permission of instructor.				
k.	Will this course also be offered through Distance Learning?				YES <sup>4</sup> <input checked="" type="checkbox"/> NO <input type="checkbox"/>
l.	Supplementary teaching component, if any: <input checked="" type="checkbox"/> Community-Based Experience <input type="checkbox"/> Service Learning <input type="checkbox"/> Both				

<sup>1</sup> Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

<sup>2</sup> The chair of the cross-listing department must sign off on the Signature Routing Log.

<sup>3</sup> In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, represents at least two hours per week for a semester for one credit hour. (from SR 5.2.1)

<sup>4</sup> You must *also* submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

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<b>3.</b>	<b>Will this course be taught off campus?</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
<b>4.</b>	<b>Frequency of Course Offering.</b>			
<b>a.</b>	Course will be offered (check all that apply):	<input type="checkbox"/> Fall	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Summer
<b>b.</b>	Will the course be offered every year?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If NO, explain: _____			
<b>5.</b>	<b>Are facilities and personnel necessary for the proposed new course available?</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If NO, explain: _____			
<b>6.</b>	<b>What enrollment (per section per semester) may reasonably be expected?</b>	15		
<b>7.</b>	<b>Anticipated Student Demand.</b>			
<b>a.</b>	Will this course serve students primarily within the degree program?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
<b>b.</b>	Will it be of interest to a significant number of students outside the degree pgm?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If YES, explain:     Students in STEM-related fields			
<b>8.</b>	<b>Check the category most applicable to this course:</b>			
	<input type="checkbox"/> Traditional – Offered in Corresponding Departments at Universities Elsewhere			
	<input type="checkbox"/> Relatively New – Now Being Widely Established			
	<input checked="" type="checkbox"/> Not Yet Found in Many (or Any) Other Universities			
<b>9.</b>	<b>Course Relationship to Program(s).</b>			
<b>a.</b>	Is this course part of a proposed new program?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	If YES, name the proposed new program: _____			
<b>b.</b>	Will this course be a new requirement <sup>5</sup> for ANY program?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If YES <sup>5</sup> , list affected programs:     Master of Science in STEM Education			
<b>10.</b>	<b>Information to be Placed on Syllabus.</b>			
<b>a.</b>	Is the course 400G or 500?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	If YES, the <i>differentiation for undergraduate and graduate students must be included</i> in the information required in <b>10.b</b> . You must include: (i) identification of additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR 3.1.4.)			
<b>b.</b>	<input checked="" type="checkbox"/> The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from <b>10.a</b> above) are attached.			

<sup>5</sup> In order to change a program, a program change form must also be submitted.

# REQUEST FOR NEW COURSE

## Signature Routing Log

**General Information:**

Course Prefix and Number: EDC 770

Proposal Contact Person Name: Margaret Schroeder Phone: 257.3073 Email: m.mohr@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
Curriculum & Instruction	1/21/10	Mary Shake / 257-5076 / mcszak1@email.uky.edu	Mary C. Shake
Courses & Curricula	1/26/10	Jeff Reese 257-4909 jeff.reese@uky.edu	Jeff Reese
College of Education	2/9/10	Robert Shapiro 257-9775 rshapiro@uky.edu	Robert Shapiro
		/ /	
		/ /	

**External-to-College Approvals:**

Council	Date Approved	Signature	Approval of Revision <sup>6</sup>
Undergraduate Council			
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

**Comments:**

<sup>6</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

## EDC 770: Special Topics in STEM Education [Subtitle Required] SYLLABUS

### “Research and Reflection for Learning and Leading”

Instructor	Margaret Mohr-Schroeder
Office Location	309 DH
Phone Number	257.3073
Email	m.mohr@uky.edu
Virtual Office Hours	Arranged individually through email; Telesupervision and Skype access also available
Technological Requirements	Computer with internet access or access to UK computer facilities. Access to digital video recording devices (digital camera, digital video recorder, laptop webcams)
For Technological assistance	Contact TASC at <a href="http://www.uky.edu/tasc">www.uky.edu/tasc</a> or call 859.257.8272 Contact Information Technology Customer Service Center at <a href="http://www.uky.edu/it">www.uky.edu/it</a> or 859.257.1300
Technical Complaints	Contact the College of Education Instructional Technology Center at 859.257.7967 or contact Information Technology Customer Service Center <a href="http://www.uky.edu/UKIT">http://www.uky.edu/UKIT</a> or 859.257.1300
Preferred method for contacting instructor	Email or Blackboard or SharePoint
Anticipated Response Time	2 days
Information on Distance Learning Library Service	<a href="http://www.uky.edu/dl">http://www.uky.edu/dl</a>
DL Librarian	Carla Cantagallo, DL Librarian; local 859.257.0500 ext 2171 Long distance: 800.828.0439, option 6 <a href="mailto:dllservice@email.uky.edu">dllservice@email.uky.edu</a>
DL Interlibrary Loan Service	<a href="http://www.uky.edu/dl">http://www.uky.edu/dl</a>

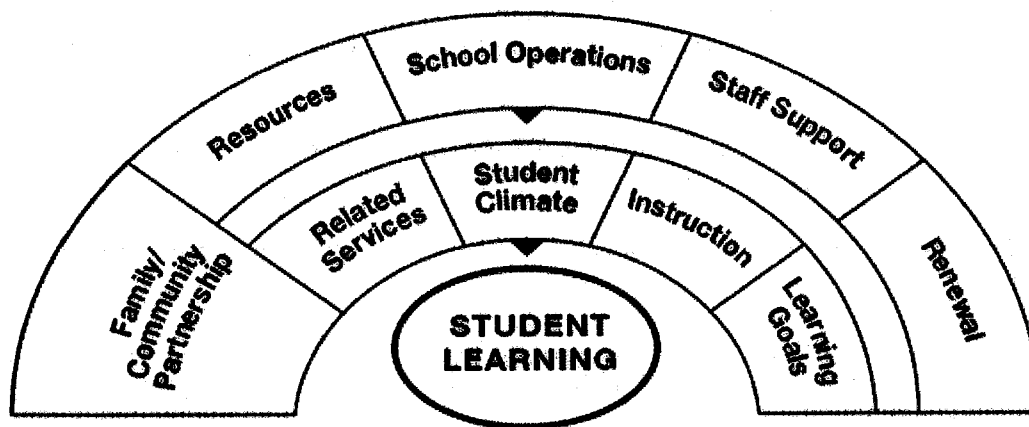
### UK College of Education Professional Themes

This course will address the four themes of the conceptual framework for the UK professional education unit: **research**, **reflection**, **learning**, and **leading**. Students will be given the opportunity to review, analyze, discuss, and apply **research** from diverse perspectives in education, including professional scholarship and practitioner inquiry, in order to reflect on

their own practices as they study, observe, and practice in P-12 school and university classrooms. **Reflection** will also be integrated into students' learning opportunities through the production of written essays and analyses of observation and teaching experiences to help students take advantage of the analytical and problem-solving skills that comprise critical professional reflection on one's own teaching. This course emphasizes the commitment of the professional education unit to ensure that its graduates move into their professional lives equipped for life-long **learning** as educators who will be active in **leading** colleagues in their schools, districts, and professional organizations. The ultimate goal in addressing these four themes is to produce teacher leaders who work together to improve student learning among diverse populations and improve education in Kentucky and beyond.

Leadership, and specifically Teacher Leadership, within our framework of *Research and Reflection for Learning and Leading*, is informed by the "Framework for School Leadership Accomplishments" (Bellamy, Fulmer, Murphy, & Muth, 2007, p. 34). In this framework, **student learning** is the central objective and it is accomplished through nine interactive, collaborative efforts by diverse stakeholders (see Figure 1 below). Permission to use this model was granted by Bellamy and his colleagues.

**Figure 1. Framework for School Leadership Accomplishments<sup>1</sup>**



This framework is designed to help actualize the theme, *Research and Reflection for Learning and Leading*, and thus prepare a skilled and influential group of leaders who will work as members of learning communities focused on the essential goal of schools: student learning.

### Course Overview/Objectives:

#### Prerequisites:

EDC 603 and/or EDC 706 or permission of instructor.

<sup>1</sup> Bellamy, T., Fulmer, C., Murphy, M., & Muth, R. (2007). *Principal accomplishments: How school leaders succeed*. New York: Teachers College Press.

**Course Overview:**

This course is a seminar of topical offerings with variable topics in the study of philosophy, principles, trends and research associate with STEM Education. Students will carry out an extensive study of a problem dealing with STEM Education.

This seminar is designed to cover topical issues around current research and strategies in STEM Education as they relate to P-20 implementation. STEM Education is transdisciplinary and constantly changing. This course will address content specific and transdisciplinary issues within the context of new directives and initiatives. May be repeated to a maximum of nine credits.

**Course Objectives and Learning Outcomes:**

The purpose of this course is to assist and enlighten those individuals that guide STEM Education. In the context of STEM education, the course will explore and investigate current issues in STEM education, its historical significance, and its impact today and in the future. STEM education is constantly changing and the informed teacher leader needs a critical perspective on the current issues and trends.

- Students will identify current and emerging trends in STEM Education and content-specific areas of STEM Education.
- Students will understand new policy implementations in STEM Education and content-specific areas of STEM Education.
- Students will understand emergent curricula and standards in STEM Education and content-specific areas of STEM Education.
- Students will understand research in STEM Education and content-specific areas of STEM Education.
- Students will understand professional development needs for implementation of STEM Education curricula and other emergent curricular and instructional in content-specific areas of STEM Education.

**Course Delivery**

This proposed course is designed as an online course. Course participants will attend weekly class meetings online throughout the semester in an environment such as Adobe Connect. During this time students will work in on independent research projects, group projects, and participate in online discussions and online chats.

**Grading Scale**

100 – 91: A    90 – 81: B    80 – 71: C    70 and below: E

**Course Assessment Tasks:**

Assignments must be submitted on or before the due dates given in the course schedule. **Five percent will be deducted from the value of an assignment for each day it is late**, unless prior

arrangements have been made with the instructor. Full descriptions of these assignments and evaluation rubrics for each are appended to this syllabus.

Task	Task Description	Standards Alignment
<b>Personal Choice Investigation</b>	After investigating a notion of interest to you, you will create a digital story to share what you have learned. You will need to obtain prior approval before beginning the investigation. Such notions may be a book, report, or a person as pertains to the course topic. Projects should be approximately 10 minutes in length.	KTS 1 - 10
<b>Reflections</b>	Students will write critical or reflective responses to primary research and other readings; write reflections on course assignments and in-class discussions and activities; participate in online discussions; share presentations, individual, group or both.	KTS 1, 7-10
<b>Class Project</b>	Students will participate in a semester-long class project and will present/share their project investigation status with peers throughout the semester. This research project will involve investigating a driving research question, designing a data collection and analysis plan, collecting data, analyzing data, representing the data either within a model or a graph, and communicating project work results.	KTS 1, 2, 3, 4, 5, 6, 10

### Course Outline

Topic 1:	Course Overview
Topic 2:	Emergent Policy Issues
Topic 3:	Emergent Curricula & Standards
Topic 4:	Emergent Research
Topic 5:	Emergent Trends

## Distance Learning Form

This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL delivery. **All fields are required!**


	<p>The integrity of student work is ensured by requiring the same requirements as a face-to-face class. As an advanced graduate class, course assessment are based on developed projects rather than examinations. The security of student work is facilitated by the security afforded of UK's Blackboard and SharePoint course system. Final student presentations will be given in the final class face-to-face meeting on campus.</p>
4.	<p>Will offering this course via DL result in at least 25% or at least 50%* (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?</p> <p>Yes.</p> <p>If yes, which percentage, and which program(s)?</p> <p><i>Fifty-percent of the Master of Science in STEM Education will be delivered through distance learning.</i></p> <p>*As a general rule, if approval of a course for DL delivery results in 50% or more of a program being delivered through DL, the effective date of the course's DL delivery will be six months from the date of approval.</p>
5.	<p>How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?</p> <p>Course readings will be available online through UK's library sites. Textbooks will be available for purchase online. The instructor will maintain virtual office hours during which time students may participate in online chat sessions, email, or call the instructor for a live conversation. The syllabus includes details for accessing student services on campus for technology support and library support.</p>
<b>Library and Learning Resources</b>	
6.	<p>How do course requirements ensure that students make appropriate use of learning resources?</p> <p>The discussion boards and chats will be tracked for evidence of participation. Readings will be monitored for download. Downloaded readings will be the subjects of discussion boards and chats. Assignments, require the use of technology and publication resources.</p>
7.	<p>Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.</p> <p>Technology tools used in the course will be available to students in class and in the College of Education Instructional Technology Center (ITC). Software and peripherals will be available for check out to students enrolled in the course.</p>
<b>Student Services</b>	
8.	<p>How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Teaching and Academic Support Center (<a href="http://www.uky.edu/TASC/index.php">http://www.uky.edu/TASC/index.php</a>) and the Information Technology Customer Service Center (<a href="http://www.uky.edu/UKIT/">http://www.uky.edu/UKIT/</a>)?</p> <p>Students are informed in the actual syllabus as well as in orientation letters emailed to the students.</p>

Abbreviations: TASC = Teaching and Academic Support Center DL = distance learning DLP = Distance Learning Programs



## Distance Learning Form

This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL delivery. **All fields are required!**

<b>10.</b>	<p>Does the syllabus contain all the required components, below? <input checked="" type="checkbox"/> Yes</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Instructor's <i>virtual</i> office hours, if any.</li> <li><input type="checkbox"/> The technological requirements for the course.</li> <li><input type="checkbox"/> Contact information for TASC (<a href="http://www.uky.edu/TASC/">http://www.uky.edu/TASC/</a>; 859-257-8272) and Information Technology Customer Service Center (<a href="http://www.uky.edu/UKIT/">http://www.uky.edu/UKIT/</a>; 859-257-1300).</li> <li><input type="checkbox"/> Procedure for resolving technical complaints.</li> <li><input type="checkbox"/> Preferred method for reaching instructor, e.g. email, phone, text message.</li> <li><input type="checkbox"/> Maximum timeframe for responding to student communications.</li> <li><input type="checkbox"/> Language pertaining academic accommodations:             <ul style="list-style-type: none"> <li>o "If you have a documented disability that requires academic accommodations in this course, please make your request to the University Disability Resource Center. The Center will require current disability documentation. When accommodations are approved, the Center will provide me with a Letter of Accommodation which details the recommended accommodations. Contact the Disability Resource Center, Jake Karnes, Director at 859-257-2754 or <a href="mailto:jkarnes@email.uky.edu">jkarnes@email.uky.edu</a>."</li> </ul> </li> <li><input type="checkbox"/> Information on Distance Learning Library Services (<a href="http://www.uky.edu/Libraries/DLLS">http://www.uky.edu/Libraries/DLLS</a>)             <ul style="list-style-type: none"> <li>o Carla Cantagallo, DL Librarian</li> <li>o Local phone number: 859 257-0500, ext. 2171; long-distance phone number: (800) 828-0439 (option #6)</li> <li>o Email: <a href="mailto:dllservice@email.uky.edu">dllservice@email.uky.edu</a></li> <li>o DL Interlibrary Loan Service: <a href="http://www.uky.edu/Libraries/libpage.php?lweb_id=253&amp;lilib_id=16">http://www.uky.edu/Libraries/libpage.php?lweb_id=253&amp;lilib_id=16</a></li> </ul> </li> </ul>
<b>11.</b>	<p>I, the instructor of record, have read and understood all of the university-level statements regarding DL.</p> <p>Instructor Name: Margaret Schroeder</p> <p style="text-align: right;">Instructor Signature:</p> <div style="text-align: right; margin-top: 10px;">  </div>

Abbreviations: TASC = Teaching and Academic Support Center    DL = distance learning    DLP = Distance Learning Programs