NEW COURSE FORM

1.	**General Information.**						
a.	Submitted by the College of:	Education			Today's Date:	November 4, 2011	
b.	Department/Division:	STEM Education Department					
c.	Contact person name:	Christa Jackson	Email:	christa.jackson@uky.edu	Phone:	859-257-8974	
d.	Requested Effective Date:	☒ Semester following approval	OR	☐ Specific Term/Year[1] :	_____		
2.	**Designation and Description of Proposed Course.**						
a.	Prefix and Number:	SEM 620					
b.	Full Title:	Equity in STEM Education					
c.	Transcript Title (if full title is more than 40 characters):	_____					
d.	To be Cross-Listed[2] with (Prefix and Number):	N/A					
e.	Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[3] for each meeting pattern type.						
	3 Lecture	_____ Laboratory[1]	_____ Recitation	_____ Discussion	_____ Indep. Study		
	_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	_____ Residency		
	_____ Seminar	_____ Studio	_____ Other – Please explain:	_____			
f.	Identify a grading system:	☒ Letter (A, B, C, etc.)	☐ Pass/Fail				
g.	Number of credits:	3					
h.	Is this course repeatable for additional credit?				YES ☐	NO ☒	
	If YES:	Maximum number of credit hours:	_____				
	If YES:	Will this course allow multiple registrations during the same semester?			YES ☐	NO ☐	
i.	Course Description for Bulletin:	This course is a seminar designed to study equity issues in the teaching and learning of STEM disciplines in P-20 education. A primary focus will be on enhancing teachers' ability to use research and reflection for learning and leading. Throughout the course the relationship between theory and practice will be emphasized in an attempt to understand some of the complexities and challenges in addressing issues of equity in mathematics learning and teaching.					
j.	Prerequisites, if any:	Graduate standing					
k.	Will this course also be offered through Distance Learning?				YES[4] ☒	NO ☐	
l.	Supplementary teaching component, if any:	☒ Community-Based Experience	☐ Service Learning	☐ Both			
3.	**Will this course be taught off campus?**				YES ☐	NO ☒	

[1] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[2] The chair of the cross-listing department must sign off on the Signature Routing Log.

[3] 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*)

[4] You must *also* submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

NEW COURSE FORM

4.	**Frequency of Course Offering.**			
a.	Course will be offered (check all that apply):	☒ Fall	☒ Spring	☐ Summer
b.	Will the course be offered every year?		YES ☒	NO ☐
	If NO, explain:	_____		
5.	**Are facilities and personnel necessary for the proposed new course available?**		YES ☒	NO ☐
	If NO, explain:	_____		
6.	**What enrollment (per section per semester) may reasonably be expected?**	20		
7.	**Anticipated Student Demand.**			
a.	Will this course serve students primarily within the degree program?		YES ☒	NO ☐
b.	Will it be of interest to a significant number of students outside the degree pgm?		YES ☒	NO ☐
	If YES, explain:	Students in STEM related fields		
8.	**Check the category most applicable to this course:**			
	☐ Traditional – Offered in Corresponding Departments at Universities Elsewhere			
	☐ Relatively New – Now Being Widely Established			
	☒ Not Yet Found in Many (or Any) Other Universities			
9.	**Course Relationship to Program(s).**			
a.	Is this course part of a proposed new program?		YES ☐	NO ☒
	If YES, name the proposed new program:	_____		
b.	Will this course be a new requirement[5] for ANY program?		YES ☐	NO ☒
	If YES[5], list affected programs:	_____		
10.	**Information to be Placed on Syllabus.**			
a.	Is the course 400G or 500?		YES ☐	NO ☒
	If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in ***10.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.	☒	The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from ***10.a*** above) are attached.		

[5] In order to change a program, a program change form must also be submitted.

NEW COURSE FORM

Signature Routing Log

General Information:

Course Prefix and Number: SEM 620

Proposal Contact Person Name: Christa Jackson Phone: 859-257-8974 Email: christa.jackson@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 Education	11-10-11	Jennifer Wilhelm / 7-1291 / jennifer.wilhelm@uky.edu	
C&C Committee	11/15/11	Doug Smith / 7-1824 / dcsmit1@uky.edu	
College of Ed Faculty	12/13/11	Robert Shapiro / 7-9795 / rshap01@uy.edu	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[6]
Undergraduate Council			
Graduate Council	3/9/12	Dr. Brian Jackson	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

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

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!**

Introduction/Definition: For the purposes of the Commission on Colleges Southern Association of Colleges and Schools accreditation review, *distance learning* is defined as a formal educational process in which the majority of the instruction (interaction between students and instructors and among students) in a course occurs when students and instructors are not in the same place. Instruction may be synchronous or asynchronous. A distance learning (DL) course may employ correspondence study, or audio, video, or computer technologies.

A number of specific requirements are listed for DL courses**. The *department* proposing the change in delivery method is responsible for ensuring that the requirements below are satisfied at the individual course level.** It is the responsibility of the instructor to have read and understood the university-level assurances regarding an equivalent experience for students utilizing DL (available at http://www.uky.edu/USC/New/forms.htm).

Course Number and Prefix: SEM 620	Date: 11-4-11
Instructor Name: Christa Jackson	Instructor Email: christa.jackson@uky.edu

Check the method below that best reflects how the majority of course of the course content will be delivered.

Internet/Web-based ☐ Interactive Video ☐ Hybrid ☒

	Curriculum and Instruction
1.	How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations? Timely and appropriate interaction will be assured through weekly use of online discussion groups. Discussions will be faciliated by faculty member. The syllabus does conform to the University Senate Guidelines and includes Distance Learning Considerations and information.
2.	How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc. The textbooks, course goals, and assessment of student learning outcomes are identical to a face-to-face class. This hybrid course will offer a mixed method of course presentation. In this class, the only differences are that class-based discussion is through electronic discussion boards, class materials are available from the download sites, and assignments are distributed and collected online. Students in the course will participate in online and in-class activities, and group work. All students will participate in the same experiences.
3.	How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc. 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 affordanced of UK's Blackboard and SharePoint course system. Student presentations will be given in class face-to-face meetings on campus.
4.	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? Yes If yes, which percentage, and which program(s)?

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

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	Fifty-percent of the Master of Science in STEM Education will be delivered through distance learning. *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.
5.	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? Course readings will be avialable 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 suppport and library support.
	Library and Learning Resources
6.	How do course requirements ensure that students make appropriate use of learning resources? The discussion boards will be tracked for evidence of participation. Readings will be monitored for download. Downloaded readings will be the subjects of discussion boards. Assignments, require the use of technology and publication resources.
7.	Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program. 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.
	Student Services
8.	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 (http://www.uky.edu/TASC/index.php) and the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)? Students are informed in the actual syllabus as well as in orientation letters emailed to the students.
9.	Will the course be delivered via services available through the Teaching and Academic Support Center? Yes ☒ No ☐ If no, explain how students enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

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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!**

10.	Does the syllabus contain all the required components, below? ☒ Yes ☐ Instructor's *virtual* office hours, if any. ☐ The technological requirements for the course. ☐ Contact information for TASC (http://www.uky.edu/TASC/; 859-257-8272) and Information Technology Customer Service Center (http://www.uky.edu/UKIT/; 859-257-1300). ☐ Procedure for resolving technical complaints. ☐ Preferred method for reaching instructor, e.g. email, phone, text message. ☐ Maximum timeframe for responding to student communications. ☐ Language pertaining academic accommodations: ○ "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 jkarnes@email.uky.edu." ☐ Information on Distance Learning Library Services (http://www.uky.edu/Libraries/DLLS) ○ Carla Cantagallo, DL Librarian ○ Local phone number: 859 257-0500, ext. 2171; long-distance phone number: (800) 828-0439 (option #6) ○ Email: dllservice@email.uky.edu ○ DL Interlibrary Loan Service: http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16
11.	I, the instructor of record, have read and understood all of the university-level statements regarding DL. Instructor Name: Christa Jackson Instructor Signature:

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

SEM 620: Equity in STEM Education
Syllabus
Semester
Course Meeting Days/Time
Location

"Research and Reflection for Learning and Leading"

Instructor:	Christa Jackson
Office Location	105E TEB
Phone Number	257.8974
Email	christa.jackson@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 http://www.uky.edu/TASC or call 859.257.8272 Contact Information Technology Customer Service Center http://www.uky.edu/UKIT 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 http://www.uky.edu/UKIT or 859.257.1300
Preferred method for contacting instructor	E-mail or Blackboard or Sharepoint
Anticipated Response Time	2 days
Information on Distance Learning Library Service	http://www.uky.edu/Libraries/DLLS
DL Librarian	Carla Cantagallo, DL Librarian; local 859.257.0500 ext 2171 Long distance: 800.828.0439, option 6 dllservice@email.uky.edu
DL Interlibrary Loan Service	http://www.uky.edu/Libraries/libpage.php?lweb_ide=253&llib_id16
Face-to-Face Librarian	Brad Carrington, Education Librarian brad.carrington@uky.edu 859.257.7977
Face-to-Face Interlibrary Loan Service	http://libguides.uky.edu/educ

Course Description

This course is a seminar designed to study equity issues in the teaching and learning of STEM disciplines in P-20 education. A primary focus will be on enhancing teachers' ability to use research and reflection for learning and leading. Throughout the course the relationship between theory and practice will be emphasized in an attempt to understand some of the complexities and challenges in addressing issues of equity in mathematics learning and teaching.

Prerequisite:
Graduate standing.

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.

Course Learning Targets, Outcomes, and Assessments
This course has been designed to provide students with opportunities to acquire skills, knowledge, conceptual understanding, classroom experience, and practice teaching in their preferred content area(s). These learning targets are aligned with Unbridled Learning expectations including, Kentucky Core Academic Standards, Assessment Literacy, College & Career Readiness, and Characteristics of Highly Effective Teaching and Learning. By the end of this course, students will have gained the following:

Learning Target/Outcome	**Assessment (Formative/Summative)**
By the conclusion of this course, students will:	*Student performance will be assessed for the following:*
Explore and examine issues of race/ethnicity, class, gender, and language in relation to STEM curriculum and teaching.	• The student will prepare weekly reflections on research articles related to diversity in STEM education (Formative) • The student will select a particular topic/issue related to issues of equity in STEM education and write a research

	report (Summative) • The student will outline a curricular unit in the STEM disciplines that uses a particular social, economic, educational or political issue to teach a set of STEM related concepts (Summative)
Critically examine and analyze the content and instructional practices of STEM disciplines from the perspective of equity and social justice.	• The student will prepare weekly reflections on research articles related to diversity in STEM education (Formative) • The student will select a particular topic/issue related to issues of equity in STEM education and write a research report (Summative) • The student will outline a curricular unit in the STEM disciplines that uses a particular social, economic, educational or political issue to teach a set of STEM related concepts (Summative)
Apply and expand knowledge of issues of equity, diversity and social justice in the context of STEM education	• The student will prepare weekly reflections on research articles related to diversity in STEM education (Formative) • The student will select a particular topic/issue related to issues of equity in STEM education and write a research report (Summative) • The student will outline a curricular unit in the STEM disciplines that uses a particular social, economic, educational or political issue to teach a set of STEM related concepts (Summative)
Develop a pedagogical model for teaching for social change	• The student will outline a curricular unit in the STEM disciplines that uses a particular social, economic, educational or political issue to teach a set of STEM related concepts (Summative)

Course Delivery

This proposed course is designed as a hybrid course. Course participants will attend class on campus for the first three courses during the semester. Thereafter, online distance learning instruction will be conducted throughout the second half of the semester. Students will participate in online discussions, collaborate on group projects, and work on independent research projects during the distance-learning segment of the course. Class will meet on campus two times during the second part of the semester so students can present their projects.

Unbridled Learning Initiatives

This course will provide students an opportunity to advance their knowledge and mastery of the "tools" associated with Kentucky education reform, including the Kentucky Core Academic Standards (as they become available), assessment literacy – assessment *for* learning, Characteristics of Highly Effective Teaching and Learning, College and Career Readiness, and the new accountability system as it becomes available. As students carry out projects and complete assignments that involve instructional activities for P-12 students in Kentucky schools, they will address one or more components of the Senate Bill 1 initiatives.

Selected Readings

Bouwma-Gearhart, J. (2011). Heterosexual narrative—Querying discipline norms. *Academic Exchange Quarterly*, *15*(2), 82-89.

Frankenstein, M. (1995). Equity in mathematics education: Class in the world outside the class. In W. Secada, E. Fennema & L. Adajian (Eds.), *New directions for equity in mathematics education* (pp. 165-190). New York, NY: Cambridge University Press.

Gutstein, E., Lipman, P., Hernandez, P., de los Reyes, R. (1997). Culturally relevant mathematics teaching in a Mexican American community. *Journal for Research in Mathematics Education*, 28(6), 709-737.

Khisty, L. & Chval, K. (2002). Pedagogic discourse and equity in mathematics: When teacher's talk matters. *Mathematics Education Research Journal*, *14*, 3, 4-18.

Knapp, M., Shields, P., & Turnbull, B. (1995). Academic challenges in high-poverty classrooms. *Phi Delta Kappan*, June, 770-776.

Ladson-Bilings, G. (1997). I know why this doesn't feel empowering: A critical race analysis of critical pedagogy. In P. Freire, Mentoring the mentor: A critical dialogue with Paulo Freire (pp. 127-141). New York: Peter Lang Publishing.

Lee, O. (2005). Science Education with English language learners: Synthesis and Research Agenda. Review of Educational Research, 75, 4, 491-530.

Lynch, S. (2000). Science, Literacy, Social Justice and Equity: Listening to our better angels. In Equity and Science Education Reform pp. 1-20. Mahwah, NJ: Lawrence Erlbaum.

Martin, D. (2000). *Mathematics success and failure among African American youth*. Mahwah, NJ: Lawrence Erlbaum Associates.(pp. 81-118)

Miller, L. & Opland-Dobs (2001). Students blow the whistle on toxic oil contamination. In Rethinking our Classrooms, Volume 2: Teaching for Equity and Justice (pp. 144-148). Milwaukee, WI: Rethinking Schools.

Nasir, N. & Cobb, P. (2002). Diversity, equity, and mathematical learning. *Mathematical Thinking and Learning*, *4*(2&3). Accessible online through the University library.

Oakes, J. (1990). Opportunities, achievement and choice: Women and minority students in science and mathematics. In C.B. Cazden (Ed.), *Review of research in education*, 16, 153-222. Washington, DC: AERA.

Schnittka, C.G. (in press). Engineering Education in the Science Classroom: A Case Study of One Teacher's Disparate Approach with Ability-Tracked Classrooms. *Journal of Pre-College Engineering Education.*

Stonyer, H. (2002). Making engineering students-making women: The discursive context of engineering education. *International Journal of Engineering Education, 18*(4), 392-399.

Zevenbergen, R. (2000). "Cracking the code" of mathematics classrooms: School success as a function of linguistic, social, and cultural background. In J. Boaler (Ed.), *Multiple perspectives on mathematical teaching and learning* (pp. 201-224). Westport, CT: Ablex Publishing.

Grades

Your work will be assessed based on criteria established in the course. Please note that to receive full credit, all written work must be submitted on time. Grades will be assigned as follows:

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

Final Exam Information

Will be posted in the semester schedule of courses.

Submission of Assignments

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.

Attendance

Attendance of individuals in the class is required, and university rules regarding absences will be followed. Exchange of ideas is essential for the learning that occurs in this class. In most class meetings, students work in pairs and/or in groups. The absence of one individual affects the performance of all persons working in the group. If you are absent, it is each student's responsibility to make up the work and provide evidence that the absence was excused. Without this evidence, the absence will be considered unexcused. Two tardies, whether arriving late or leaving early, equals one unexcused absence. I reserve the right to lower your final grade one-letter grade for each unexcused absence.

Excused Absences

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences
Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Excessive Absences
According to the Rules of the University Senate, those students who miss more than 20% of the class FOR ANY REASON may be dropped by the instructor from the class. This is true even if you are sick and have medical excuses. The rationale for this rule is that people who miss more than 20% are not really receiving the content of the course.

From the Rules of the University Senate, Part II, 5.2.4.2 Excused Absences:
If attendance is required or serves as a criterion for a grade in a course, and if a student has excused absences in excess of one–fifth of the class contact hours for that course, a student shall have the right to petition for a "W," and the faculty member may require the student to petition for a "W" or take an "I" in the course. (US: 2/9/87; RC: 11/20/87)

Participation and Professionalism
The STEM Education program is a teacher preparation program, and as such expects you to work and to transition into the teaching profession. This entails both mature personal behavior and professional conduct based on the College of Education's Functional Skills and Dispositions (see Student Handbook at http://education.uky.edu/AcadServ/content/ student-handbook-education-programs). These include 1) communicating appropriately and effectively, 2) demonstrating constructive attitudes, 3) demonstrating the ability to conceptualize key content, 4) interacting appropriately with diverse groups in educational settings (including colleagues and students), and 5) demonstrating a commitment to professional ethics and behavior.

Students who fail to attend class on a regular basis, participate as expected, and/or conduct themselves professionally or ethically will be required to meet with the instructor to set improvement goals, and may face failure or expulsion based on due process policies set by the College of Education and Teacher Education Preparation program. You are encouraged to communicate regularly with the instructor so that you are aware of your standing. This may be accomplished via face-face meetings during office hours and via email.

Students with Special Needs
If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

The course will be conducted with openness and respect to all individuals' points of view and experience. The activities and discussions will not tolerate discrimination or prejudice toward any person or group's religion, ethnicity, disability, gender, or sexual orientation.

Ethics Statement
This course and its participants will not tolerate discrimination, violence, or vandalism. The STEM Education Department is an open and affirming department for all people, including those who are subjected to racial profiling, hate crimes, heterosexism, and violence. We insist that appropriate action be taken against those who perpetrate discrimination, violence, or vandalism. The University of Kentucky is an Affirmative Action and Equal Opportunity institution and affirms its dedication to non-discrimination on the basis or race, color, religion, gender, age, sexual orientation, domestic partner status, national origin, or disability in employment, programs, and services. Our commitment to non-discrimination and affirmation action embraces the entire university community including faculty, staff, and students.

All students are expected to conduct themselves in an appropriate and ethical manner during their UK classes and related field placements, as befitting students, future teachers, and ambassadors for the University of Kentucky. Any unethical behavior in class or during your field placements may result in failure for the course and/or expulsion from the STEM Education program, determined on a case-by-case basis. Faculty will follow all university due process procedures in cases of academic or ethical misconduct. Please consult XXXX if you have questions regarding this requirement.

Academic Integrity:
Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: http://www.uky.edu/Ombud. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online http://www.uky.edu/StudentAffairs/Code/part2.html) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Legal Action

Students charged with violations of criminal law will be suspended immediately from the Teacher Education Program and/or field experiences until the case is settled. Students are responsible for reporting such charges to the Program Faculty Chair.

Commitment to Diversity & Equity

The STEM Education Program is committed to: making diversity central to policies, decisions, and practices; evaluating progress toward diversity in the program; disseminating results widely; and using these results to strengthen diversity for the Commonwealth.

Equitable access to high quality instruction in Kentucky's schools is directly and indirectly affected by UK's STEM Education program's beliefs in and support for social diversity in schools. Moreover, the Commonwealth is directly affected by the ability of its youth to acquire high levels of skill in mathematics that can then be used by them as citizens to enhance their communities and participate in the state's ongoing progress and prosperity in local, regional,

national, and global contexts. Therefore, it is essential for our teacher candidates to understand issues related to social diversity and make a commitment to value diversity as they engaged in teaching, research, reflection, learning, and leadership. By valuing diversity, our program is committed to enabling and empowering all people in educational contexts regardless of their race, ethnicity, gender, social class, sexual orientation, domestic partner status, and so forth.

Commitment to Addressing the Achievement Gap

The STEM Education Program aligns itself with the positions of the NCTM and NSTA regarding cultural and linguistic diversity in STEM education. The program seeks to underscore that cultural and linguistic diversity should be treated as integral components of public education, and that the failure to accommodate such diversity in curriculum and instruction contributes to disparities in student achievement across racial populations—a phenomenon popularly referred to as "the achievement gap."

Commitment to Technology

The Initial Preparation Certification Program in STEM Education is committed to teaching candidates so they use technology as a personal and professional tool. Our program is guided by NCATE standards, EPSB Kentucky Teacher Standards, EPSB Themes, and UK College of Education Technology Standards as they relate to technology. Students are required to use technology for a majority of their classes. Students use technology for class assignments, lesson plan design and preparation, class presentations, record keeping, and data analysis. Students are required to successfully complete course work focusing on using technology. Our students are required to communicate via electronic mail, use list serves, access the Internet and online databases, and use digital texts and modes for research projects and presentations. Our students use Microsoft Word, Excel, Access, and PowerPoint. They are given multiple opportunities during student teaching to videotape their teaching for use in self-analysis toward professional development. Our program offers students access to "smart" classrooms and technology labs in order to further facilitate their use of technology.

Course Components

Course readings and assessments have been selected and arranged in compliance with policies set forth by *Unbridled Learning*, the Kentucky Teacher Standards, SPA Standards, Kentucky Core Academic Standards, University of Kentucky Teacher Leader Standards, University of Kentucky Functional Skills and Dispositions, University of Kentucky Technology Standards, the Kentucky Education Professional Standards Board (EPSB) themes of Diversity, Assessment, Literacy, and Closing the Achievement Gap, and the National Council for the Accreditation of Teacher Education Standards.

Task	Task Description	Standards Alignment
Reflections	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,	KTS 1, 7-10

	individual, group or both.	
Scholarly research paper related to equity in mathematics education	Students will select a particular topic/issue related to issues of equity in STEM education and write a scholarly research paper.	KTS 1, 7-10
Curriculum design project	Students will outline a curricular unit in the STEM disciplines that uses a particular social, economic, educational or political issue to teach a set of STEM related concepts. Students might start with an "issue" – one from the local community, from the school, or even amore global issue that impact our state/nation/world. Then, identify the STEM related concepts that would help students investigate and possibly act upon this issue.	KTS 1, 7-10

THE INSTRUCTOR RESERVES THE RIGHT TO CHANGE ANY PART OF THIS SYLLABUS DURING ANYTIME IN THE SEMESTER. STUDENTS WILL BE ADEQUATELY NOTIFIED WHENEVER CHANGES OCCUR.

Course Schedule and Outline

Class Number and Date	Topics, Agenda, and Readings
Weeks 1-3	Introduction to issues of equity in STEM education
Week 4-8	Perspectives on equity: gender, race, class, and language
Week 9-12	Critical and equity pedagogy in STEM education
Week 13-15	Discourse, participation, and funds of knowledge
Week 16	Projects and Class Presentations

THIS SCHEDULE IS SUBJECT TO CHANGE WITH PRIOR COMMUNICATION TO STUDENTS.

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