

University Senate
December 14, 2015

The University Senate met in regular session at 3 pm in the Auditorium of W. T. Young Library on Monday, December 14, 2015. Below is a record of what transpired. All votes were taken via electronic voting devices unless indicated otherwise; specific voting information can be requested from the Office of the Senate Council.

Senate Council Chair Andrew Hippisley (AS) called the University Senate (Senate) meeting to order at 3:00 pm. He reminded senators to pick up their clickers.

The Chair called for an attendance vote and 63 senators registered their presence.

1. Minutes from November 9, 2015 and Announcements

The Chair reported that no corrections were received. There being **no** objections, the minutes from November 9, 2015 were **approved** as distributed by **unanimous consent**.

The Chair shared with senators the election results from the election for Senate Council (SC) officers. McCormick (ED/Early Childhood, Special Education, and Rehabilitation Counseling) will serve as SC chair for a term of June 1, 2016 through May 30, 2017. Phil Kraemer (AS/Psychology) will serve as McCormick's SC vice chair (Senate secretary) for the same period. Regarding the election for SC members, senators chose Lee Blonder (ME), Margaret Schroeder (ED), and Connie Wood (AS) to serve three-year terms beginning January 1, 2016. The Chair thanked SC members Watt (ME) and Webb (AG) for their service on SC; their terms will end December 31, 2015.

The Chair invited emeritus faculty senators Michael Kennedy (AS, retired) to offer a couple announcements. Kennedy explained that UK has an *Administrative Regulation (AR)* that gives emeriti faculty the continued right to access University materials for research and creative work. Kennedy noted that until just recently, that was essentially limited to paper, pencils, and envelopes, but did not include software. Kennedy announced that emeriti faculty now have access to the same software downloads as other faculty and he asked senators to make sure faculty in their units are aware of this, particularly if a faculty member is close to retirement. Kennedy also reported that UK's chapter of the American Association of University Professors (AAUP) is being reconstituted; he said that the group's website was recently updated and pointed senators to the site to see the new look (www.uky.edu/OtherOrgs/AAUP).

The Chair had a few additional announcements.

- The Chair only received five nominations for faculty to help with the honors college proposal; faculty senator nominations were due the following day (Tuesday) at noon.
- The Stakes Reception will be held on Tuesday afternoon at 2:30 pm, immediately following the meeting of the Board of Trustees on the 18th floor of Patterson Office Tower. The Chair encouraged senators to attend regardless of having RSVP'd.
- The University's academic calendars will be posted online for "lack of objection" review in January.

- The SC office is working with the Registrar regarding the purging of courses that have not been taught in the past eight years. Courses to be purged will be posted online for informational purposes in February or March and a notice of the posting will be emailed to all senators.

3. Officer and Other Reports

a. Chair

The Chair reported that the SC approved forms for a new undergraduate minor and for a change to the undergraduate minor.

b. Vice Chair

There was no report from the vice chair.

c. Parliamentarian

There was no report from the parliamentarian.

d. Trustee

There was no report from the faculty trustees; the Chair reported that they were involved with Board of Trustees committee meetings.

The Chair reported that President Capilouto would be late for the meeting and said that if there were no objections, the Senate could move to the next agenda item; there were no objections.

4. Proposed Changes to Senate Rules 5.4.2.3 ("Conditions of Circumstance for Honorary Degrees," "Titles of Honorary Degrees")

The Chair explained that there was no logical mapping between honorary degree nominees and the degree they could receive. A few months ago there was a request that Senate define the existing titles, as well as offer suggestions as appropriate. The University Joint Committee on Honorary Degrees (UJCHD) deliberated on the matter and offered some proposed honorary degree explanations for insertion into the *Senate Rules (SR)*. Interim Graduate School Dean Susan Carvalho explained that the UJCHD benchmarked with other universities and opted for brief and capacious definitions for each degree. An existing University regulation prohibited awarding as an honorary degree any degree that UK awards in earned form. For example, UK cannot give an honorary bachelor of science or honorary PhD, although that was allowed at other universities.

Carvalho described each definition for senators and noted that past tradition dictated that "Humanities" had been reserved for humanitarian feats, not really for accomplishments in the humanities. "Letters" was for verbal and/or written arts, such as theatre and poetry, but it was not self-evident. Many universities offered an honorary doctorate in "humane letters" for the broadly writ humanitarian field, reserving "humanities" for verbal, written, and other accomplishments in the arts and related humanities disciplines. Carvalho noted that while looking back on past honorary degree recipients, some of the past awardees could have fit into the new title of "humane letters."

There were a few questions from senators, particularly related to the proposed new degree of "humane letters." Carvalho explained that that particular category was intended to recognize contributions for the public good. She said that she welcomed suggestions; the UJCHD did a national scan and was unable to identify another honorary degree title that would be as useful or descriptive as "humane letters."

On behalf of SC, the Chair accepted as a friendly amendment a change in the motion to restrict voting to elected faculty senators. The Chair said that the **motion** on the floor was that the elected faculty senators of the University Senate approve the proposed revisions to *SR 5.4.2.3.D* (“Titles of Honorary Degrees”). Because the motion came from committee, no **second** was required. A **vote** was taken and the motion **passed** with 66 elected faculty senators in favor, four opposed, and one abstaining.

5. Candidates for Degrees

a. 2015 December Degree List

The Chair commented that the Senate’s sergeant-at-arms, Laura Anschel, was graduating with an MS in Higher Education; senators acknowledged her accomplishment with a round of applause. The Chair said that the **motion** from SC was that the elected faculty senators approve the December 2015 degree list, for submission through the President to the Board of Trustees as the recommended degrees to be conferred by the Board. Because the motion came from committee, no **second** was required. There were no comments or questions from senators so a **vote** was taken and the motion **passed** with 67 in favor and two opposed.

b. May 2016 Honorary Degree Nominee(s) - Interim Graduate School Dean Susan Carvalho

Interim Graduate School Dean Susan Carvalho gave a presentation on the proposed honorary degree recipients for May 2016 commencement. Rohr asked why the UJCHD did not take any risks regarding honorary degree nominees. Carvalho explained that the UJCHD looks for individuals who have achieved global or regional status in their fields; while looking for those at the top of their fields, the UJCHD also looked for nominees who have also given back to their community.

The Chair noted that the motion for the first recipient came from committee, so no **second** was required. The **motion** from SC was that the elected faculty senators approve W. David Arnett as the recipient of an Honorary Doctor of Science, for submission through the President to the Board of Trustees as the recommended recipient of an honorary degree to be conferred by the Board. There were no questions or comments. A **vote** was taken and the motion **passed** with 69 in favor and none opposed or abstaining.

The Chair said that the second nominee also came from committee, so no **second** was required. The **motion** was that the elected faculty senators approve General Thomas Patterson Maney as the recipient of an Honorary Doctor of Laws, for submission through the President to the Board of Trustees as the recommended recipient of an honorary degree to be conferred by the Board. There were no questions or comments. A **vote** was taken and the motion **passed** with 65 in favor, none opposed, and one abstaining.

The Chair said that the third nominee came from committee, so no **second** was required. The **motion** from SC was that the elected faculty senators approve Herbert W. Ockerman as the recipient of an Honorary Doctor of Science, for submission through the President to the Board of Trustees as the recommended recipient of an honorary degree to be conferred by the Board. A **vote** was taken and the motion **passed** with 68 in favor and none opposed or abstaining.

Tagavi (EN) asked if the recently approved new title (“honorary doctorate of humane letters”) needed approval by the Board. It was confirmed that the Board would need to approve the new distinction; the Chair reported that it was highly unlikely that the Board would not approve the new title. The fourth and final nominee came from committee, so no **second** was needed. The motion was that the elected faculty senators approve Eileen Recktenwald as the recipient of an Honorary Doctor of Humane Letters, for

submission through the President to the Board of Trustees as the recommended recipient of an honorary degree to be conferred by the Board. A **vote** was taken and the motion **passed** with 66 in favor, two opposed and one abstaining.

2. Conversation with President Eli Capilouto - University Senate Chair

The Chair introduced University Senate Chair Eli Capilouto. President Capilouto offered his respect and thanks for the work senators do. He commented that having the honor of presenting honorary degrees with the Chair was one of the more delightful things he was able to do as UK's president. The President also apologized for being late, but noted that when Kentucky's new governor called, he thought it best not to decline to answer. President Capilouto spoke to senators about responsibilities in the increasingly diverse world we live in and the importance of creating a sense of belonging for all who are at UK, regardless of race, income, and perspective. At the close of his remarks, he said he was glad to have faculty and students and staff as partners in UK's great endeavor to ensure all feel welcomed on UK's campus. Senators responded with a round of applause.

Blonder (ME) asked what the President's plan for improving diversity would be going forward. The President responded that he was aware of a lot of great ideas but he was not yet ready to share them; he wanted to have a diverse group discuss the plans and also weigh in with their great ideas. He said he would be in touch with the Senate about the content of those deliberations.

Hulse (BE) asked if the President had any sense, yet, of the new governor's view of the University. The President replied that he had only spent about five hours, total, with the new governor and outlined the occasions during which he and the Governor had interacted. The President said the new governor was engaging but very honest about the state's financial challenges and how difficult it will be for all universities. The President noted that the new governor was worried about the lack of sufficient scholarship funds for members of KY's National Guard and its veterans; the governor said the state will fund the gap in scholarship funding for these individuals and asked college presidents to reach out to these students to make sure they enroll for the spring semester. There were no further questions and senators recognized the President with a round of applause.

c. Motion to Amend Something Previously Adopted (May 2014 Degree List) for Arts and Sciences

Student KF-92: Bestow BS Biology and BA French and Rescind BS Biology with Second Major in French

The Chair invited Ruth Beattie (AS/Biology, associate dean of advising) to explain the request. Guest Beattie explained that the student applied electronically for a BS Biology with a second major in French, but later realized she could earn a second degree, not just a second major. The student emailed a request for a change but the College failed to change it in the system. The Chair explained that the **motion** from the SC was that the elected faculty senators amend the May 2014 degree list adopted at the May 5, 2014 Senate meeting by adding the BS Biology and BA French and deleting the BS Biology with a second major in French for student KF-92 and recommend through the President to the Board of Trustees that the BS Biology and BA French be awarded effective May 2014. Because the motion came from committee, no **second** was required.

Jones (ME) asked about the circumstances surrounding the recent spate of requests to correct granted degrees and wondered if there were more problems recently or if there were better skills in place to catch the errors. Beattie said that in the past, such requests went directly to the Registrar. Further, many degree errors could have been prevented if the deadlines for degree applications were later in the year.

There were a variety of questions from senators about the appropriate wording. The Chair noted that the language presented to Senate was identical to what had been presented the prior month and that the Board was not likely to reject the request based on wording of the motion. When there were no further comments, a **vote** was taken and the motion **passed** with 58 elected senators in favor, four opposed, and one abstaining.

d. Late Addition to the May 2015 Degree List (as per Senate Rules 5.4.1.1.D.1-2) for Arts and Sciences Student GC-69

The Chair said that the **motion** from SC was that the elected faculty senators amend the May 2015 degree list adopted at the May 4, 2015 Senate meeting by adding the BA Psychology for student GC-69 and recommend through the President to the Board of Trustees that the BA Psychology be awarded effective May 2015. Because the motion came from committee, no **second** was required.

Beattie explained that the student requested a change from the BS to the BA and also added a number of minors. The minors were done but the degree was not changed. There were a couple questions. A **vote** was taken and the motion **passed** with 62 elected faculty senators in favor and one opposed

e. Motion to Amend Something Previously Adopted (Second August 2015 Degree List) for Arts and Sciences Student FM-47: Bestow BS Biology and Rescind BA Biology

Beattie explained that the student was earning a BS Biology but withdrew from the University for ill health. The College subsequently communicated with the student's mother and she asked about the quickest way for the student to complete the degree requirements. At the time, the completed coursework appeared to indicate that the student could complete the BA Biology more quickly, so the degree was changed to the BA. Unfortunately, UK's APEX system for degree audits accepted some coursework as applicable to the BA when it was not. In the meantime, the student took a couple courses at another university. The student checked in on his progress towards the BS and received a letter from the College indicating he completed the requirements for the BS. When those courses from an external university were transferred to UK, the student's degree was certified as a BA Biology and awarded to the student in August 2015.

The problem with courses not filtering properly into SAP has since been rectified and the student would like to receive the BS Biology for which the student completed all requirements. The Chair said that the **motion** from SC was that the elected faculty senators amend the second August 2015 degree list adopted by Senate Council on behalf of University Senate at the August 31, 2015 Senate Council meeting by adding the BS Biology and deleting the BA Biology for student FM-47 and recommend through the President to the Board of Trustees that the BS Biology be awarded effective August 2015. Because the motion came from committee, no **second** was required. A **vote** was taken and the motion **passed** with 60 elected faculty senators in favor, none opposed, and two abstained.

6. Committee Reports

a. Senate's Academic Programs Committee (SAPC) - Margaret Schroeder, Chair

i. New Graduate Certificate in Next Generation in Teaching & Learning

Schroeder (ED), chair of the Senate's Academic Programs Committee (SAPC), explained the proposal. The Chair said that the **motion** from the SAPC was that the University Senate approve the establishment of a new Graduate Certificate in Next Generation Teaching & Learning, in the Department of Curriculum & Instruction within the College of Education. Because the motion came from committee, no **second** was required. There were no questions from senators so a **vote** was taken and the motion **passed** with 65 in favor and two opposed.

ii. New Graduate Certificate in General Radiological Medical Physics

Schroeder (ED) explained the proposal. The Chair said that the **motion** from the SAPC was that the University Senate approve the establishment of a new Graduate Certificate in General Radiological Medical Physics, in the Department of Radiation Medicine within the College of Medicine. Because the motion came from committee, no **second** was required. There were a few questions from senators. A **vote** was taken and the motion **passed** with 63 in favor, one opposed, and one abstained.

iii. Proposed Suspension of MS in Agriculture (Rural Sociology)

Schroeder (ED) explained that the request was actually to delete the MS Agriculture (Rural Sociology). The Chair said that the motion from SC referred to suspension, but that he would accept the change on behalf of the SC as a friendly amendment. Therefore, the **motion** from SC was that the University Senate approve the deletion of the existing MS Agriculture (Rural Sociology), in the Department of Sociology within the College of Arts & Sciences, for submission through the President to the Board of Trustees. Because the motion came from committee, no **second** was required. There were no questions from senators. A **vote** was taken and the motion **passed** with 65 in favor and none opposed.

b. Senate's Admissions and Academic Standards Committee (SAASC) - Scot Yost, Chair

i. Proposed Changes to Senate Rules 5.1.2.3 & 5.3.3.3 (Numeric Grading in Medicine)

Yost (EN), chair of the Senate's Admissions and Academic Standards Committee (SAASC), explained the proposal. The College of Medicine moved to numeric grading a few years back and now there is a need to update certain College of Medicine-related sections of the SRs.

Senators raised three issues that needed to be clarified – the clarifying language for all three issues was accepted by Yost on behalf of the SAASC as being friendly amendments.

- Add the complete range for possible student performance to the first paragraph in SR 5.1.2.3 to the minimum competency range so that the sentence reads as follows: "Courses taken for grade will reflect student performance with a numeric value of three significant digits between 0.0% and 100%, with 0.700 and 1.00 (70.0%-100%) for those students achieving minimum competency."
- Change the range in SR 5.3.3.3.B.4 from "76.1% to 79.9%" to "76.0% to 79.9%."
- Change the range in SR 5.3.3.3.B.7 from "70.0% to 76.0%" to "70.0% to 75.9%."

The Chair said that the **motion** from SC was that the Senate approve the revisions to SR 5.1.2.3 and SR 5.3.3. Because the motion came from committee, no **second** was required. There being no further questions, a **vote** was taken and the motion **passed** with 60 in favor, three opposed and one abstained.

ii. Proposed Changes to Senate Rules 5.2.1.1 ("Accelerated Programs") and Senate Rules 5.2.1.4 ("Maximums")

Yost (EN) explained the proposed changes. Tagavi (EN) noted that the acronym for the Program on Noncollegiate Sponsored Instruction had changed its acronym to NPNSI, not PONSII. Yost accepted that change on behalf of the SAASC as a friendly amendment. The Chair said that the **motion** from SC was that the Senate approve the changes to SR 5.2.1 and SR 5.2.1.4. Because the motion came from committee, no **second** was required. A vote was taken and the motion **passed** with 60 in favor and none opposed.

7. Academic Excellence - Provost Tim Tracy

Provost Tim Tracy thanked senators for the opportunity to talk with them. He spoke about the issue of academic excellence and how the University intends to ensure students are successful. Senators acknowledged his remarks with a round of applause.

Yeager (AS) asked about the low wage that graduate students receive. Provost Tracy noted that much data had been created related to graduate student stipends. UK is currently below the average amount. He said that it was certainly an area that needed to be addressed and was included in the 2016-2020 Strategic Plan. He suggested Yeager advocate for increased funding within his college, as colleges need to put increased graduate student funding in their framework of priorities. Wood noted that in recruiting the highest quality graduate students, UK was not seeking average students; she asked if there was a mechanism to increase funding for fellowships to help UK attract the highest quality graduate students. Provost Tracy replied that UK was looking at a variety of issues, including increased philanthropy to support stipends, as well as how UK distributes its own institutional scholarships.

8. Other Business (Time Permitting)

The Chair asked if there were any items from the floor that a senator wanted to discuss. There were no suggestions.

Wood (AS) **moved** to adjourn and Calvert (EN) **seconded**. No vote was taken, as senators voted with their feet. The meeting was adjourned at 5:03 pm.

Respectfully submitted by Katherine McCormick,
University Senate Secretary

Invited guests present: Ruth Beattie, Todd Cheever, Ellis Johnson, and Patrick Mooney.

Absences: Allday, Allen, Ayers, Beaulieu**, Biery, Birdwhistell, M., Bondada*, Brennen, Brion, Brown, K., Browning, Burks, Butler, K., Cassis, Chism, Clark, Cofield, Cox, Crist, Cross, de Beer, Dickes*, Doolen, Ferrier*, Gower*, Grossman*, Hazard*, Healy*, Hertog, Kyrkanides, Lehman, Lephart, Loven, Martin, Mullen, Murthy*, Nash, Nathu, Niespodziany, O'Connor*, O'Hair, D.*, O'Hair, MJ, Peffer, Profitt, Richey, Sanderson, Schoenberg, Shen, Smith, Smyth, Sudharshan, Swanson, Thorpe*, Tick, Tracy, Vail, Vernon, Vosevich, Walz, Wilhelm*, Wilson, J*, Wilson, M., Wilson, K., Witt, Woods.*

Prepared by Sheila Brothers on Thursday, January 21, 2016.

* Denotes an explained absence.

PROPOSAL TO DEFINE HONORARY DEGREE TITLES

Senate Rules:

5.4.2.3 Conditions of Circumstance for Honorary Degrees

A. Role of the University Joint Committee on Honorary Degrees (UJCHD)

The elected Faculty Senators in the University Senate here opt to incorporate by reference the composition and charge to the University Joint Committee on Honorary Degrees as described in AR 11:4. Using the conditions of merit for Honorary Degrees specified SR 5.4.2.4 below, the UJCHD develops recommendations on nominees for Honorary Degrees. The UJCHD submits its recommendations to the elected faculty senators in the University Senate.

The UJCHD may submit to the elected Faculty Senators, through the elected Faculty representatives to the Senate Council, policy recommendations concerning conditions of merit and circumstance for the award of Honorary Degrees.

- * The prerogative of the elected Faculty Senators to “opt” to utilize the charge to and composition of the University Joint Committee on Honorary Degrees described in the cited Administrative Regulation connotes that changes in the charge or composition specified in the regulation are made only with the concurrence of the elected Faculty Senators. [SREC: 8/2009]

B. Role of the Elected Faculty Senators in the University Senate

1. Within the framework of a University Senate meeting, and prior to consideration of any specific nominations, the elected Faculty Senators may exercise its option to decide that no nominees for honorary degrees will be recommended to the Board of Trustees that academic year.
2. If the elected Faculty Senators do not opt for the above outcome (SR 5.4.2.3.B.1), then the elected Faculty Senators shall consider the UJCHD recommendations concerning:
 - (a) the qualifications of the submitted nominees;
 - (b) the appropriateness of the recommended honorary degree title for each;
 - (c) the alternative occasion on which the degree is recommended to be conferred (if not at either the December or May Commencement); and
 - (d) any other recommendations of the committee for departure from the conditions of circumstance specified herein.
3. The respective recommendation for each nominee shall be considered and voted on individually by the elected Faculty Senators. The elected Faculty Senators may in addition approve, or may modify, the recommendation on the degree title or other circumstance of award of the degree. Those nominees, degree titles, and circumstances of award that are approved by the elected Faculty Senators shall be forwarded through the Chair of the Senate

(the President) to the Board of Trustees for final action. Prior to the vote by the elected faculty Senators, the Chair of the Senate (or that Chair's designee), may address the University Senate as to the qualifications of a particular nominee or as to exceptions to the conditions of circumstance.

4. Under extraordinary circumstances, and with written justification to the Board of Trustees through the Chair of the Senate, the elected faculty representatives in the University Senate may through a deliberative process commensurate to the circumstance recommend for an honorary degree a person not among the nominees recommended by UJCHD. This option is not dependent upon the exercise of SR 5.4.2.3.B.2, above.

C. Circumstances for Award of Honorary Degrees

1. The number of honorary degrees awarded during any academic year shall be limited to five, with no more than four at any single Commencement. [US: 2/14/11]

2. The honoree must be present to receive the honorary degree.

3. The honorary degree shall be conferred at either the December or May regular university commencement ceremony, unless otherwise approved by the elected Faculty Senators pursuant to SR 5.4.2.3.B.2.(c). [US: 2/14/11]

D. Titles of Honorary Degrees

The titles [and definitions](#) approved by the elected Faculty Senators for Honorary Degrees are:

Honorary Doctor of Arts

[To recognize extraordinary accomplishments in the creative arts, fine arts, performing arts, or related fields](#)

Honorary Doctor of Laws

[To recognize extraordinary accomplishments in law, politics, governance, diplomacy, or related fields](#)

Honorary Doctor of Science

[To recognize extraordinary accomplishments in scientific fields](#)

Honorary Doctor of Engineering

[To recognize extraordinary accomplishments in engineering, design, technology, or related fields](#)

Honorary Doctor of Humanities

[To recognize extraordinary accomplishments in the humanities](#)

Honorary Doctor of [Humane](#) Letters

[To recognize extraordinary contributions to philanthropy, human development, education, or societal well-being](#)

5.4.2.4 Conditions of Merit for Honorary Degrees

A. Principles

In awarding Honorary Degrees, the University accomplishes several purposes: It pays tribute to those whose life and work exemplify professional, intellectual, or artistic achievement. It recognizes and appreciates those who have made significant contributions to society, the state, and the University. It highlights the diverse ways in which such contributions can be made. And it sends a message that principles, values, and contributions are important. Well-chosen honorees affirm and dignify the University's own achievements and priorities.

Honorary degrees may be conferred upon those who have achieved distinction through outstanding intellectual or creative achievements, or through outstanding leadership in education, business, public service or other appropriate sectors of society.

B. Conditions

- 1.** The honorary degree shall be awarded to recognize only exceptional accomplishments as outlined in the above principles. The nominee's special achievement or contribution to society shall be the fundamental consideration and shall be evaluated without regard to the nominee's attainment of influential position or financial status.
- 2.** The nominee shall have gained distinction worthy of recognition extending well beyond his/her own field of endeavor and geographical area of activity.
- 3.** Although it is recognized that it is desirable for the nominee to have a tie to the University of Kentucky or the Commonwealth of Kentucky, such a connection shall not be a requirement.
- 4.** As long as the nominee clearly meets the criteria, his/her selection shall not be affected by the number of previous similar honors received.
- 5.** Former faculty and staff of the University of Kentucky shall meet the same criteria as other nominees; current faculty and staff are not eligible.
- 6.** Elected or appointed officials of the Commonwealth of Kentucky shall not be eligible as honorary degree candidates during their terms of office.

Brothers, Sheila C

From: Schroeder, Margaret <m.mohr@uky.edu>
Sent: Friday, October 16, 2015 1:10 PM
To: Hippisley, Andrew R; Brothers, Sheila C
Subject: Graduate Certificate: Next Generation Teaching & Learning
Attachments: FINALGradNxtGenLearning Certificate.10-2015.pdf

Proposed New Graduate Certificate: Next Generation Teaching & Learning

This is a recommendation that the University Senate approve the establishment of a new Graduate Certificate: Next Generation Teaching & Learning, in the Department of Curriculum & Instruction within the College of Education.

Please find the revised proposal attached.

Best-

Margaret

Margaret J. Mohr-Schroeder, PhD | Associate Professor of STEM Education | [COE Faculty Council Chair](#) | [SAPC University Senate Committee Chair](#) | [University Senator](#) | Secondary Mathematics Program Co-Chair | [STEM PLUS Program Co-Chair](#) | [Department of STEM Education](#) | [University of Kentucky](#) | www.margaretmohrschroeder.com



Graduate Certificate in Next Generation Teaching & Learning

I. Overview

Next Generation Teaching and Learning, that incorporates 21st Century Skills (collaboration, communication, technology, critical thinking, problem solving and performances of learning), is a current direction in educational endeavors in a variety of learning environments from K-12 classrooms and teacher professional development to museums and after-school programs. We have polled interest from many of our constituents in education and the demand for a Next Generation Certificate is high. These constituents in Kentucky range from teachers at Department of Defense schools at Fort Campbell to the Challenger Center in Hazard to the After School Coalition that provides after school programming in many venues throughout the Commonwealth. Moreover, no certificate of this kind exists at any of the University of Kentucky benchmarks, on-site or online. As this Certificate has faculty from three departments in the College of Education we anticipate, after the first two years of start-up (during which students might reasonably complete the sequence of coursework) that we would have 10 students completing annually.

This Certificate combines required Next Generation Foundations and Assessment components with Specialty Electives, representative of cutting edge innovative pedagogy. The certificate comprises 12 hours of graduate coursework as follows: Nine (9) credit hours of required course work comprised of three (3) hours of the Next Generation Learning Foundations course, three (3) hours of an internship choice, three (3) hours of a course on data-driven decision making and a final three (3) chosen from specialty course options. These coursework options are elaborated in part II below.

A key purpose of the Certificate work is a demonstration of research to practice knowledge and skills, through implementation and assessment of Next Generation pedagogy in a field setting. We believe this certificate will enhance educator preparation and be critical to clinical professional development for practicing teachers, who need to demonstrate competencies in 21st century innovative practices for Next Generation Teaching and Learning.

II. Certificate Course Content and Student Learning Outcomes

Course	Course Number	Content	Semester Offered
Required Foundations of NGT&G			

(Foundations + 1 Internship Choice + 1 Data Driven Decision Making)			
Next Generation Learning Foundations L. Henry	EDC 575	This special topics course is designed to engage students in critical reading, thinking, writing, and discussion about central issues, theoretical perspectives, and innovative pedagogy related to teaching next generation learners. Class participants will read, write about, and discuss content related to expanded definitions of literacy as well as emerging instructional models related to teaching 21 st century learners and the critical attributes of next generation learning.	Fall
Teaching Internship TBA OR	EDC 501	Supervised practice teaching under competent leadership. Observation, instruction, independent study which parallels field experience, and conferences with supervising instructor included. This course is designed primarily for students in Allied Health Professions, Education, Library and Information Science, Home Economics, and Social Work. May be repeated to a maximum of 12 hours.	Any
Internship in Instructional Systems Design TBA	EDC 750	Students will apply their knowledge of instructional systems design and in a real-life setting. The NGT & L work setting will be selected based on the professional goals of each student and student work will be supervised and reviewed by the internship coordinator. May be repeated to a maximum of nine credits.	
Data Drive-Decision Making Required – ONE Course - 3 Hours			
Assessment and Accountability in P-12 Education	EDC 520	The purpose of the course is to investigate and document teaching effectiveness. Candidates design an integrated unit of study, pre and post test student learning, analyze learning gains drawing on formative and summative measures, and make modifications and accommodations based on the results	Spring
Specialty Courses Required: Select ONE 3-Hour Course			
Digital Game-based Learning & Instruction	EDC 543 J. Mazur	This course will introduce the application of digital game-based learning delivered via computer-based educational games in a variety of instructional contexts.	Spring

Social Media Design of Interactive Systems	EDC 709 J. Mazur	Activity theory, social networking theory, computer-supported collaborative work (CSCW) and computer-supported collaborative learning (CSCL), social learning models and networked immersive environments, the course content will explore the research topics related to communities of practice and other on-line learning communities	Bi-annual Fall
Design Thinking in Education	EDL 571 J. Nash	Interdisciplinary perspectives on the use of design for solving the world's challenges	Fall
Designing Project-Based Environments in STEM Education	SEM 704 J. Wilhelm	SEM 704 will give students the opportunity to explore STEM contents, technologies, instructional strategies, and assessments necessary in designing and developing a research-based, interdisciplinary, project-enhanced environment. In SEM 704 students will experience, evaluate, and design interdisciplinary, project-enhanced environments within STEM classrooms.	Fall
Advance Content Specialty Elective		<u>Prior Approval</u> of Certificate Faculty Coordinator Required	
			Spring

III. Next Generation Learning & Teaching Student Learning Outcomes for Certificate Participants

Student Learning Outcomes	Evaluation/Assessment
To demonstrate principles of Next Generation Learning in the design of field-based internship projects	<ol style="list-style-type: none"> 1. Completion of coursework EDC 575, 520 and Elective. 2. Evaluation of internship project design & translation of Next Generation Learning demonstrated in student work products resulting from instruction.
Generate assessments in classroom demonstration projects that evaluate and measure next generation critical attributes of student learning.	<ol style="list-style-type: none"> 1. Completion of coursework EDC 520 and assessment components of elective coursework. 2. Certificate candidates' rubrics and measures for assessments will (a) demonstrate knowledge of various methods of evaluating critical attributes of next generation learning and, (b) demonstrate the use of assessments for data driven instructional decision making (teaching correctives or pedagogical modifications e.g.)

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IV. Faculty of Record and Program Management

Dr. Joan Mazur will serve as the Certificate Director. Dr. Mazur is professor of Curriculum & Instruction and has experience with Graduate Certificate programs, she has also served as a Director of Graduate Studies for the department. She participates as associated faculty in two other Graduate Certificates: Human Technology Interaction and the Distance Learning Graduate Certificates.

The Core Faculty will be Dr. Joan Mazur, Dr. Laurie Henry and Dr. Margaret Rintamaa in Curriculum & Instruction. The Certificate will be housed in the department of Curriculum & Instruction in the College of Education, Instructional Systems Design program. Associated faculty are Dr. Jennifer Wilhelm, the department chair and associate professor in the STEM Department Dr. John Nash in Educational Leadership Studies both in the College of Education. All associates are members of the Graduate Faculty. The Associated faculty are enthusiastic about participation in this Certificate as it will provide students in their graduate programs in leadership and STEM with a focused certificate in which to embed their courses that include next generation content. In the case of Dr. Wilhelm, the project based learning approach targets the Next Generation Science Standards and Common Core in Mathematics pedagogies. Dr. Nash teaches Design Thinking as part of the Educational Leadership graduate and doctoral programs. This certificate leverages expertise and availability of content to an enlarged pool of students in education and other areas that may wish to be current on innovative pedagogy, without any additional resources needed for any of the programs involved.

Each year (after all course offerings) the Certificate Director will, as part of systematic program management, conduct a program faculty meeting that will include updating faculty on any issues or changes regarding the program. This meeting will also serve as an assessment/program evaluation meeting (see section VI below). As this Certificate involves graduate faculty from several departments, should a faculty member become ineligible to participate (for example by leaving the university) the Certificate Director will convene a meeting of the graduate faculty of record and elect a replacement member who is a member of the graduate faculty.

V. Certificate Completion

As per the Graduate School Certificate Guidelines, students must maintain a 3.0 grade in all certificate courses to successfully complete the required coursework and be awarded the Certificate.

VI. Program Assessment Plan

Program Outcomes	Evaluation/Assessment
Certificate Program Required Courses offered annually to allow access to courses and efficient time frames for completion	1. Course offerings documented in MyUK online catalogue
After Certificate Years One & Two/Start Up* - 10 Students Annually complete the Certificate Requirements	1. Number of students completing Certificate Program 2. Consideration of school or district cohorts for recruiting and

<p>* Faculty believe two years would be sufficient time for the beginning cohort to work through coursework</p>	<p>stepping through coursework as a group/recruitment strategy</p> <p>3. After year one/conduct annual <i>Certificate Graduate</i> meeting to distribute certificates</p>
<p>Quality Assurance of Course Content and Needed Modifications to Coursework options</p>	<p>1. At annual Program Faculty meeting, discussion of quality of student products and learning outcomes projects submitted.</p> <p>2. Contacts with stakeholders/constitutents (school personnel) to assure program design continues to be valued/needed.</p> <p>2. Minutes of annual meeting will reflect program coursework needs and any program modifications</p>

Next Generation Teaching & Learning
 Graduate Certificate
 Department of Curriculum and Instruction
 College of Education • University of Kentucky

Certificate Candidate Information

Name & ID			
	First Name	Last Name	Student ID#
Local Address			
Permanent Address			
Phone	Local	Work	Other
			E-mail

Prior Education and Professional Experience

Graduate Program: Name of Institution

Program and Career Objectives

Program Plan Coursework

A – Required Coursework: 1Foundations + 1 Internship Choice + 1Assessment

Prefix/Number	Course Title	M/D*	Semester / Year	Grade
EDC 575	<i>Next Generation Learning Foundations</i>			
EDC 501	<i>Teaching Internship</i>			
EDC 750	<i>Internship in Instructional Systems Design</i>			
EDC 520	<i>Assessment and Accountability in P-12 Education</i>			
				Total (9)

B – Elective Coursework: 1 Specialty Focus Course

Prefix/Number	Course Title	M/D*	Semester / Year	Grade
EDC 543	<i>Digital Game-based Learning & Instruction</i>			
EDC 709	<i>Social Media Design of Interactive Learning Systems</i>			
SEM 704	<i>Designing Project-Based Environments in STEM Education</i>			
EDL 571	<i>Design Thinking in Education</i>			
XXX- XXX	<i>Specialty Elective (Requires Advisor PRIOR approval)</i>			
				Total (3)

Date Enrolled in Certificate Program _____

Date Completed Certificate Program Coursework _____

3.0 Grade for all Courses in Certificate Coursework Yes No

The Certificate Director will advise students regarding Certificate Award procedures and timelines.

Signature of Student Date

Signature of Certificate Director Date

Print Name of Student

Print Name of Certificate Director

SIGNATURE ROUTING LOG

General Information:

Proposal Type: Course Program Other

Proposal Name¹ (course prefix & number, pgm major & degree, etc.): Next Generation Teaching & Learning Certificate

Proposal Contact Person Name: Joan Mazur Phone: 257-4896 Email: jmazur@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
C&I Faculty Chair	1/12/15	Laurie Henry / 7-4661 / lauriehenry@uky.edu	
Courses & Curricula Committee Chair	1/27/15	Doug Smith / 7-1824 / dcsmit1@uky.edu	
College of Education	2/16/15	Rosetta Sandidge / 7-7971 / rosetta.sandidge@uky.edu	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ²
Undergraduate Council			
Graduate Council	4/9/15	<i>Roshan Nikou</i>	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

¹ Proposal name used here must match name entered on corresponding course or program form.

² Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Action Items

Next Generation Teaching and Learning Certificate-Joan Mazur

Educators are interested in 21st Century Skills, such as project-based learning, digital gaming, design thinking, etc. The Next Generation Teaching and Learning Certificate will enhance educator preparation and be critical to clinical professional development for practicing teachers who need to demonstrate competencies in 21st century innovative practices for Next Generation Teaching and Learning. A variety of courses can apply toward a degree or be taken as professional development. The certificate would be housed in our department.

Linda Levstik moved to pass the Next Generation Teaching and Learning Certificate. Doug Smith seconded it. Motion passed.

Subject: Re: Invitation to Participate as Next Generation Teaching & Learning Certificate Faculty
Date: Friday, September 11, 2015 at 9:23:29 AM Eastern Daylight Time
From: Nash, John
To: Mazur, Joan

Dear Joan,

I would be pleased to participate in the certificate and have my course included in it.

Thank you,
—>john

—
[John Nash, PhD](mailto:johnnash.flavors.me) | Univ of Kentucky | Assoc Professor | Dir of Graduate Studies | +1.859.257.7845 | johnnash.flavors.me

From: <Mazur>, Joan Mazur <jmazur@uky.edu>
Date: Wednesday, December 17, 2014 at 7:07 PM
To: "Nash, John" <john.nash@uky.edu>
Cc: "Henry, Laurie A" <LaurieHenry@uky.edu>
Subject: Invitation to Participate as Next Generation Teaching & Learning Certificate Faculty

Dear John,

Laurie Henry and myself, in Curriculum and Instruction, are developing an Undergraduate/Graduate Certificate in Next Generation Teaching and Learning. As you may be aware, an emphasis on Next Generation Teaching and Learning, that incorporates 21st Century Skills (collaboration, communication, technology, critical thinking and performances of learning) is the current direction in educational endeavors in a variety of learning environments from K-12 classrooms to museums and after school programs. We have polled interest from many of our constituents in education and the demand for a Next Generation Certificate is high.

We invite you to participate as Certificate Program faculty and to have your course listed as part of the Certificate Work. Attached is the proposed overall description of the Certificate, showing required foundational and assessment components and the NGL speciality electives, of which a course you teach is included in this draft.

Please let us know if you are interested and willing to have your course included in our certificate, designed with commensurate coursework at both the undergraduate and graduate levels. The dual levels, unusual in Certificates, is intentional. We believe this certificate will enhance the marketability of students in initial educator preparation to work in schools of innovation *and* be critical to ongoing professional development for practicing teachers, who need to be current in innovative teaching practice and demonstrate competencies in 21st century teaching and learning.

If you wish to participate we will need a current CV and your most recent course syllabus, that you can just attach to Joan via email. **Please provide these materials by January 15, 2015 to be included in our proposal submission documents.**

Looking forward to our collaboration, Best, Joan and Laurie

Subject: Re: Invitation to Participate as a member of the Next Generation Teaching and Learning Certificate Faculty

Date: Wednesday, December 17, 2014 at 6:44:22 PM Eastern Standard Time

From: Mazur, Joan

To: Rintamaa, Margaret F

You're welcome! Laurie and I will be here at Fort Campbell and Christian Co Schools all day tomorrow — so I may miss you, may be in on Monday -- (Hope not to be:)

Happy Holidays and great break back at ya — you've certainly earned it! Joan

From: <Rintamaa>, Margaret F <mfrint00@uky.edu>

Date: Wednesday, December 17, 2014 6:30 PM

To: Joan Mazur <jmazur@uky.edu>

Subject: RE: Invitation to Participate as a member of the Next Generation Teaching and Learning Certificate Faculty

Hi Joan,

Thank you so much for inviting me to be a part of this! I would be pleased to be a Certificate Faculty member, and look forward to having conversations with you and others about how the courses would fit together.

In Laurie's email she talked about the EDC 520 class having different sections for different levels (elementary, high school, etc.) and I think that would be a good idea.

I will be around tomorrow in the middle of the day if you will be there; otherwise, I hope that you have a wonderful holiday break!

Take care,

Margaret

Margaret Rintamaa, Ed.D.
Clinical Assistant Professor
Chair, Middle School Teacher Education Program
Director, Bluegrass Writing Project
309 Dickey Hall, College of Education
University of Kentucky
Lexington, Kentucky 40506-0017
859.257.9324 (office)
859.257.1602 (fax)
margaret.rintamaa@uky.edu

From: Mazur, Joan

Sent: Wednesday, December 17, 2014 6:11 PM

To: Rintamaa, Margaret F

Subject: Invitation to Participate as a member of the Next Generation Teaching and Learning Certificate Faculty

Hi Margaret,

I know Laurie emailed you earlier about a minor course change to your Assessment Course, that we

think would be an excellent anchoring course for this NXT Gen T&L Certificate. I'm sending along here the invitation to participate as a Certificate Faculty member that I am sending to other colleagues whose courses are listed as part of the certificate, as we would very much like you to do that.

Laurie Henry and myself, in Curriculum and Instruction, are developing an Undergraduate/Graduate Certificate in Next Generation Teaching and Learning. As you may be aware, an emphasis on Next Generation Teaching and Learning, that incorporates 21st Century Skills (collaboration, communication, technology, critical thinking and performances of learning) is the current direction in educational endeavors in a variety of learning environments from K-12 classrooms to museums and after school programs. We have polled interest from many of our constituents in education and the demand for a Next Generation Certificate is high.

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If you wish to participate we will need a current CV and your most recent course syllabus, that you can just attach to Joan via email. **Please provide these materials by January 15, 2015 to be included in our proposal submission documents.**

Looking forward to our collaboration, Best, Joan and Laurie

Subject: Re: Invitation to Next Generation Teaching & Learning Certificate Faculty
Date: Wednesday, December 17, 2014 at 8:34:11 PM Eastern Standard Time
From: Wilhelm, Jennifer
To: Mazur, Joan
CC: Henry, Laurie A

Hi Joan,
Yes. This sounds terrific! Excited about this.
Jennifer

Sent from my iPad

On Dec 17, 2014, at 6:05 PM, Mazur, Joan <jmazur@uky.edu> wrote:

Dear Jennifer

Laurie Henry and myself, in Curriculum and Instruction, are developing an Undergraduate/Graduate Certificate in Next Generation Teaching and Learning. As you may be aware, an emphasis on Next Generation Teaching and Learning, that incorporates 21st Century Skills (collaboration, communication, technology, critical thinking and performances of learning) is the current direction in educational endeavors in a variety of learning environments from K-12 classrooms to museums and after school programs. We have polled interest from many of our constituents in education and the demand for a Next Generation Certificate is high.

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Please let us know if you are interested and willing to have your course included in our certificate, designed with commensurate coursework at both the undergraduate and graduate levels. The dual levels, unusual in Certificates, is intentional. We believe this certificate will enhance the marketability of students in initial educator preparation to work in schools of innovation *and* be critical to ongoing professional development for practicing teachers, who need to be current in innovative teaching practice and demonstrate competencies in 21st century teaching and learning.

If you wish to participate we will need a current CV and your most recent course syllabus, that you can just attach to Joan via email. **Please provide these materials by January 15, 2015 to be included in our proposal submission documents.**

Looking forward to our collaboration, Best, Joan and Laurie

<GradNext Generation Learning Certificate_Draft_Dec2014.docx>

EDC 575: Teaching Next Generation Learners
Course Syllabus – Spring 2013

Monday – 4:30 – 7:00 PM

Dickey Hall – Room 323

Select 4:30 – 6:00 **OR** 6:30 – 8:00 PM session
Guided Project Work/Lab Studio: 6:00 – 6:30 PM

Instructor: Dr. Laurie Henry

Phone: 859-257-7399 (Office) or (270) 945-8808 (Cell)

Email: LaurieHenry@uky.edu or lahenry96@gmail.com

Google+/Twitter/Skype: lahenry96

Office: 317 Dickey Hall

Physical Office Hours: Mondays 3:00-3:30 PM & by appointment

Virtual Office Hours: TBD

COURSE DESCRIPTION

This special topics course is designed to engage undergraduate and graduate students in critical reading, thinking, writing, and discussion about central issues, theoretical perspectives, and innovative pedagogy related to teaching next generation learners. Class participants will read, write about, and discuss content related to expanded definitions of literacy as well as emerging instructional models related to teaching 21st century learners. An important purpose of this course is to prepare new and experienced teachers with the skills needed to teach in innovative classroom/school settings that break away from the traditional educational models that have been in place for decades.

REQUIRED TEXTS

Wagner, T. (2010). *The Global Achievement Gap*. New York: Basic Books.

Bramante, F., & Colby, R. (2012). *Off the Clock: Moving Education from Time to Competency*. Thousand Oaks, CA: Corwin.

Plaut, S., Ed. (2009). *The Right to Literacy in Secondary Schools: Creating a Culture of Thinking*. New York: Teachers College Press.

Supplemental Materials

Critical Thinking and Creativity Sketchbook (physical or digital)

Recommended Texts

Sulla, N. (2011). *Students Taking Charge: Inside the Learner-Active, Technology-Infused Classroom*. Larchmont, NY: Eye on Education

Levin, B. B., & Schrum, L. (2012). *Leading Technology-Rich Schools: Award-winning Models for Success*. New York: Teachers College Press.

**Additional readings will be selected and distributed at the discretion of the instructor to maximize teaching and learning of course content*

TECHNOLOGY REQUIREMENTS

- Regular access to Internet-connected computer
- Access to webcam, headphones, and microphone
- Regular use of Instructure Canvas Learning Management System
- BYOD: Bring Your Own Device

LEARNING OUTCOMES

- Acquire a working knowledge and application of innovative instructional models for teaching next generation learners
- Explore the use of a variety of instructional models (e.g. project-based and problem-based learning, collaborative learning)
- Explore and apply new assessment models (e.g. mastery learning, competency based learning, standards-based assessment)
- Evaluate instructional models for personalized instruction (e.g. blended learning, anytime/anywhere learning, just in time instruction)
- Explore student creativity by integrating the arts to enhance content-based lessons
- Plan, develop, implement and assess inverted instructional lessons focused on your specific content area and learner age group
- Plan and develop an integrated unit of instruction as a member of a collaborative team

COURSE POLICIES:

ATTENDANCE

Attendance is imperative, for the progression of the individual student and the class as a whole. You will be allowed one (1) unexcused absences. Following that, each additional unexcused absence will result in a 5-point deduction from your overall attendance score.

University Regulations states that students are entitled to an excused absence for the purpose of observing their major religious holiday if the instructor is notified, in writing, by the university deadline for the semester (no later than the last day for adding a class). The only other excused absences are a documented serious illness, illness or death of a family/household member, and officially documented University-related trips.

EXCUSED ABSENCES:

Students need to notify the professor of absences prior to class whenever 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.

CLASS CANCELLATIONS DUE TO INCLEMENT WEATHER:

We will utilize the University of Kentucky’s UKAlert system for campus closures and/or class cancellations due to inclement weather. Registered UK students can access the UKAlert system through the MyUK portal. Others can sign up to receive UKAlerts from the following website: <https://www.getrave.com/login/uky> (Use the register button to set up an account.)

In addition, we will follow the Fayette County Public School (FCPS) District’s determination for school closures due to inclement weather. You can access information regarding their weather alert procedures from the following website: <http://www.fcps.net/weather> If FCPS has a school closure or early dismissal due to inclement weather, we will not meet that evening. If class is cancelled, course content may be shifted to an online venue at the discretion of the instructor.

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 that 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 that 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.

ACCOMMODATION DUE TO DISABILITY:

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.

ASSESSMENT METHODS AND GRADING

Required Assignments for All Course Participants

Critical Thinking and Creativity Sketchpad

Thinking critically, creativity, and imagination are main tenets of teaching learners for the 21st century. Throughout this semester, you will keep a sketchpad or journal to document your own critical thinking, creativity, and imagination. Check out the following link for more information about using sketchbooks to develop creativity:

<http://creativitytheories.wikispaces.com/Sketchbook+Use+to+Develop+Creativity+---+Debban>

Online Discussions

Each week you will participate in online discussions to react or respond to the readings and/or videos assigned that week. This is a space where you can share your thoughts, questions, critiques, etc. about teaching next generation learners.

Inverted Lesson (TEDed)

For this assignment, you will select a TEDed lesson and “flip it” to make it your own. This is meant to be a first step, baseline experience for you to begin to understand the concept of “flipped learning” and how it might be used in your own classroom.

Original Inverted Lesson (TEDed)

For this assignment, you will create an original TEDed lesson based on a lesson you already teach. You will go through a basic level instructional design process to plan, create, develop, and implement your own original lesson on TEDed.

Integrated Instructional Unit

This assignment requires you to work with a diverse group of teachers to plan, create, and develop your own integrated instructional unit that focuses on the elements of STEAM with literacy at the core. You will be required to select an instructional theme that ties the unit components together.

*Certificate of Completion for Professional Development will only be awarded to those who complete the above course assignments

Additional Required Assignments for Participants Enrolled for Graduate Credit (Optional for Participants Taking Course for Professional Development)

Badges for Learning

You will explore badge platforms/systems and develop one content-specific badge that can be used in the classroom to support and/or enhance learning of a particular concept. Emphasis will be placed on college and career readiness skills.

Grading Scales

Undergraduate Students: Grades for this course are based on the following scale

- A = 90 – 100% (Excellent Work)
- B = 80 – 89% (Good Work)
- C = 70 – 79% (Satisfactory Work)
- D = 60 – 69% (Unsatisfactory Work)
- E = 59% and below (Failing)

Graduate Students: Grades for this course are based on the following scale

- A = 93 – 100% (Excellent Work)
- B = 86 – 92% (Good Work)
- C = 79 – 85% (Satisfactory Work)
- E = 78% and below (Unsatisfactory Work)

*It is expected that all course participants will achieve *mastery of learning* based on the above described assignments. Course participants will determine the definition of mastery for each assignment described above and peer assess to determine mastery as appropriate.

COURSE CALENDAR

Date	Topics	Assigned Readings	Blended/Flipped Learning	
Jan 14	Orientation/Information Night (4:30-7:00 in Dickey Hall #323)			
Jan 21	Martin Luther King Day—No UK Classes		University Academic Holiday	
Jan 28	Critical Attributes of Next Generation Learners and Wagner’s Survival Skills	<ol style="list-style-type: none"> Partnership for NxGL Overview (CCSSO, 2010) Transforming Education (9-17) Wagner—Intro & Ch. 1 	View ILN Overview video View Webinar: What Works in Flipped Classrooms	Discuss or react Sketchy video a
Feb 4	Transforming Education: Instruction & Assessment	<ol style="list-style-type: none"> Wagner—Chs. 2 & 3 Transforming Education (19-28) Alliance Policy Brief (2010) Clock (Part I: pp. 5-20) 	Zhao ISTE keynote address	Discuss or react Sketchy a Box” Other: l schools attribut
Feb 11	16 Habits of Mind and P21 Skills Framework 6 Skills Keep Students in Schools	<ol style="list-style-type: none"> Costa & Kallick P21 Framework—Definitions Wagner—Chapter 4 Bergmann & Brough (2002) 	Sir Ken Robinson on Changing Paradigms	Discuss or react Sketchy video a
Feb 18	Project Based and Problem Based Learning	<ol style="list-style-type: none"> P21 Curriculum Maps Solomon (2003) Blumenfeld, et al. (1991) Hmelo-Silver (2004) 	Select 4 videos from the Buck Institute website to view Sign up with Diigo if you haven’t done so. Join EC575 group.	Other: l project- proble and cor similar Sketchy innovat model (
Feb 18	Inverted Lesson Due—TEDED			
Feb 25	Critical Thinking, Creativity, & Imagination	<ol style="list-style-type: none"> Wagner—Chapter 5 Right to Literacy—Chs. 1 & 2 Ash (2012) Diigo tagged articles for “art” 	View the following videos: Can you teach creativity? Do Schools Kill Creativity? 4 Lessons in Creativity	Discuss or react Sketchy video a
Feb 25	Original Inverted Lesson Due—TEDED			
Mar 4	Blended Learning: Maximizing the Use of	<ol style="list-style-type: none"> P21-Maximizing the Impact What is blended learning? 	Technology Sandbox—Explore a new software program, website, or	Explore learning

	Technology		APP to share.	original concept
Mar 11	UK Spring Break—No UK Classes		(Potential School Visits)	
Mar 18	Assessment Models	1. Clock (Part II: pp. 21-50) 2. P21 Skills Assessment 3. Guskey (2007)	What does deeper learning look like?	Discuss or react Sketch video a
Mar 25	Assessment Models	1. Clock (Part III: pp. 51-76) 2. P21 Assessment Implementation	Competency Based Assessment at Spaulding	Discuss or react Sketch video a
Mar 25	Integrated Unit Plan Due—Posted on Canvas			
Apr 1	FCPS Spring Break		(Potential School Visits)	
Apr 8	Transforming Teaching & Learning	1. Clock (Part III: pp. 77-105) 2. Right to Literacy—Ch. 3 & select 5, 6, 7, or 8) 3. Mitra (2004)	Innovation Insight Tony Wagner's 7 Skills	Discuss or react Sketch video a
Apr 15	Fostering Learning Environments that Work	1. Wagner—Chapter 6 2. Right to Literacy—Chs. 9-12 (select one)	Thomas Friedman "That Used to be Us"	Discuss or react Sketch video a
Apr 22	IRA Annual Convention		Independent Project Work	
Apr 26	Badges for Learning Assignment Due—Post on Passport			
Apr 26	UK—Last Day of Classes			

**To facilitate mastery of learning, the instructor may alter the course calendar and/or assignments at any time duri*

Supplemental Readings

- Alliance for Excellent Education. (2010, August). *Call for action: Transforming teaching and learning to prepare high school students for college and careers*. Washington, DC: Author. Available at: <http://www.all4ed.org/files/TransformingTeachingAndLearning.pdf>
- Ash, K. (2012). App creation inspires student entrepreneurs. Digital Directions [online]. Available at: <http://www.edweek.org/dd/articles/2012/06/13/03mobile.h05.html>
- Bergmann, S., & Brough, J. (xxxx). Six skills that will keep students in school. Larchmont, NY: Eye on Education.
- Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational psychologist*, 26(3-4), 369-398.
- Guskey, T. R. (2007). Closing Achievement Gaps: Revisiting Benjamin S. Bloom's "Learning for Mastery". *Journal of Advanced Academics*, 19(1), 8-31.
- Costa, A. L., & Kallick, B. (2010). *Describing 16 habits of mind*. Available at: www.instituteforhabitsofmind.com/resources/pdf/16HOM.pdf
- Council of Chief State School Officers. (2010, August). *Partnership for Next Generation Learning-Innovation Lab Network: A Unique Alliance with a Different Mission*. Washington, DC: Author. Available at: http://www.ccsso.org/Documents/2010/PNxG_Innovation_Lab_Net_Overview-Aug%2010_2010.pdf
- Council of Chief State School Officers. (2009, March). *Transforming Education: Delivering on Our Promise for Every Child*. Washington, DC: Author. Available at: http://www.ccsso.org/Documents/2009/Transforming_Education_Delivering_2009.pdf
- Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16(3), 235-266.
- Mitra, D. (2004). The significance of students: can increasing " student voice" in schools lead to gains in youth development?. *The Teachers College Record*, 106(4), 651-688.
- Solomon, G. (2003). Project-based learning: A primer. *Technology and Learning*. 23(6), 20-20.
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Video Resources

CCSSO Innovation Lab Network Overview Video

http://www.cesso.org/Resources/Digital_Resources/ILN_Overview_Video.html

What Works in Flipped Classrooms (Education Week Webinar, November 2012)

<http://event.on24.com/eventRegistration/EventLobbyServlet?target=lobby.jsp&eventid=539872&sessionid=1&partnerref=TOC&key=81F12A8BC1D279CE470613E899C83F87&eventuserid=72662155#>

ISTE 2012 Keynote Featuring Yong Zhao

<http://www.youtube.com/watch?v=ijSxt94vhf0>

Sir Ken Robinson - Changing Paradigms

<http://www.youtube.com/watch?v=mCbds4hSa0s>

Buck Institute for Education: Project Based Learning for the 21st Century Video Library

<http://www.bie.org/videos>

Can You Teach Creativity? - Chris Staley, Penn State Laureate 2012-2013

<http://www.youtube.com/watch?v=bcpfjw8EmWA&feature=youtu.be>

Sir Ken Robinson: Do schools kill creativity?

<http://www.youtube.com/watch?v=iG9CE55wbtY&feature=youtu.be>

Julie Burstein: 4 lessons in creativity

http://www.youtube.com/watch?v=sY0Pf_pfqCI&feature=youtu.be

All4Ed.Org: What Does Deeper Learning Look Like?

<https://www.youtube.com/watch?v=6kRpQAocWWs>

Spaulding High School: Competency-Based Assessment

<http://www.youtube.com/watch?v=uNnqHOwGYSc&feature=youtu.be>

Innovation Insight Closing Keynote: Ken Kay “Leading 21st Century Districts”

<http://www.youtube.com/watch?v=EAKS8CLDXYU&feature=youtu.be>

Asia Society Partnership for Global Learning: 7 Skills students need for their future

<http://www.youtube.com/watch?v=NS2PqTTxFFc&feature=youtu.be>

View From The Top: Thomas Friedman

<http://www.youtube.com/watch?v=sPks6U7t3xs&feature=youtu.be>

Alignment of Course Experiences

A check list depicting the congruence of course experiences with the various standards of the Department of Curriculum and Instruction and the College of Education, the Educational

NCATE/EPST Checklist for Syllabus: EDC 575

**Addressed
in Course**

NCATE/EPST Checklist for Syllabus: EDC 575	Addressed in Course
Skills and Dispositions of UK Educator Preparation Unit	
Functional Skill and Disposition 1: Candidates communicate appropriately and effectively.	X
Functional Skill and Disposition 2: Candidates demonstrate constructive attitudes	X
Functional Skill and Disposition 3: Candidates demonstrate ability to conceptualize key subject matter ideas and relationships	X
Functional Skill and Disposition 4: Candidates interact appropriately and effectively with diverse groups of colleagues, administrators, students, and parents in educational settings. Functional Skill and Disposition 5: Candidates demonstrate a commitment to professional ethics and behavior	X
Education Professional Standards Board (EPSB) New Teacher Standards	
Standard 1: Designs and Plans Instruction	X
Standard 2: Creates and Maintains Learning Climates	X
Standard 3: Implements and Manages Instruction	X
Standard 4: Assesses and Communicates Learning Results	X
Standard 5: Reflects and Evaluates Teaching and Learning	X
Standard 6: Collaborates with Colleagues, Parents, and Others	X
Standard 7: Engages in Professional Development	X
Standard 8: Knowledge of Content	X
Standard 9: Demonstrates Implementation of Technology	X
UK Educator Preparation Unit Technology Standards	
Standard 1: Candidates integrate media and technology into instruction	X
Standard 2: Candidates utilize multiple technology applications to support student learning.	X
Standard 3: Candidates select appropriate technology to enhance instruction.	X
Standard 4: Candidates integrate student use of technology into instruction.	X
Standard 5: Candidates address special learning needs through technology.	X
Standard 6: Candidates promote ethical and legal use of technology disciplines.	X
EPST Themes	
Diversity	X
Assessment	X
Literacy Education	X
Closing the Achievement Gap	X

Professional Standards Board, and the Kentucky Department of Education which we must align follows this brief narrative that explains the context for the checklist.

The conceptual framework for the professional education unit at the University of Kentucky (UK) is guided by the theme, *Research and Reflection for Learning and Leading*. This theme is aligned closely with both the institutional vision and mission of UK and the vision and mission of the professional education unit. The theme reflects and guides how we approach preparation of professional educators within the context of a research extensive, land grant university. The mission of the **Department of Curriculum and Instruction** is to 1) Design, develop, and implement programs that will improve the quality of elementary, middle, and secondary education and provide educational leaders; 2) Prepare teachers and provide continuing professional development; 3) Conduct and disseminate research; and 4) Provide services in variety of educational and professional settings.

The UK Educator Preparation Unit Technology Standards.

Standard 1: Candidates integrate media and technology into instruction.

Standard 2: Candidates utilize multiple technology applications to support student learning.

Standard 3: Candidates select appropriate technology to enhance instruction.

Standard 4: Candidates integrate student use of technology into instruction.

Standard 5: Candidates address special learning needs through technology.

Standard 6: Candidates promote ethical and legal use of technology disciplines.

The **Education Professional Standards Board's (EPSB)** themes of diversity, assessment, literacy education, and closing the achievement gap are also imbedded in this course. The required text and supplemental readings pays attention to aspects of literacy instruction as it ties directly to the issue of diversity, paying attention to: who is privileged in literacy instruction; how literacy instruction should meet the needs of multicultural enrollments; the impact of race, poverty and power on students' literacy achievement; culturally responsive instruction within the new literacies paradigm; preparing literacy educators for diverse settings; linguistic diversity, etc.

Course Descriptions for Next Generation Teaching & Learning Certificate:

Internship Option Course Choices

EDC 501 TEACHING INTERNSHIP (1-12)

Supervised practice teaching under competent leadership. Observation, instruction, independent study which parallels field experience, and conferences with supervising instructor included. This course is designed primarily for students in Allied Health Professions, Education, Library and Information Science, Home Economics, and Social Work. May be repeated to a maximum of 12 hours. Prereq: EDC 500 or permission of instructor

EDC 750 INTERNSHIP IN INSTRUCTIONAL SYSTEMS DESIGN (3)

Students will apply their knowledge of instructional systems design in a real-life setting. The work setting will be selected based on the professional goals of each student and student work will be supervised and reviewed by the internship coordinator. May be repeated to a maximum of nine credits. Prereq: Consent of program coordinator.

EDC 543-201: Digital Game-based Learning & Instruction
A CHOICE™ Distance Learning Course

Spring 2014

Instructor Information:

Dr. Joan Mazur

Email: jmazur@uky.edu

Skype: [joanmmazur](#)

Office Hours: By appointment/using Adobe Connect link or Skype

Phone: 859-481-1413 (cell, pls. leave a message)

Introduction

This course will introduce the application of digital game-based learning delivered via computer-based educational games in a variety of instructional contexts. The course is structured around three overarching conceptual notions: play, narrative, apparatus and ideology. All digital games are anchored in involve human learning and transformational play, as well as story and characterizations/roles. Specifically, simulations (narrative), the use of various technologies (apparatus) including mobile, web-based applications, and ideological representations that have ‘meaning’ with important social implications (ideology). These categories are borrowed from the rich of human development & play and the history and literature of film making that has used these concepts to not only develop, but interpret the products that are used for instruction, learning and assessment of filmic media (to explain the conceptual connection with film theory).

Course participants will consider application of digital games from existing commercial games as well as those designed with explicit learning outcomes, that is, games that have been specifically created with educational objectives in mind. In the tradition of John Dewey, a *pragmatic* educational philosopher, digital game-based learning can be characterized within the practice in *experiential learning*. Some applications are not games per se, but have elements of gaming and can be termed “game-informed” or ‘game infused.” The course readings will also provide a theoretical context for the relationships between play, learning and the use of games. Oh...and a word about ‘theory’ -- the FIRST meaning in any dictionary is that a theory is a “a coherent group of tested general propositions, commonly regarded as correct, that can be used as principles of explanation and prediction for a class of phenomena: Einstein's theory of relativity. Synonyms: principle, law, doctrine. Thus ‘operating from a theory’ is grounding actions in thoughtful principles...a goal to which I think all educators should aspire.

The course will be taught via guided reading and active participation in the digital gaming culture through hands-on game play and analysis through asynchronous discussion (blog) in BlackBoard. There will also be one assignment for you to navigate and explore a virtual world with instructional sites (Second Life). Some students may wish to work with another student in exploring Second Life; that is a choice you have. I can help you manage such a cooperative experience. Please contact me, if you are interested, or you can just do it individually. I know many students take a DL course because they wish to have the flexibility of anytime/anywhere learning. However,

operating from my core 'experiential' principle, I do want to make sure that all participants have participated in these 'virtual worlds' where avatars and constructed worlds are the backdrop for serious gaming, collaboration and learning.

This class is a CHOICE™ format class for distance learning. CHOICE™ is my innovation for a truly customized learning experience for us in DL courses. CHOICE™ is an acronym for **C**hoose **H**ow **O**nline **I**nteraction **C**an **E**ducate. What this option means is that I will be 'broadcasting' a face-to-face class on an agreed upon date (when a substantial number of you might either attend a class in person OR synchronously). I will also record that class on the Adobe Connect system for those of you not in attendance to view at a later time. I have piloted this system in a class last year. Thus, if you prefer a more 'real time' experience, you may have that. We will meet 2x each month f2f, beginning the week of 01/23/14 from 4-6:40 p.m. At mid-semester, I will poll the class and see if there is another time when others might meet and take advantage of being able to participate in a synchronous way (either in person or in real time).

But, knowing that many who take online classes do so for the VERY reason they don't have to be in a f2f situation, that option is also available. One last 'plus' – you're not locked into one CHOICE – if you happen to be on campus or available for a synchronous class, when you usually use asynchronous, then...have at it!...and we'll see you then ☺

There are practical applications of several game development environments, specifically the use of "Scratch" (www.scratch.mit.edu) as a basic game development/social networking program. If you are familiar with Scratch, you may explore Gamemaker (www.yoyogames.com) and a more advanced application, Unity3d (www.unity3d.com), please get my permission to take the 'non-Scratch' options.

Learning outcomes

On completion of the course, you will:

- Understand the features, terminology, history and taxonomy of computer-based games;
- Develop a simple gaming application in the Scratch/Gamemaker programming environment that will include an accompanying lesson plan/training plan.
- Evaluate a range of games and game environments (genres) through direct experience and immersion; Participants will engage as a player in a Massive Multi-User game and update the class blog with those experiences, through the lens of coursework insights and gaming principles.
- Describe the relation between play, games and learning in formal and informal settings
- Present original approaches to using the potential of game-based learning in one's own practice
- Complete a Game Design Document (GDD) and prototype a game design project that will include a game script (with story, rules, challenges, levels, rewards etc) and implement a pilot design in a program of your choice (e.g. Unity, Second Life Scratch, Gamemaker, or OpenSim).

If you have special needs or require accommodations of any kind, you must register with the UK Disability Resource Center (Mr. Jake Karnes, 257-2754) that certifies need on an individual basis and please let me know about your situation after the first class.

Standards

Course materials, activities and assessments that are consonant with indicators and benchmarks contained in the Kentucky Teacher Standards (in particular IV (Assessment), V (Reflection), VI (Collaboration) and those promulgated by INTASC (Interstate New Teacher Assessment Consortium) for National Board Certified Teachers.

Plagiarism/Cheating

Academic honesty is expected in graduate work. Plagiarism and other forms of cheating are absolutely unacceptable. You **may not** use a paper or project that has previously been used in another class to satisfy coursework in this class, this practice is termed "self-plagiarism" and is unacceptable. Should you plagiarize, no grades will be issued and your situation will be reported to the department chair and the Academic Ombud.

Attendance Policy: Full class participation is expected in all synchronous or asynchronous individual and group work as assigned in the syllabus. If you are unable to participate you **MUST** contact the instructor prior to the due date for an assignment and have that absence excused. Any missed coursework is the responsibility of the student to make-up and complete, as approved by the instructor.

Due Dates for Assignments: **Due dates are firm.** If you do not meet the required deadline you will be penalized 50% of the grade, up to a 3-day window. After that, no credit will be issued.

Undergraduate Requirements: If you are an undergraduate student taking this course for undergraduate credit, there are several modifications for assignments that are noted within the assignment descriptions. All other course requirements, such as attendance, are required for undergraduates as well as graduate students enrolled.

College Conceptual Framework: Research, Reflection, Learning, Leading

Students in this course will demonstrate dispositions that characterize the conceptual framework of the college of education. The conceptual framework for the professional education unit at the University of Kentucky is guided by the theme, *Research and Reflection for Learning and Leading*. This theme is aligned closely with both the institutional vision and mission of UK and the vision and mission of the professional education unit. The theme reflects and guides how we approach

preparation of professional educators within the context of a research extensive, land grant university.

Required Texts:

Gee, James (2007). *What video games have to teach us about learning and literacy*. New York: Palgrave/McMillan

Honey, M. & Kanter D.E. (2013) *Design, Make, Play: Growing the Next Generation of STEM Innovators*. New York: Routledge.

McGonigal, Jane (2010). *Reality is broken: Why games make us better and how they can change the world*. New York: The Penguin Press.

Prensky, M. (2007). *Digital game-based learning*. St. Paul, MN: Paragon.

Other Required Readings:

There are several required readings that are available through links for .pdf files on the course BlackBoard website. If you are registered for this course, you are automatically enrolled in the Blackboard course management system for EDC 543. Log in to BlackBoard through myUK. Your courses should there appear. If not, please contact the Blackboard 'Help' desk at www.uky.edu/Blackboard to inquire about the problem.

Required Online Presence: You are required, prior to the first meeting of the course to log in to the Second Life online immersive environment and obtain and AVATAR and to download the Second Life program to your desktop/laptop personal computer. You will need these tools to participate in the class. Please email the instructor if you have any problems. The computer requirements for Second Life are at the second life website at <http://secondlife.com>.

Required Downloads: Please download the following free programs:

- (1) Scratch Program for your PC or Mac at <http://www.scratch.mit.edu> (everyone)
- (2) Gamemaker for PC at www.yoyogames.com
- (3) Unity at www.unity3d.com

Assessments:

Discussion Board Postings/Course Readings	15%
Midterm Exam (based on readings)	15%
Scratch Project/Learning Game Instruction	10%
Standards-based Technology Assessment using Scratch (or GameMaker)	10%
MMUOG Gaming Blog	10%

Game Design/Game Design Document	30%
Virtual World Explorations (Second Life)	10%

Note: On the Blackboard course website , you will find information and course content organized in Course Documents, Assignments, External Weblinks and podcasts organized BY CLASS DATE in the Syllabus (located In Course Information and attached to class members via email prior to the start of class.

EDC 543 –Course Content Schedule

Date	Topic	Assignment/Readings
Module 1 Date Range 01/17/14- 01/23/14	Course Overview and Approach View at Adobe Connect Link: <hr/> Theoretical Foundations for Digital Game-based Learning (Access Class Lecture via the Adobe Connect Link in Course Documents)	Course Introductions, asynchronous BB Discussion Board: Introduce Yourself! Forums. View Adobe Connect Class Materials Download Scratch to your computer from www.scratch.mit.edu Sign up for a SL account/avatar and download the SL client to your desktop/ Laptop computer: www.secondlife.com <hr/> Read article: <i>Transformational Play</i> (pdf in Course Content) -Read Vygotsky/Activity Theory overview in Course Content.

Module 2	Learning & Video Games	(1) Read:
01/24/14-	Adobe Connect Lectures (on BB in	James Gee: <i>What Video Games have to Tell</i>
01/30/14	01/26 Class Folder)	<i>Us About Literacy and Learning</i>
F2F class	Discussion of Play as Learning Foundation	(2) Submit: Gee Reading Guide by 1/30
TEB 245	PowerPoint: Defining Games, types, user roles and dimensions of gaming	(3) Select and report/describe your Massively Multi UserOnline Game choice MMUOG Blog in BlackBoard
4-6:30 pm		
on 1/30	Introduction to James Gee's Work: the Movement to take Learning Games seriously	

Module 3	Gaming in Instructional	Designing a Game: Website (Using Scratch)
01/31/14 -	Practice	http://www.scratch.mit.edu
02/06/14	<p>Case Studies:</p> <p>The GameQuest Project Case Study: Danville Kids University (DKU) – Fall 2010 & 2011</p> <p>Gaming Class at Madison Central</p> <p>Gaming Class at Bate Middle School</p> <p>Mazur on Connect Video to View</p> <p>Game Creation Software</p> <p>See Game Creation Software Folder in BB.</p> <p>(Many tools are available such as GameMaker, GameStarMechanic, Scratch and SL or OpenSim).</p>	<ul style="list-style-type: none"> • Get a Scratch account online. • Download Scratch and Complete the Scratch tutorial, and • See the Scratch ‘Cards’ on the Scratch and the Scratch examples <p>Practice: Watch the “Develop A Basic Game Instructional Video – Link on BB</p> <ul style="list-style-type: none"> • Develop a Scratch application draft • Upload your draft game to your Scratch the Scratch website for class to view/comment • Due: Post comments on BB forum regarding your Scratch experience, so prompts on Discussion Forum • Post: Journal post on class MMUOG blog: Using concepts from the Transformational Play Framework, blog on how your MMUOG demonstrates (or not) person with intentionality etc....

<p>Module 4</p> <p>02/07/14-</p> <p>02/13/14</p> <p>F2F Class</p> <p>TEB 245</p> <p>4-6:30</p> <p>on 2/13</p>	<p>Play, Gaming and Learning</p> <p>DGBL Integration: Case Study</p> <p>“The Virtual Mine” a Second</p> <p>Life instructional application</p>	<p>Read: Prensky: Digital Game-based Learning pp. 1-179 (Parts I and II). Post to Prensky Board Forum.</p> <p>DUE: Scratch project. Post your project on the Scratch website provide web URL link to Mazur via email.</p> <p>Assignment: Second Life Simulation Experience</p> <p>Students will log in and play the game as Directed via the website www.deepdown.com. The F2F group will do this together.</p> <p>DUE Blog Post: Journal post on class MMUO blog: Using concepts from Prensky’s Framework, blog on how your MMUOG demonstrates (or not) his perspectives.</p>
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<p>Module 5</p> <p>02/14/14 -</p> <p>02/20/14</p>	<p>DGBL in Business, training & Education</p> <p>Adobe Connect Lecture Link</p> <p>Gaming and Learning</p>	<p>Prensky: One of three selected Part III sections from Prensky, depending on the context of your work/practice. By assignment from Dr. Mazur, there will be a list posted in this week’s BB Folder for Prensky.</p> <p>Due: Each student will send a 2 page write-up to Dr. Mazur, with observations, insights from your assigned Prensky section. Submit on BlackBoard Assignment Link.</p>
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<p>Module 6 02/21/14 – 02/27/14 F2F Class TEB 245 4-6:30 on 2/27</p>	<p>Simulations and Gaming</p> <p>Gamified' in Other Virtual Worlds in Second Life.</p> <p>Other SL Simulations as Instructional Adobe Connect video into SL and getting to the other sites 'in world' will be posted.</p>	<p>Read: <i>Do Learners Really Know Best? Urgan Legends in Education by Kirschner & vonMerriombohr (2013/Educational Psychologist Journal). Pdf in Blackboard folder.</i></p> <p>View: Ppt on Simulations and gaming (in Blackboard module folder)</p> <p>Explore the websites links thoroughly</p> <p>Tours begin Thursday, 4-6:30 02/27 for those in the F2F class. You may explore these sites individually or in pairs, you choose.</p> <p>Post your comments to the Discussion Board forum: the SL Simulations and Learning site</p>
<p>Module 7 02/28/14 – 03/06/14</p>	<p>Games for Good</p> <p>Adobe Connect Lecture: Games for Good: The social power of collaborative gaming</p> <p>PowerPoint: Games and special populations: Elder gamers and access issues for those with special needs...</p>	<p>Read: ReadMcGonigal, Jane (2010). <i>Reality is games make us better and how they can change world</i></p> <p>DUE: Post comments on Games for Good and special populations on BB Discussion Forum.</p> <p>DUE Blog Post: Journal post on class MMUO blog: Using concepts from McGonigal's Framework, blog on how your MMUOG demonstrates (or not) her perspectives.</p> <p>Assignment: MIDTERM EXAM – take home will be available as a Word document on BB. Download on 02/28 and complete and Submit BB Assignment link by 11 p.m Friday, March 7</p>

Module 8	Games & Special Populations	MIDTERM DUE : BB Assignment Drop 3/7.
03/07/14	Guest Lecture: Julie Brown – doctoral student in Gerontology at the University of Kentucky	Research Assignment: Prepare an annotated bibliography on games available for special populations – special populations are defined as specific groups that may be defined by demographics (such as Aging and Gaming) or by other characteristics such as interests or special needs – games for youth, ATV safety games. The topic is completely open, but must be focused and demonstrate a body of games prepared to address or meet a strategic need. Please contact Dr. Mazur if you have any questions about the appropriateness of your content.
03/13/14	Adobe Connect Report: Debriefing Midterm Exam. Online link	There will be links on BB about what an annotated bibliography is and several formats for your report.
Moved to		DUE after Spring Break.
3/27 -4/2		
See Below		
<hr/> 03/17-22/2014 Spring Break – UK		DUE Blog Post: Journal post on class MMUO blog: Using concepts from readings, blog your MMUOG demonstrates (or not) their perspectives/content --

<p>Module 8</p> <p>03/27/14</p> <p>04/02/14</p> <p>F2F Class</p> <p>TEB 245</p> <p>4-6:30</p> <p>on 4/09</p>	<p>Games & Special Populations</p> <p>Guest Lecture: Julie Brown – doctoral student in Gerontology at the University of Kentucky</p> <p>Adobe Connect Report: Debriefing Midterm Exam. Online link</p>	<p>MIDTERM DUE : BB Assignment Drop 3/7.</p> <p>Research Assignment: Prepare an annotated bibliography on games available for special populations – special populations are defined a specific groups that may be defined by demographics (such as Aging and Gaming) or b other characteristics such as interests or special needs – games for youth, ATV safety games. Th topic is completely open, but must be focused and demonstrate a body of games prepared to address or meet a strategic need. Please contact Dr. Mazur if you have any questions about the appropriateness of your content.</p> <p>There will be links on BB about what an annotated bibliography is and several formats for your report.</p> <p>DUE on 4/09/14 – NOTE, this assignment will replace the Standards based Scratch Assessment assignment.</p>
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<p>Module 9</p> <p>04/03/14-</p> <p>04/09/14</p>	<p>Game Design Project: Designing A Learning Game I.</p> <p>Video Lecture: Introduction to a Game Design Document (GDD)</p>	<p>Switching Gears for our final month of class. These last classes will focus on a game development project and</p> <p>READ: (1) Three Sample Game Design Documents in BlackBoard</p> <p>(2) SELECT A TOPIC FOR A GAME – email Dr. Mazur to discuss ideas via email.</p>
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Module 10	Learning Game Designers Panel: Four game designers discuss their work for class	
04/10/14- 04/16/14	Video Lecture of these developers' Work Review the Samples in the Mod.10 in Blackboard. Continue working on GDDs.	<ul style="list-style-type: none"> • Leanna Prater discusses game-based assessments, • Dr. Steven Davis, UK Department of History, Apartheid Simulations in Minecraft • SuperSoul LLC – Hazard Ridge
DUE: nPost draft GDDs to BB MMUOG Post.		
Module 11	Game Design Project Management: Designing A Digital Learning Game II	Obtain a free Trello Account and explore the tools, I have used Trello for many projects, game development. When considering design projects have organizational tools is essential to stay on track.
04/17/14 - 04/23/14	Introduction to Trello (free, online Project Management software at www. Trello.com Work week for GDD - Consultations	I wanted you to be familiar with a quite robust, free tool. Some of you may be familiar with Trello from your work. Please post some comments regarding the features on BB in Discussion section.
Module 12	Final class presentations of GDDs	Final Game Design Documents due on 5/5/14
04/24/14 05/01/14	We WILL attempt on more CHOICE session on Adobe Connects05/01 4-5:30 Taylor Ed 245	Submit via Blackboard Assignment Link.

Project and Blogging Assignment Descriptions (note: additional course assessments such as the Midterm are self explanatory and are not included here in the evaluation percentages).

1. Scratch Project/Instructional Integration (10%)

Students will sign up for an account at www.scratch.mit.edu. After viewing the online video tutorials for the Scratch programming language they will complete a project that shows a basic scratch game they developed for a specific content standards-based skill or concept. The scratch application they design will be uploaded to the scratch website and be accompanied by a lesson plan/training objective/means write-up that shows the integration of the game as an instructional learning material. Specific outcomes for game users MUST be included, as well as a plan for assessing the attainment of those

outcomes. The course outline contains several Scratch resources including several basic skill 'cards' that can be downloaded from Scratch.mit.edu and access to thousands of other projects from which users can leverage social networking to find and deploy specific scratch features or interactions. Sharing online product features is OK and encouraged!!

2. Standards-based Performance Assessment Using Digital Gaming Design Program in Scratch (10%)

A doctoral student in Instructional Systems Design, Ms. Leanna Prater (a TRT for Fayette County Schools) and myself have developed and researched (user-tested) a strategy and process to easily analyze a Common Core Content learning target then evaluate it through a student game challenge. Initially developed for the purpose of teacher professional development for integrating gaming in the classroom, The Can You Create a Game challenge combines the ability for students to demonstrate understanding of skills, problem solving and creativity with the teacher's need to evaluate learning targets derived from deconstructed curriculum standards. Students in EDC 543 will use their Scratch skills and this process to develop a unique Can You Create a Game? Challenge based on a Common Core standard of their choice (either Math, English Language Arts (ELA) or Science (available in draft form this year).

3. MMUOG Gaming Blog (10%)

Students will participate in a Massive Multi-User Online Game (MMUOG) and blog their insights, critiques, and inquiries on immersive multi-user gaming through the lens of course readings, websites and other salient course content. Students may choose any MMUOG such as Evoke, World of WarCraft etc. There will be a list of possible options on the Blackboard course site. Although students may participate in their selected MMUOG all semester and blog on that choice, they will have the option, at midterm, to change to another MMUOG for several reasons: (1) Students may wish to select and engage in a game related to their field of practice, (2) Students may wish to select and engage in a different game genre [for example, moving from a first person shooter game to a 'game for good' with other interfaces or avatar options or (3) Students may simply wish to change topics in their MMUOG gaming experience. If you are already engaged in an MMUOG, please schedule a virtual appointment with Dr. Mazur to discuss your 'baseline' experiences prior to absorbing course content. This conversation will assist your instructor (aka, me) in dialoging with you about your experiences as the course content proceeds.

4. Game Design Document (GDD) Project (40%)

Students will develop, individually, several digital game-based learning products: (1) A game script (2) a virtual graphical environment that will be used as a 'setting' for the game (3) several key character 'avatars' that game participants might interact with.

The game pretext: The GDD will focus on *The World of Davis Basin*, a multi-user gaming environment currently under development. The challenge of *Davis Basin* is for

users, to provide a learning environment where middle school aged students can explore this important 'gateway' neighborhood in Lexington. At the turn of the 19th Century emancipated slaves and immigrants settled in the Davis Basin and began their lives in Lexington. The Kentucky Archeological Survey and the Department of Anthropology at the University of Kentucky have done research in this neighborhood, there have been excavations of shotgun houses and there are oral histories available from residents who have provided a vital, personal picture of life in the 'Basin' over time. The 'geography' of *Davis Basin* will use Google Maps to locate this neighborhood in Lexington and research the characteristics of this section of Lexington, through several decades. This

EDC 709 – Social Design of Interactive Systems
Distance Learning Course Offered Fall Semesters (Biannually)
Fall 2013

Dr. Joan Mazur

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E-mail: jmazur@uky.edu

Virtual Office Hours: By appointment and Wednesday evenings 4-6:30

Skype: joanmmazur, or by pre-arranged phone contact.

A Note About Online Communication with the Instructor: I will respond in a *reasonable* timeframe to all email and cell message requests. *Reasonable* generally means within 2 day of the send. However, if the university is off (e.g. during Holiday break in December) OR it is a 3 day weekend OR if you are emailing me at 2:15 a.m. and expect to hear from me by 6 a.m. that day, such requests are *not reasonable*. Anytime anywhere learning *does not mean* anytime anywhere communication...we're all on email, twitter, facebook and cells a LOT, but please be reasonable☺

Course Description:

Students will explore the burgeoning research base related to social design of interactive systems. Framed by concepts from activity theory, social networking theory, computer-supported collaborative work (CSCW) and computer-supported collaborative learning (CSCL), social learning models and networked immersive environments, the course content will explore the research topics related to communities of practice and other on-line learning communities. In particular, participatory design structures will be introduced as collaborative processes for designing social learning and communication environments. These conceptual design frameworks will also be examined through a global perspective lens; considering the strengths and critiques of social media for global understanding and participatory interaction. Students will learn to design and implement a research project focused on social interactive systems. Specifically, students will gain experience with the actual use of research methods such as conversation analysis, interaction analysis and the use of on-line tracking utilities and other on-line data collection techniques. The final course project will culminate in a submission to a research journal.

Learning Outcomes	Evaluation/Assessment (Descriptions of these assessments below)
1. Students will read and analyze research literature from on-line community research and explore the instructional design implications.	Literature Review 10% Class Participation/ Monitoring online community 10%
2. Students will explore, via readings and analysis of international online social	Class Participation/ Monitoring online community 10%

media and international social media databases (e.g. Twitter feeds from Iran) issues related to claims for global social media (e.g. open communication, democratization and social freedoms [of expression e.g.]	And/or social media data mining Companies such as TRS (a Silicon Valley firm who designed surveillance software for the Chinese Government).
3. Students will compare and contrast relevant theoretical models: Activity theory, distributed cognition, social networking theory, social learning models, participatory design, and computer-supported collaborative work and learning.	Midterm Exam 20%
4. Students will explore and learn to use on-line computer/network tracking utilities and understand the range of tools and resources available for data collection for on-line communities and collaborative instructional environments	Transcription/Coding/Analysis 20%
5. Students will design and conduct a preliminary online conversation analysis research project that will demonstrate their knowledge, skill and understanding of the key conceptual frameworks, principles and research methods outlined in the course. Students will submit their final project in the form of an IRB application.	Final Paper: A Conversation 30% Analysis Paper/Article Submission
6. Students will complete the CITI IRB training and submit certificate.	5. Submit CITI Certificate

STUDENTS WITH SPECIAL NEEDS

If you have special needs or require accommodations of any kind, you must register with the UK Disability Resource Center (Mr. Jake Karnes, 257-2754) that certifies need on an individual basis and please let me know about your situation after the first class.

STANDARDS

Course materials, activities and assessments that are consonant with indicators and benchmarks contained in the Kentucky Teacher Standards (in particular IV

(Assessment), V (Reflection), VI (Collaboration) and those promulgated by INTASC (Interstate New Teacher Assessment Consortium) for National Board Certified Teachers.

PLAGIARISM/CHEATING

Academic honesty is expected in graduate work. Plagiarism and other forms of cheating are absolutely unacceptable. You may not use a paper or project that has previously been used in another class to satisfy coursework in this class, this practice is termed “self-plagiarism” and is unacceptable. Should you plagiarize, no grades will be issued and your situation will be reported.

ATTENDANCE POLICY; Full class participation is expected in all synchronous or asynchronous individual and group work as assigned in the syllabus. If you are unable to participate you MUST contact the instructor prior to the due date for an assignment and have that absence excused. Only 2 excused absences are permitted per semester, and the instructor reserves the right to request documentation of absences. Any missed coursework is the responsibility of the student to make-up and complete, as approved by the instructor.

COURSE TEXTS:

Castells, M., Fernandez-Ardevol, M. Oiu, J., Sey, A. (2009) *Mobile Communication and Society: A Global Perspective (Information Revolution and Global Politics)*. Boston, MIT Press. (Paperback).

Jenkins, H. (2009) *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century (The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning)*. Boston, MIT Press.

Morozov, E. (2011). *The Net delusion: The dark side of internet freedom*. New York: PublicAffairs (Perseus Books Group).

Nardi, B. (1999). *Information ecologies: Using technologies with heart*. Cambridge, MA: MIT Press

Online Book of Readings (available through online UK Library Reserve and BlackBoard).

Ten Have, P. (1999). *Doing Conversation Analysis*. Thousand Oaks, CA: Sage

Wenger, E. (1999). *Communities of Practice*. New York: Cambridge University Press

Evaluation/Assessment Descriptions:

Literature Review (No more than 10 Double-Spaced pages)

Conduct a review of the literature on your general area of interest (e.g. distributed cognition, participatory design, chat rooms, etc).

To conduct a review I suggest the following steps:

1. Assemble a list of the relevant *high quality* research journals. The quality is determined by several factors, the calibre of research published, the jurying process, and also consensus among the community of scholars in that field.
2. Use a table to list the journal, author(s), type (qual/quant), study questions, design, subjects, results. Note the literature reviews in the articles you selected for both format/style and to glean additional references on your topic.
3. Formulate a point of view/posture toward the literature. A review, remember is not only a compendium of the available research articles (describing the study design, results etc) but after the literature base is compiled, one makes judgements about themes, gaps, directions.
4. What further research is suggested by your review?

Midterm Exam

The Midterm will take a class period and consist of multiple choice inference and essay questions on the readings.

Transcription/Coding/Analysis

1. Using techniques from Ten Have, develop and implement a coding scheme for a segment of discourse from the on-line community you have been monitoring as part of your Conversation Analysis project.
2. Post transcription or preparation, use an analysis tool as necessary (CATPAC e.g.) to display data outputs.

Final Paper/Article Submission

Submit a paper in research article APA format that includes an abstract, a literature review, description of the online community, methods, findings and directions for further research. This study will be very focused and bounded by the obvious time constraints of the course. For example, you might choose to analyze one week's sessions on a public board for focused on solving management problems in retail outlets. Or, after monitoring a public chat, you might choose one session to analyze. Will your work be publishable? You'll find out after you submit. The UK Institutional Review Board (human subjects) requirements will be discussed thoroughly prior to the start of the project. There will be class time and support for this project, so please use the entire semester to develop/implement the project. It's meant to be a learning experience, and the assumption is this will be totally foreign to most students.

Class Participation

Class participation is defined as both your attendance and your preparation for class discussion of readings. The class is of course a community of learners and thoughtful, critical participation is required

for the intellectual quality of the educational experience. Class participation also includes your selection and monitoring (as an observer or participant observer) in an online community (chat, discussion, etc).

COLLEGE CONCEPTUAL FRAMEWORK: Research, Reflection, Learning, Leading

Students in this course will demonstrate dispositions that characterize the conceptual framework of the college of education. The conceptual framework for the professional education unit at the University of Kentucky is guided by the theme, *Research and Reflection for Learning and Leading*. This theme is aligned closely with both the institutional vision and mission of UK and the vision and mission of the professional education unit. The theme reflects and guides how we approach preparation of professional educators within the context of a research extensive university program.

DISTANCE LEARNING TECHNICAL REQUIREMENTS AND INFORMATION REGARDING ONLINE LIBRARY SERVICES/RESERVES ETC>

1. GENERAL TECHNICAL REQUIREMENTS FOR ALL DL COURSES:

Please check your connections and online access capabilities (speed, special plug-ins for reading online files, hardware and software). If you need HELP, email me or use UK HELP (see contact information below). <http://www.uky.edu/DistanceLearning/current/index.html>

2. Center for the Enhancement of Teaching & Learning (CELT) <http://www.uky.edu/CELT/>

3. DISTANCE LEARNING LIBRARY SERVICES

We have excellent library support and online reserve services. Please review these at <http://libraries.uky.edu/dlls>

Ms. Carla Cantagallo is the DL librarian and is very helpful. Links to online reserves will be provided as part of the course information in the Adobe Connect Meeting Room. Her phone contact is (859) 218-1240 – Email: carla@uky.edu

4. ADOBE CONNECT MEETING ROOM – OUR ONLINE CLASSROOM

Class will meet virtually, each week using Adobe Connect. The class link is connect.uky.edu/EDC709/ -- Paste the link into your browser.

Check your Adobe Connect connection using this website:

http://ukconnect.acrobat.com/common/help/en/support/meeting_test.htm) and webcam options, if desired.

EDC 709 – Weekly Course Schedule

Date	Topic	Assignment/Readings
Week 1 8/28 – 9/3	Course Overview and approach	Introduce Yourself - on the Forum with that Label in our Blackboard Blog link. The link To the Blogs are in the “Tools” menu.
	Defining Social Design, Social Media and Interactive Systems	View the Course Intro Video – Link is in Course Information Folder “Class Video Recordings”
		Obtain Information Ecologies and read for Next week.
		The first half of the course will develop a social, global theoretical basis for the project for the course (conversation analysis of an online communication/instructional social forum/tool) completed after the midterm.
Week 2 9/4 – 9/10	Information Ecologies Designing and Research Human Value and Local Interest	We will meet tonight in Adobe Connect – Time to be determined – Mazur will send out An announcement via BB. Attendance is Optional – if you can’t/don’t attend, you are Responsible for viewing the content in our “Class Video Recordings” folder.
	Activity Theory: A Socio-cognitive Perspective focused on meaningful actions (activities)	Nardi: <u>Information Ecologies</u>
		View Adobe Connect Lecture: Mazur Post Comments to Class Blog on BB
Week 3 9/11 – 9/17	A Social Learning Theory and The concept of Communities of Practice	Wenger: Communities of Practice Part I. pp. 1-144
Week 4 9/18 – 9/24	Identity in Communities: Participation and Non-Participation	Wenger: Communities of Practice Part II. pp. 145 -278
		Literature Review 1st Draft Due
Week 5 9/25 -10/1	Participatory/Convergent Media: challenges: Maintaining the	Jenkins, H. (2009) Confronting the Challenges Participatory Culture: Media Education for

	Integrity of social communication as instructional tool in social media contexts	21st Century (The John D. and Catherine MacArthur Foundation Reports on Digital and Learning). Boston, MIT Press
		Feedback on Literature Reviews Provided Revisions Due week after Midterm
Week 6 10/2 - 10/8	Exploring new social media tools And resources	Choose Two Assignment: Choose two of the Following new social media tools. Join and Describe by using concepts and principles from the theoretical frameworks presented thus far in class on the Course Blog. (See the 'Choose Two' list in the Choose Two Social Media Folder on BB)
Week 7 10/9 – 10/15	Non-neutrality of social Media: social and political implications. What are the design implications of a highly mobile, global and fluid communication and learning environment? Can we design for such networks? What is required? How can we evaluate the effects? (Web 2.0 capabilities for propaganda, censorship and surveillance).	Morozov, E. (2011). <i>The Net delusion: The dark side of internet freedom</i> . New York: PublicAffairs (Perseus Books Group). Your VoiceThread/ Podcasts for : Castells, M., Fernandez-Ardevol, M. Oiu, J., Sey, A. (2009) <i>Mobile Communication and Society: A Global Perspective (Information and Global Politics)</i> . Boston, MIT Press (Paper) See the attached.Podcasting Assignment, rather completing a reading guide for this book. The Power of Mockery – Nicholas Kristof – NY Times 4/17/11 http://www.nytimes.com/2011/04/17/opinion/17kristof.html?_r=1&ref=genessharp From Dictatorship to Democracy: Gene Sharp http://topics.nytimes.com/top/reference/timestopics/people/s/gene_sharp/index.html?scp=1&sq=From%20Dictatorship%20to%20Democracy&st=cse
Week 8 10/16 – 10/22	Midterm Exam	Inference Multiple Choice/Essay

Week 9 10/23 -10/29	Researching online forums: Methodology: Conversation Analysis	Mazur: Conversation Analysis for Instructional Technologist : AECT Research Handbook Chapter. Marra, R. M., Moore, J. L. & Klimczak, A. K. Content analysis of online discussion forums: A analysis of protocols. <i>Educational Technology Development</i> , 52(2), 23-40
		Selection of Online Forum/Tool for Research Project Due (must include global dimensions)
		Final Literature Review Due
Week 10 10/30 – 11/5	Methodology: Conversation Analysis	Ten Have: Doing Conversation Analysis
Week 11 11/6 – 11/12	Methodology: Conversation Analysis	Ten Have: Doing Conversation Analysis
		In Class: Examples of Previous Analyses.
Week 12 11/13 – 11/19	Project Work/Class Presentations feedback	Draft Transcription Coding Due In Class: Examples of Previous Analyses
Week 13 11/20 – 11/26 (Wed-Sun Thanksgiving Academic Holiday this Week)	Class Discussion: Social Design of Interactive Systems: Design Principles and Pitfalls – Busting the myth that social media are grass roots – exploring the ‘astroturf’ of grass roots social media hype.	Returning to Communities of Practice/Info Ecologies and Activity Theory – What happens in the R2P (Research to Practice) process? Implications for Designers. Blog Post Response Required.
		Project Transcription Coding Due
Week 14 11/27 – 12/3	Final Project Presentations Class Evaluation	Penultimate Project Presentations Class Evaluation Feedback on Coding to Students for Project

Week 15 12/4 - 12/10	Last week of classes – UK Classes End 12/13. Finals Exam week at UK is 12/16- 12/20	Final Presentation of your project/ anticipated findings/lessons learned etc. Adobe Connect Presentation Final Project Due In Article Submission Format DUE 12/17
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Course Description

This course exposes students to many facets of design thinking and provides them with an interdisciplinary perspective about the role of design in addressing the world's challenges. This course also raises awareness about the value and power of design thinking our culture.

Design Thinking in Education is a course in which students work on challenges facing the P-20 community. The class is focused on a participatory, design thinking approach, with particular attention to the needs of clients who offer real-life challenges for students to work on.

Students from several majors with different experiences will pool their disparate yet complementary knowledge and skill sets to work to iteratively design, prototype and field test solutions to a challenge posed by a client group.

Students will work in collaborative teams on semester-long projects in collaboration with client organizations, field liaisons, and a set of multidisciplinary experts. Students are exposed to the process of human-centered design, and hone their skills in need finding, problem definition, brainstorming, prototyping, and user testing.

The course will consist of hands-on labs, guest speakers, and a guided design process.

Course Goals

- To develop prototype solutions to heretofore intractable challenges in education
- To practice design thinking in a real-world context
- To learn the tenets of human-centered design
- To learn how to create hands-on prototypes
- To develop problem solving and critical thinking skills
- To recognize the potential impact of creative thinking, design thinking and innovation in the world

Course Objective

This course seeks to provide students with the skills, tools, and mindsets to enable them to discover solutions to challenges faced by educators. The techniques and skills learned during the course apply equally well to the business and social sector as they do to the education sector.

Course Structure

The learning model in this course is in large part "learning by doing." Although the assigned readings and in class discussions will provide the raw material for building your design skills and mindsets, the real learning will come in the ambiguous and uncertain challenges you will tackle in your team project. With the goal of creating solutions to client challenges, you'll develop your needfinding skills by studying users facing the challenges you'll try to solve. The project will culminate in a trade show in which your team will present either a 3-D physical prototype or perhaps a dramatization, of your solution to your users' challenge.

To supplement your project-based learning and to develop your problem-solving skills, we'll do a number of exercises in class. Most will focus on enhancing your design thinking skills, including your ability to empathize for another, conduct needfinding, defining challenges people face in context of the environment, brainstorming, prototyping, and conducting user testing and obtaining feedback. You will also work on enhancing your creative thinking abilities.

Extensive fieldwork, outside meetings and general research will need to be carried out for your projects. Effective teamwork will be essential. This course is as much about team dynamics as it is about learning to think like a designer and to solve challenges in education.

Prerequisite None

Teacher Contact John Nash
111 Dickey Hall
john.nash@uky.edu
Mobile: 650-799-6703
Skype: jbnash
GChat: jbnash
Twitter: jnash

Office Hours All by appointment

Preferred Method for Contact Email

Expected Response Time Within 24 hours

College of Education Librarian Sarah Vaughn, Education Librarian
sarah.vaughn@uky.edu
859.257.7977

Distance Education Librarian Carla Cantagallo, Distance Education Librarian
dllservice@email.uky.edu
859.218.1240 (voice)
859.257.0505 (fax)
2-2, North Wing, William T. Young Library

Course Website CANVAS SITE

Suggested Texts	<p>The following are PDFs accessible from the course website:</p> <ul style="list-style-type: none">• 2010 Bootcamp Bootleg• Design Thinking for Educators• IDEO Human Centered Design Field Guide• IDEO Human Centered Design Toolkit
Cell Phones	<p>Yes, depending on time, manner and place. Don't send and receive texts or calls during class. Do use your cell phone to take pictures during class, upload images to Google+, send a tweet about class, or use the device to capture images, sound or video that are needed for your project.</p>
Disabilities Accommodation	<p>The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protections for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides a reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please notify your instructor and contact the Disability Resource Center (Mr. Jake Karnes, jkarnes@uky.edu) 257-2754, room 2 Alumni Gym.</p> <p>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.</p>
Late Assignments	<p>Expectations are that all assignments will be completed on time. Late assignments accepted only upon permission of instructor. A late penalty of 5-10% may apply.</p>
Online Tools We Will Use	<ul style="list-style-type: none">• GChat• Google+ Invites• Google+ Photo Albums• Google+ Hangouts• Facetime• Meetings.io• Canvas• Twitter (hashtag: #dlabuky)• Google Sites• Text messaging
Use of Student Work	<p>Students understand that enrollment in this course grants consent for their work to be selected for inclusion in college or departmental publications (online or in print).</p>

Attendance Students are expected to be on time and attend mandatory sessions. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences:

- 1) serious illness;
- 2) illness or death of family member;
- 3) University-related trips;
- 4) major religious holidays;
- 5) other circumstances you find to be "reasonable cause for nonattendance."

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 for adding a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (257-2754).

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 EDU 300-002 class requires field work in school settings. 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.

Ethics Statement

This course and its participants will not tolerate discrimination, violence, or vandalism. 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 of 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 the student's 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 instructors 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

This class 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 College of 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 design thinking 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

This class aligns itself with the positions of the College of Education regarding cultural and linguistic diversity in education.

Commitment to Technology

This class 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.

**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 Senate Bill 1 expectations including, Kentucky Academic Core 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)
Self-assess dispositions and standards related to develop personal goals for growth.	Self assessment
Demonstrate skills in knowledge of design process for innovation.	Classwork and Final Presentation

Course Components

Course readings and assessments have been selected and arranged in compliance with policies set forth by Senate Bill 1 (March 2009), Kentucky Core Academic Standards, 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
Demonstrate competence in empathy and needfinding	Develop a empathy and understanding of client issue from their point of view
Demonstrate competence in problem definition	Narrow client issue to salient problem from which a design challenge can be formed
Demonstrate competence in brainstorming and ideation	Develop an abundance of solutions to a design challenge
Demonstrate competence in prototyping	Create fast, low resolution, usable prototypes of a solution to the design challenge to show to the client for feedback
Demonstrate competence in testing and feedback integration	Test prototypes with clients and integrate feedback from their use to iterate new versions of the solution

Course Delivery

This course is designed as a face-to-face, field study course with online components.

Senate Bill 1 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.

Changes	The instructor reserves the right to make adjustments/changes to the course syllabus with or without notice. Because this course is heavily dependent on the outcomes of fieldwork, some on campus meeting dates may change. Please check the course website on Canvas for the most recent announcements regarding the schedule.
Required	<ul style="list-style-type: none">• A field notebook of your choosing (something you like and is easy to carry around). This may or may not be separate from whatever you would use to take notes in class.• Several of your favorite pens or pencils with which to take notes and/or sketch (be nice to yourself)
Optional	Also useful but not required: <ul style="list-style-type: none">• Digital camera• Digital voice recorder• Video camera

Readings and Assignments

UNIT: Design Thinking Overview

These are the readings that you should complete to be on top of things for our first module, which we call the "Overview" module.

Please read the following:

Pages 3-16 of the Human Centered Design Toolkit;
And the following entries in the Bootcamp Bootleg for

- Empathize
- Define
- Ideate
- Prototype
- Test

Video Viewing

View the following video for this unit:

Getting People to Talk: An Ethnography & Interviewing Primer from Gabe & Kristy on Vimeo

UNIT: Need Finding, Observation & Empathy

"To acquire knowledge, one must study; but to acquire wisdom, one must observe."

--Marilyn vos Savant, American columnist

"Focus on the user and all else will follow."

-- Google mantra.

"Design thinking is a user-centered design process, and the empathy that comes from observing users enables design thinkers to uncover deep and meaningful needs (both overt & latent). Empathy, by definition, is the intellectual identification with or vicarious experiencing of the feelings, thoughts or attitudes of another.

Empathy gaining is often described as 'needfinding' in that you are discovering people's explicit and implicit needs so that you can meet those needs through design. A need is a physical, psychological or cultural requirement of an individual or group that is missing or not met through existing solutions."

https://dschool.stanford.edu/groups/k12/wiki/606dd/Process_.html

Empathy and Need Finding Reading Assignment

Read the Following:

Pages 20-46 in Human Centered Design, An Introduction

The following entries in the 2010 Bootcamp Bootleg
(sorry, this document has no page numbers for some reason):

- Assume a Beginner's Mindset
- Interview Preparation
- Interview for Empathy
- What, How, Why?
- Extreme Users
- Team Share and Capture
- Space Saturate and Group
- Empathy Map

UNIT: Definition of the User Point of View

In this phase of design thinking, students the focus is on becoming aware of peoples' needs and developing insights. The phrase "How might we...." is often used to define a point of view, which is a statement of the user + need + insight. This statement ends with a suggestion about how to make changes that will have an impact on peoples' experiences.

User Point of View Reading Assignment

Read pages 56-72 in the Human Centered Design Toolkit.



Read the following entries from the dSchool Bootcamp Bootleg.



- Journey Map
- Composite Character Profile
- Fill in the Blank Character Profile
- Why-How Laddering
- Point of View Mad Lib
- Point of View Analogy
- Point of View Want Ad
- Design Principles
- How Might We...
- Stoke

UNIT: Brainstorming

"Ideating is a critical component of design thinking. Students are challenged to brainstorm a myriad of ideas and to suspend judgment. No idea is too far-fetched and no one's ideas are rejected. Ideating is all about creativity and fun. In the ideation phase, quantity is encouraged. Students may be asked to generate a hundred ideas in a single session. They become silly, savvy, risk takers, wishful thinkers and dreamers of the impossible...and the possible."
https://dschool.stanford.edu/groups/k12/wiki/606dd/Process_.html

Brainstorming Reading Assignment

Readings for the Ideate and Brainstorm Module

Read pages 73-74 of the Human Centered Design Toolkit.

Read the following entries from the Bootcamp Bootleg:

- Brainstorm Rules
- Facilitate a Brainstorm
- Selection
- Bodystorming
- Impose Constraints

UNIT: Prototyping

"Prototyping is a rough and rapid portion of the design process. A prototype can be a sketch, model, or a cardboard box. It is a way to convey an idea quickly. Students learn that it is better to fail early and often as they create prototypes."
https://dschool.stanford.edu/groups/k12/wiki/606dd/Process_.html

Prototyping Reading Assignment

Read pages 75-76 from the Human Centered Design Toolkit

Read the following entry from the Bootcamp Bootleg:

- Prototype for Empathy
- Prototype to Test
- Prototype to Decide

UNIT: Testing & Feedback

“Testing is part of an iterative process that provides students with feedback. The purpose of testing is to learn what works and what doesn’t, and then iterate. This means going back to your prototype and modifying it based on feedback. Testing ensures that students learn what works and what doesn’t work for their users.”

<https://dschool.stanford.edu/groups/k12/wiki/606dd/Process.html>

Test and Feedback Readings

Read pages 77-102 in the Human Centered Design Toolkit.

Read the following entries in the Bootcamp Bootleg:

- Feedback Capture Grid
- Testing with Users
- User Driven Prototyping
- Wizard of Oz Prototyping
- Storytelling
- Shooting Video
- I Like, I Wish, What If

MAJOR PROJECT

At the core of your course experience are the projects brought in by the community Partners. In the projects, Partners are co-designers with your student in a process of need finding, brainstorming, and rapid prototyping to create new, powerful solutions to the educational, social, policy, process, or development challenges they face. Your team will work on the projects with supports from the teaching team and a liaison from client partner. The projects establish the instructional foundation of the course to create the educational experiences for students.

Where do projects come from?

The teaching team solicits projects from the community that it thinks will be successful student projects. To be successful, a good project will commonly have the following aspects.

1. Challenge students' creative and intellectual abilities.
2. Be conceptually and technically challenging while retaining minimal cost and physical size.
3. Be of deep concern to the partners, but not on a critical policy or production path.
4. Give the relevant student learning team considerable freedom of action and decision-making authority.
5. Benefit from an open-door policy between student team, partner liaison, and knowledge and insight from partners.

How Long Are the Projects?

The projects will be carried out for a semester (approximately for 16 weeks) by student teams in DTiE, so it is critical to have a proposal with a challenging, but do-able project to be done for the designated time period.

What Students Deliver

Our partners can expect three types of deliverables throughout the semester from student teams, Prototypes, Presentations, and Documents.

Prototypes

Prototypes are main tools for design innovation and communication in the course. Starting around the second half of the course, student teams contribute their efforts to make prototypes to practice the designing process with the concepts. By creating simple, rough ideas into tangible models, the critical concepts will be improved quickly, and it stimulates students to discover different ways to advance existing ideas.

Presentations

The formal communication skill is one of essential abilities for students to develop and practice in the course. The student teams deliver presentations to the class and the partners three times during the semester. The first presentation is to show the teams' understanding of the project such as requirements, project scope, and their viewpoints regarding design challenges. For the second presentation, the teams share their process of developing concepts with emphasis on how they will improve throughout the remaining time. The final presentation delivers final prototype with the rationales behind their development and suggestions for the future.

Documents

The student teams provide a comprehensive summary of their design process once a month to the partners. The purpose of this document is sharing the knowledge and process with the partners to let them know what the teams have accomplished and how they have proceeded designing up to that point. The final prototype is the team's best suggestion for the design challenge, and these documents are why they have decided on that one over other possible solutions. This can provide the partners the opportunity to see the process and choose other solutions if they wish.

Major Project Website

Project teams will be required to maintain a project website using Google Sites. Requirements for this will be described in class. Delivery of the website components is expected via a set of smaller assignments as follows:

User Profile and User Need Documentation – 20 points

The following sections must be completed in your project website:

- The **Need**: What is the need your design addresses?
- Your **User**: Show the character composite and Point of View Want Ad, other user characteristics as you see fit.

Process and Solution Sections Complete – 20 points

Teams should have completed the Solution and Prototype sections of their website.

Project Website Complete – 20 points

Submit the URL of your team's documentation website. Website should have placeholders for the key components of the site (shown below). The **Team** component should be filled out with team member information:

- Your **Team**
- The **Need**: What is the need your design addresses?
- Your **User**: Show the character composite or persona for your user, describing their characteristics
- The **Process**: What was your design approach? The alternatives you considered along the way, how you evaluated them that led to your design?
- Your **Solution**: What you decided to create. Why.
- Your **Prototype**: A picture, video, sketch, slide deck, etc. of the prototype. Remember: *Show don't tell.*
- **Lessons Learned**: What did you learn from the process.

Project Case Brief – 25 points

Team projects will be enshrined in the student portfolio section of the dLab website.

- Each team must write 100-200 words describing the project which includes
 - the problem
 - the method or design
 - the intended consequences or benefits.
 - at least one link to supplemental information about the project (for instance, a project website that's publicly viewable, a PDF of a presentation, or a video)
 - One image which will appear with the project brief text. Choose a tasteful image that best represents the project.

Team

Teams will be comprised of 4-5 students, each of whom will act as a "division" leader for different aspects of the project. The roles and responsibilities will be described in class.

Other Assignments

Other weekly work will be assigned throughout the semester via the course website. These include online discussions, readings and viewings.

Grading Scale and Graduate Student Expectations

Graduate students in the course are held to the following expectations beyond those for undergraduates:

Grading scale for undergraduates:

90-100% = A
80-89% = B
70-79% = C
60-69% = D
<60% = E

Grading scale for graduate students (no D for Grad Students):

92-100% = A
82-91% = B
72-81% = C
<72% = E

Readings and Resources

Other texts may be assigned from this resource list:

- 21 principles for innovating in the real world from IDEO's Diego Rodriguez. (n.d.).The Next Web. Retrieved from <http://thenextweb.com/dd/2011/05/08/21-principles-for-innovating-in-the-real-world-from-ideos-diego-rodriguez/>
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- The ME-310 Team at Stanford

SEM 704: Designing Project-Based Environments in Science and Mathematics Education SYLLABUS

“Research and Reflection for Learning and Leading”

Instructor:	Dr. Jennifer Wilhelm
Office Location	101B TEB
Phone Number	859.257.1291
Email	Jennifer.wilhelm@uky.edu
Office Hours	Available on Mondays, 2:00 – 3:00 pm 101B Taylor Ed. Bldg. and by appointment
Technological Requirements	Computer with Internet access and VPN or access to UK computer facilities, webcam with microphone headset. Access to digital video recording devices (digital camera and digital video recorder)
For Technological assistance	Contact TASC at http://www.uky.edu/TASC or call 859.218.4357 Contact Information Technology Customer Service Center http://www.uky.edu/UKIT or 859.218.4357
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 859.218.4357
Preferred method for contacting instructor	Email or Blackboard
Anticipated Response Time	2 days
Information on Distance Learning Library Service	http://www.uky.edu/Libraries/DLLS
DL Librarian	Carla Cantagallo, DL Librarian; local 859.218.1240 dllservice@lsv.uky.edu
DL Interlibrary Loan Service	http://libraries.uky.edu/ILL
Class Website	http://www.uky.edu/~jwi229/courses/SEM704/SEM704_main.html Blackboard

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 Overview/Objectives:

Course Overview:

SEM 704 will give students the opportunity to explore STEM contents, technologies, instructional strategies, and assessments necessary in designing and developing a research-based, interdisciplinary, project-enhanced environment. In SEM 704 students will experience, evaluate, and design interdisciplinary, project-enhanced environments within STEM classrooms.

Course Objectives:

Student Learning Outcomes	Assessment
By the conclusion of SEM 704, students will:	<i>Student performance will be assessed using a rubric for the following:</i>
Describe a variety of research-based technologies, models, and/or visual representations to aid in the development of and discourse within a project-enhanced STEM classroom.	The student will design a project-enhanced instructional unit that is complete with relevant models, visual representations, and/or technologies to teach mathematical/science concepts. (summative)
Experience and analyze research-based, project-enhanced units that use a range of methods and materials that will support instruction accounting for developmental, cultural, and linguistic differences among students.	The student will analyze existing project-enhanced STEM environments (formative); The student will participate in a project-based environment and complete a follow-up project (summative); The student will design his/her own project-based unit (summative).

Describe a variety of research-based assessments to inform instruction.	The student will design a project-enhanced instructional unit that is complete with a variety of relevant formative and summative assessments to inform instruction and evaluate student understanding. (summative)
Conduct focused and sustained observations of physical phenomena.	The student will maintain a sustained observation and reflective journal recording data, patterns, predictions, and explanations (formative).

Course Delivery - This course relies heavily on the participation of students. Whether face-to-face or online, students will participate in class discussions, project work, and presentations. Project work will often involve students working collaboratively in groups.

Grading Scale

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

Course Assessment Tasks:

The following assessments align with the Kentucky Teacher (Advanced) Standards, NCATE/NCTM Standards, NCATE/NSTA Standards, Kentucky Core Academic Standards (as they become available), University of Kentucky Teacher Leader Standards, University of Kentucky Action Research Standards, University of Kentucky Functional Skills and Dispositions, University of Kentucky Technology Standards, ISTE, and EPSB themes.

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 are appended to this syllabus.

Task	Task Description	Standards Alignment
Class Project	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 UKTLS 7 UKARS 1, 2, 4 FSD 1, 3, 4 COET 1, 2, 3, 4 NCATE/NCTM 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15 NCATE/NSTA 1, 2, 3, 4, 7, 10

Discussion leader and class participation	Students will be responsible for leading at least one class discussion on primary readings; students will participate in oral discussion - individual or group; and participate in online discussions.	KTS 7, 8, 10 UKTLS 1, 2, 3, 4, 7 UKARS 1 FSD 1, 2, 3, 4, 5 COET 1 NCATE/NCTM 1, 2, 3, 8 NCATE/NSTA 1, 2, 3, 4, 6, 7, 9
STEM Research Journal Notebook	Students will maintain an observation and reflective STEM notebook concerning their semester-long class project work. This notebook will contain detailed research design plans, collected data, and visual representations (in the form of graphs, and/or models) of their data set.	KTS 1, 5, 10 UKTLS 3 FSD 1, 3 NCATE/NCTM 2, 3, 4, 5, 6, 10, 11, 14, 15, NCATE/NSTA 1, 2, 3, 6
Project-based Unit	Students will prepare a project-enhanced STEM unit accompanied by a scholarly research paper that describes the design and purpose of the unit. The project-based unit should contain at least one technology for use in advancing or scaffolding learning. The STEM unit should be unique to the individual student and designed specifically for the grade level and subject matter of interest to the student.	KTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 UKTLS 1, 2, 4, 5, 7 UKARS 1, 2 FSD 1, 2 COET 1, 2, 3, 4, 5 NCATE/NCTM 1, 2, 3, 4, 5, 6, 7, 8, 9-15 NCATE/NSTA 1-9

Course Outline

Week 1-2	What is a Driving Research Question?
Week 3-4	Contextualizing Instruction
Weeks 5-6	The Role of Benchmark Lessons in a Project-enhanced Classroom
Week 7	Enacting a Project-Enhanced Classroom - Is it difficult?

Week 8	Acting in the STEM Moment
Week 9	Diversity Issue
Week 10	The meaning of projects within math and within science classrooms—How is it the same/different; how can we integrate?
Week 11	Assessment in a Project-Enhanced Classroom
Week 12-13	Technology's Role in the Project Classroom
Week 14-16	Establishing Project-based Learning Communities Worldwide

Class Schedule, Instructional Topics and Assignments

Week #	Date	Topics	Readings	What's Due.
1	Sept. 2 <i>Face to Face</i>	Introductions Download Stellarium and set it up from a Lexington, Kentucky perspective	Read: Chancer & Rester-Zodrow <i>Moon Journals</i> ; Boaler ix - 23; Krajcik & Czerniak Text Chapter 2	
2	Sept. 9 <i>Face to Face</i>	What is a Driving Question? Stellarium Moon Hoax Investigations	Read: Boaler Chapter 4; Polman Chapters 1; Krajcik & Czerniak Text Chapter 3	Readings
3	Sept. 16	Driving Question (continued)	Read: Rivet & Krajcik article <i>Contextualizing</i>	Readings

			<i>Instruction;</i> Polman Chapter 2; Curnow (<i>Aboriginal Skies</i>)	
4	Sept. 23	Hoax Presentations (made as a YouTube Video)	Read: Forbes & Davis (2010); Krajcik & Czerniak Text Chapter 7	Readings Moon Hoax Claims YouTube Videos Submitted
5	Sept. 30 <i>Face to Face</i>	The Role of Benchmark Lessons in a Project-enhanced Classroom Earth/Moon/Mars Benchmark 5E (PPT)	Read: Polman Chapter 3-4; Norris (<i>Emu Dreaming</i>); Fidler & Dotger (2009)	Readings
6	Oct. 7	Enacting a Project- enhanced classroom—is it difficult? <i>How new is it?</i> Crater Benchmark	Read: Boaler Chapter 5 - 6; Wilhelm and Confrey <i>Designing Project-Enhanced Environments</i> ; Marshall, Petrosino, & Martin (2010)	Readings What affects a Crater's Size? (submitted as a YouTube Video)
7	Oct. 14 <i>Face to Face</i>	Moon Finale Follow-Up Lunar projects	Read: Duckworth <i>Teaching as Research</i> ; Hirshfeld (2004).	Readings Unit proposal
8	Oct. 21	Acting in the Moment <i>Wilhelm's Waves Project</i> (PPT)	Read: Leonard & Dantley <i>Breaking Through the Ice</i> ; NEEL <i>Addressing Diversity in the Mathematics Classroom</i>	

9	Oct. 28	Diversity Issues	Read: Boaler Chapters 7-8; Polman Chapter 5; Ericson (2014)	Readings Follow-up Moon Project Driving question and names of group members via Blackboard.
10	Nov. 4 <i>Face to Face</i>	The meaning of projects within math & science classrooms—How is it the same/different; how can we integrate?	Read: Boaler Chapters 9; Polman Chapters 6-7	Readings
11	Nov. 11		Read: Bhattacharyya article <i>Technology-Integrated Project-Based Approach to Science Education</i> ; Ardaiz-Villanueva, Oscar, et al. (2011)	Readings Literature Review
12	Nov. 18 <i>Face to Face</i>	Technologies' Role in the Project Classroom	Read: Polman Chapters 8-10;	Readings Milestone: Be prepared to present a representati on of your follow-up moon project data collection.
13	Nov. 25	Project Work	Polman Chapter 11; Boaler Chapter 10-11	Readings
14	Dec. 2			Unit/Paper Drafts

	<i>Face to Face</i>			
15	Dec. 9 <i>Face to Face</i>	Sharing Analyses Follow-up Moon Project Presentations Post-Assessment		Readings, Follow-Up Moon Project & Analysis of Partner's Drafts
16	Dec. 16 5:30 pm Final Unit Due			

Writing Style

Written work in this course should adhere to the American Psychological Association (APA) (2010, 6th ed. or later version).

Assignments and Grading

1. Complete all readings and be prepared to discuss them in class. Active participation in class discussions is essential to your learning and the learning of others in this course. One-page reflections of the readings must be submitted in blackboard (discussion board) by Monday evening (10:00 pm) each week. In addition to this one-page reflection, please provide a question to solicit further discussion.

a. When meeting face to face - Discussants will lead the class discussions on the readings based on their own reflections/questions as well as the class reflections and posed questions.

b. When meeting on-line - Discussants will lead the class discussion regarding the readings online. Classmates are required to respond substantially at least twice throughout the week's discussion (which will end by Saturday (Noon)). Discussants must facilitate these discussions throughout the online week (Tuesday through Saturday). The following week's reading assignment will again be due Monday evening (10:00 pm).

2. You will begin the Moon project by taking Moon observations at least one time per day from September 2nd - October 7th. Observations should be kept in a journal and should include Moon location, Moon sketch, and time of day. As you begin making these observations, you should write down if the Moon was where you expected and looked as you expected based on your previous observations. Each journal entry must include at least 2 sentences. These two sentences should include patterns that you may have noticed and/or predictions of what you expect the Moon to look like on future dates (including its location). You can also record other objects in the sky that you have observed. **(Moon data should be collected at approximately the same time every day; however, there may be a point where you will have to adjust your observation time).**

Other Moon project activities will include a Moon Landing Hoax investigation, a Moon Finale, and a follow-up Moon project. The final follow-up Moon project will be due and presented on December 9th. More information regarding the follow-up project will be provided at a later date.

3. Design a project-enhanced unit accompanied by a scholarly research paper that describes the design and purpose of your unit. Your project-enhanced unit and paper will be developed in groups of 2 or 3. Your unit should contain at least three benchmark lessons, contain appropriate assessment pieces, and describe potential projects that students would research. The accompanying paper should be 10 to 15 double-spaced pages in length with an appropriate bibliography. I am spreading this unit and paper out over the semester so that you do not feel overwhelmed at the end of the course. This assignment will be broken into several milestones.

a. *Milestone one - Proposal:*

Due October 14th sent via Blackboard. The unit proposal should be approximately two pages in length, and it should include the following:

- The overall goal of the unit;
- The preliminary driving question;
- An example of one benchmark lesson;
- One potential student sub-driving question;
- A possible technology that will assist development of students' learning;
- An example of a possible assessment that will aid in evaluating students' learning.

In your proposal you will need to state the goals of your unit and your driving question. Provide a 2 paragraph explanation of what this driving question means and why it is important in helping students to understand the concepts embedded within your overall goal of the unit. Also describe at least one benchmark lesson that will help to ensure students' content learning and describe at least one potential student-generated, sub-driving question. Finally, include an at least 1 - 2 paragraph explanation of how you plan to assess students' understanding.

b. Milestone two - *Bibliography/Literature Review*:

Due November 11th sent via Blackboard. To assist in the design of your unit, you will need to prepare an annotated bibliography of articles, books, and reports that are relevant to your unit's goal. Each annotated bibliography will be posted on Blackboard so that your peers may learn from your review. Your annotated bibliography should take the form of the following table:

Author/Study	Subjects	Methods	Major claims of each article	How related to my project-based unit
1. Author	Ex. (First through 12 th graders)	Ex. Series of evaluation studies over a 3-year period.	<ul style="list-style-type: none"> ➤ Claim 1 ➤ Claim 2 ➤ Claim 3 	
Etc.			Etc.	

Following this table you will need to write a 3-4 page analysis of the major themes in your literature that you reviewed. This analysis will be a very important component in aiding the design of your unit.

c. Milestone three - *Draft of your unit and accompanying paper and analysis of partner group's draft*:

On December 2nd, a draft of your unit and its accompanying paper will be submitted via Blackboard. This draft will be submitted to Dr. Wilhelm and to a class peer/partner in order to be reviewed and given feedback.

On December 9th, you will submit your thoughtful review (via Blackboard) to Dr. Wilhelm and back to the unit designer. When reviewing the drafts, please respond to the following questions:

- ❖ Is the goal of the unit clearly presented as well as its importance to students' understanding?
- ❖ Is the review of literature complete, thorough, relevant, and up to date?
- ❖ Is the design well researched and potentially promising to ensure students' content understanding?

The purposes of the reviews are to give the authors multiple perspectives toward the development of their unit and accompanying manuscript and to gain experience in reading and critiquing others' work. This at least one-page written analysis of your partner's draft is due on December 9th (via Blackboard).

d. *Milestone four - Final unit and paper:*

Your final unit and paper are due by 5:30 pm on Tuesday, December 16th. The final paper should be roughly 10 to 15 pages in length. Please follow APA guidelines.

Evaluation - The course grade will be determined as follows:

Assignments	Points	Due Date
Readings, submitted questions, discussion leader, and class participation	15 points	Weekly
Moon Journal and Observations	10 points	September 2 nd - October 7 th
Hoax Mini-Project	10 points	September 23 rd
Follow-up Moon Project	15 points	December 9 th
Unit Proposal	10 points	October 14 th
Literature Review	10 points	November 11 th
Unit and Paper Drafts	10 points	December 2 nd
Analysis of partner group's draft	5 points	December 9 th
Final Unit and Paper (submit in Blackboard)	15 points	December 12 th

Final Word

The instructor reserves the right to amend this syllabus at any time during the semester. In order to avoid student disappointment, it is the responsibility of the student to clarify any issues with the instructor prior to grading.

Course Policies

Addressing Themes of Diversity, Assessment, and Technology

All UK professional education programs address and affirm the value of diversity in education, the use of technology to support all aspects of instructional programming, and the importance of attaining high levels of skill in assessing the outcomes of instruction. This course will provide students an opportunity to demonstrate attention to these themes and reflect on the mechanisms that this course has provided to demonstrate improved skills in these areas.

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: S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences:

- 1) serious illness;
- 2) illness or death of family member;
- 3) University-related trips;
- 4) major religious holidays;
- 5) other circumstances you find to be "reasonable cause for nonattendance."

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 for adding a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (257-2754).

In the case of an excused absence, it is the student's responsibility to inform the instructor of the absence, preferably in advance, but no later than one week after it. Opportunities for make-up will be discussed then.

Participation and Professionalism

Evidence of professional dedication will be expected throughout this course and in all course-related interactions. Credit for participation and professionalism will be part of the evaluation. This means, in part, that we expect your regular, punctual attendance and participation. If you

miss a class for any reason, it is **your** responsibility to contact the instructor and to make up any work.

Attendance, Participation, and Professionalism together

1. Students will attend all class meetings and field placement sessions.
 2. Students will complete all assignments prior to scheduled discussions and due dates (see course calendar).
 3. Students will attend all class meetings and be active participants.
 - a. Active participation may include: verbal participation in discussions, asking questions or responding to peers or instructor in constructive ways, clearly demonstrating active listening (taking notes, paying attention, etc.), and communicating with the instructor via office meetings and/or email.
 4. Absences will be communicated in advance and in writing to the instructor, or will do so as soon as possible.
 - a. It is the **student's** responsibility to pursue make-up work and collect materials and information from missed class meetings.
- Students will conduct themselves in a professional and ethical manner.
- b. They will be punctual, presentable, respectful of peers and instructors, and they will be honest in their academic efforts.
 - c. They will attend to and engage course materials to learn and improve their knowledge, understanding, and practice as teachers.
5. Attendance, participation, and professionalism will be assessed holistically based on the above criteria, and will be used to determine the outcome of borderline grades.
 6. Students are encouraged to communicate regularly with the instructor so that they are aware of their standing.
 7. Students who fail to attend class, participate as expected, and/or conduct themselves professionally or ethically will be required to meet with the instructor to set improvement goals.
 8. Poor conduct or lack of participation may negatively affect their course grades.
 9. In cases of extreme or frequent misconduct, the instructor reserves the right to dismiss a student from class and notify the department and college for potential disciplinary action.
 10. In non-emergency situations, late work will not be accepted without prior arrangements with the instructor.
 - a. The instructor reserves the right to refuse late work or to accept late work for reduced credit unless the student has made prior arrangements with the instructor.

Each student is expected to participate and contribute. The quality of the course depends on the extent to which you share, reflect, and participate. Please give the class your best effort.

Students with Special Needs

The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protections for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides a reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please notify your instructor and contact the Disability Resource Center (Mr. Jake Karnes, jkarnes@uky.edu) 257-2754, room 2 Alumni Gym.

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.

Classroom Behavior, Decorum, and Civility (aka, Ethics Statement)

This course and its participants will not tolerate discrimination, violence, or vandalism. SEM 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 of 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 graduate students, future teachers, and ambassadors for the University of Kentucky. Any unethical behavior in class may result in failure for the course and/or expulsion from the 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 the instructor if you have questions regarding this requirement.

Statement on Plagiarism

All materials generated for this class (which may include but are not limited to syllabi and in-class materials) are copyrighted. You do not have the right to copy such materials unless the professor or assistant expressly grants permission. As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writing, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have permission of that person. Plagiarism is one of the worst academic violations, for the plagiarist destroys trust among others.

Commitment to Diversity

The UK Department of Science, Technology, Engineering, and Mathematics (STEM) Education 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 secondary schools is directly and indirectly affected by this department'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 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 students 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 UK Department of STEM Education aligns itself with the positions of the NCTM, NCSS, NSTA, and NCTE regarding cultural and linguistic diversity. 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 UK Department of STEM Education is committed to teaching students so they use technology as a personal and professional tool. Our program is guided by NCATE standards, UK College of Education Technology Standards, EPSB Teacher Standards, and SPA 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.

Required Texts:

The following texts align with the Kentucky Teacher (Advanced) Standards, NCATE/NCTM Standards, NCATE/NSTA Standards, Kentucky Core Academic Standards (as they become available), University of Kentucky Teacher Leader Standards, University of Kentucky Action Research Standards, University of Kentucky Functional Skills and Dispositions, ISTE, and EPSB themes.

Textbooks

Boaler, J. (2002). *Experiencing school mathematics: Traditional and reform approaches to teaching and their impact on student learning* (Volume in the Studies in Mathematical

Thinking and Learning Series). Erlbaum Associates, Inc., Mahwah, New Jersey. ISBN # 0-8058-4004-4

Chancer, J. & Rester-Zodrow, G. (1997). *Moon journals: Writing, art, and inquiry through focused nature study*. Portsmouth, NH: Heineman.

Common Core Standards (as they become available) and their related documents (www.commoncore.org)

Forbes, C.T. & Davis, E.A. (2010). Beginning elementary teachers' beliefs about the use of anchoring questions in science: A longitudinal study. *Science Education*, 94(2), 365-387.

Fidler, C. & Dotger, S. (2009). Visualizing the Earth and Moon relationship via scaled drawings. *Science Scope*, 33(4), 14-19.

Hirshfeld, A. (2004). The triangles of Aristarchus. *Mathematics Teacher*, 97(4), 228-231.

Kilpatrick, W., (1918). The project method. *Teachers College Record*, 19, 319-335.

Krajcik, J. & Czerniak, C. (2014). Teaching science in elementary and middle school classrooms: A project-based approach. Fourth Edition, Routledge, New York, NY.

Krajcik, J., Blumenfeld, P., Marx, R., Bass, K., Fredricks, J., & Soloway, E. (1998). Inquiry in project-based science classrooms: Initial attempts by middle school students. *The Journal of the Learning Sciences*, 7, 313-350. doi:10.1207/s15327809jls0703&4_3

Laffey, J., & Singer, J. (1998). Using mapping for cognitive assessment in project-based science. *Journal of Interactive Learning Research*, 8(3/4), 363- 388.

Leonard, J., & Dantley, S.J. (2005). Breaking through the ice: Dealing with issues of diversity in mathematics and science education courses. In A.J. Rodriguez & R.S. Kitchen (Eds.), *Preparing mathematics and science teachers for diverse classrooms: Promising strategies for transformative pedagogy* (pp. 87-118). Mahwah, NJ: Lawrence Erlbaum Associates.

KY Learner Goals and Expectations, Program of Studies and Core Content – online documents (or their replacements as they become available)

National Research Council. (1996). *National science education standards*. Washington, D.C.: National Academy Press.

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.

Neel, K. S. (2005). Addressing diversity in the mathematics classroom with cultural artifacts. *Mathematics Teaching in the Middle School*, 11(2), 54-59.

Polman, J. (2000). *Designing project-based science: Connecting learners through guided inquiry*. New York: Teachers College Press. ISBN # 0-8077-3913-8

Rivet, A. E., & Krajcik, J. S. (2002). Contextualizing instruction: Leveraging students' prior knowledge and experiences to foster understanding of middle school science. In P. Bell, R. Stevens & T. Satwicz (Eds.), *Keeping Learning Complex: The Proceedings of the Fifth International Conference for the Learning Sciences (ICLS)*. Mahwah, NJ: Erlbaum.

Roschelle, J. M., Pea, R. D., Hoadley, C. M., Gordin, D., N., & Means, B. M. (2000). Changing how and what children learn in school with computer-based technologies. *The Future of Children*, 10(1), pp. 76-101. Retrieved from http://futureofchildren.org/futureofchildren/publications/docs/10_02_03.pdf.

Stevens, R. (2000). Who counts what as math: Emergent and assigned mathematical problems in a project-based classroom. In J. Boaler (Ed.), *Multiple perspectives on Mathematics Education*. New York: Elsevier.

Subject-area Professional Association (SPA) K-12 standards.

Wilhelm, J., & Confrey, J. (2005). Designing project-enhanced environments: Students investigate waves and sound. *Science Teacher*, 72(9), 42-45.

Wilhelm, J. (2009). A case study of three children's original interpretations of the moon's changing appearance. *School Science and Mathematics*, 109(5), p. 258-273.

Additionally, the following list reflects suggested readings that would guide the curriculum of the course.

Alberty, H. B. (1927). *A Study of the Project Method in Education*. Columbus, OH: Ohio State University Press.

Ameis, J. A. (2000). *Mathematics on the Internet*. Upper Saddle River, New Jersey: Merrill.

American Association for the Advancement of Science. (1993). *Benchmarks for science literacy*. New York: Oxford University Press.

Artzt, A. F., & Armour-Thomas, E. (2002). *Becoming a reflective mathematics teacher: A guide for observations and self-assessment*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Atkin, J. M. (1998). The OECD (Organization for Economic Cooperation and Development) study of innovations in science, math and technology education. *Journal of Curriculum Studies*, 30 (6), 647-660.
- Baroody, A. J. (1993). *Problem solving, reasoning, and communicating (K-8): Helping children think mathematically*. New York: Macmillan Publishing Company.
- Barron, B. Schwartz, D., Vye, N., Moore, A., Petrosino, A., Zech, L., & Bransford, J. (1998). Doing with understanding: Lessons from research on problem- and project-based learning. *The Journal of the Learning Sciences*, 7, 271-311. doi:10.1207/s15327809jls0703&4_2
- Blumenfeld, P.C., Soloway, E., Marx, R. W., Krajcik, J.S., Guzdial, M., and Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist*, 26, 369-398.
- Borich, G. D. (1993). *Clearly outstanding: Making each day count in your classroom*. Boston: Allyn and Bacon.
- Borich, G. D. (1992). *Effective teaching methods* (2nd ed.). New York: Macmillan Publishing Company.
- Bransford, J.; Brown, A.L.; & Cocking, R.R. (2000). *How people learn: Brain, mind, experience, and school*, Expanded Edition. Arlington: NSTA Press.
- Brown, A. L., Bransford, J. D., Ferrara, R., & Campione, J. (1983) Learning, remembering and understanding. In J. H. Flavell and E. M. Mardman (Eds.), *Handbook of child psychology: Vol 3. Cognitive development* (4th ed.), pp. 77-166. New York: Wiley.
- Bruner, J. S. (1960). On learning mathematics. *Mathematics Teacher*, 53: 610-619.
- Burns, M., & Silbey, R. (2000). *So you have to teach math? : Sound advice for K-6 teachers*. Sausalito, CA: Math Solutions Publications.
- Campbell, B. & Fulton, L. (2003). *Science notebooks: Writing about inquiry*. Arlington: NSTA Press.
- Clark, E. T. (2002). *Designing and implementing an integrated curriculum: A student-centered approach*. Brandon, VT: Holistic Education Press.
- Cobb, P., Yackel, E., & McClain, K. (2000). *Symbolizing and communicating: Perspectives on discourse, tools, and instructional design*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cohen, D. K., & Barnes, C. A. (1993). Pedagogy and policy, and conclusion: A new pedagogy for policy? In D. K. Cohen, M. W. McLaughlin & J. E. Talbert (Eds.), *Teaching for*

Understanding: Challenges for Policy and Practice, San Francisco, CA: Jossey-Bass, p. 207-275.

- Collins, A. (1996). Design issues for learning environments. In S. Vosniadou, E. De Corte, R. Glase, & H. Mandl (Eds.), *International Perspectives on the Design of Technology-supported Learning Environments*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Collins, A., Brown, J. S., & Newman, S. (1989). Cognitive apprenticeship: Teaching the craft of reading, writing, and mathematics. In L. Resnick (Ed.), *Cognition and Instruction: Issues and Agendas* (p. 453-494). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Collins, A., Greeno, J.G., & Resnick, L.B. (1994). Learning environments. In T. Husen & T.N. Postlethwaite (Eds.), *International Encyclopedia of Education* (2nd ed.), p. 3297-3302. Oxford, UK: Pergamon.
- Cuban, L. (1990). Reforming again, again, and again. *Educational Researcher*, 19 (1), pp. 3-13.
- DeBoer, G. (1990). *A history of ideas in science education*. New York: Teachers College Press.
- Dienes, Z. P. (1960). *Building up mathematics*. London: Hutchinson Educational, Ltd.
- Dewey, J. (1902). *The Child and the curriculum*. Chicago: The University of Chicago Press.
- Dewey, J. (1916). *Democracy and education*. New York: Free Press.
- Drake, S. M., & Burns, R. (2004). *Meeting standards through integrated curriculum*, ASCD, Virginia, USA.
- Duckworth, E. (1996). *The having of wonderful ideas and other essays on teaching and learning*. New York, NY: Teachers College Press.
- Duschl, R. (1991). *Restructuring science education*. New York: Teachers College Press.
- Even, R., & Tirosh, D. (2002). Teacher knowledge and understanding of students' mathematical learning. In L. English (Ed.), *Handbook of international research in mathematics education* (219-240). Mahwah, NJ: Lawrence Erlbaum Associates.
- Frankenstein, M. (1990). Incorporating race, class, and gender issues into a critical mathematical literacy curriculum. *The Journal of Negro Education*, 59 (3): 336.
- Fullan, M. G. (1993). Why teachers must become change agents. *Educational Leadership*, 50 (6), pp. 12-18.

- Good, T. L., Grouws, D. A., & Ebmeier, H. (1983). *Active mathematics teaching*. New York: Longman, Inc.
- Hatfield, M. M., Edwards, N. T., Bitter, G. G., & Morrow, J. (2000). *Mathematics methods for elementary and middle school teachers* (4th ed). New York: John Wiley and Sons, Inc.
- Heaton, R. M. (2000). *Teaching mathematics to the new standards: Relearning the dance*. Reston, VA: National Council of Teachers of Mathematics.
- Hernandez, V. M., & Brendefur, J. L. (2003). Developing authentic, integrated, standards-based mathematics curriculum: More than just an interdisciplinary collaborative approach. *Journal of Vocational Education Research*, 28(3).
- Kelly, G. J., & Chen, C. (1999). The sound of music: Constructing science as sociocultural practice through oral and written discourse. *Journal of Research in Science Teaching*, 36, 883-915. doi:10.1002/(SICI)1098-2736(199910)36:8<883::AID-TEA1>3.3.CO;2-9
- Kennedy, L. M. (2000). *Guiding children's learning in mathematics* (9th ed). Belmont, CA: Wadsworth Publishing Company.
- Knapp, M. (1995). *Teaching for meaning in high poverty classrooms*. New York: Teachers College Press.
- Koirala, H. P., & Bowman, J. K. (2003). Preparing middle level preservice teachers to integrate mathematics and science: Problems and possibilities. *School Science and Mathematics*, 103(3).
- Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*, Cambridge University Press, UK.
- Lewis, V. K., & Shaha, S. H. (2003). Maximizing learning and attitudinal gains through integrated curricula. *Education*, 123(3).
- Mitman, A., & Lambert, V. (1993). Implementing instructional reform at the middle grades: Case studies of seventeen California schools. *The Elementary School Journal*. 93(5), 495-517.
- Moore, A., Sherwood, R., Bateman, H., Bransford, J. & Goldman, S. (1996, April). Using Problem-based learning to prepare for project-based learning. *Paper presented at the annual meeting of the American Educational Research Association*, New York.
- Morris, R. M. (2003). A guide to curricular integration. *Kappa Delta Pi Record*, Summer, 2003.

- National Council of Teachers of Mathematics. *Preparing NCATE Program Reviews in Mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics. (1994). *Assessment standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics (1991). *Professional standards for teaching mathematics*. Reston, VA: NCTM.
- National Research Council (1999). *How people learn: Brain, mind, experience, and school*. National Academy Press, Washington, D.C.
- Owen, L. B. & Lamb, C. E. (1996). *Bringing the NCTM standards to life: Best practices from elementary educators*. Princeton, NJ: Eye on Education.
- Owens, D. T., Ed. (1993). *Research ideas for the classroom: Middle grade mathematics*. Reston, VA: NCTM.
- Parker, R. E. (1993). *Mathematical power*. Portsmouth, NH: Heinemann.
- Polman, J. (1996). Guiding expeditions: The iterative, situated design of a learning environment for project-based science. In D. C. Edelson & E. A. Domeshek (Eds.) *Proceedings of the International Conference on the Learning Sciences*, (pp. 585-586). Doctoral Consortium conducted at ICLS 96. Charlottesville, VA: AACE.
- Resnick, L. B., Bill, V.L., Lesgold, S. B., & Leer, M. N. (1991). Thinking in arithmetic class. In B. Means, C. Chelemer & M.S. Knapp (Eds.), *Teaching Advanced Skills to At-Risk Students*, pp. 27-53. San Francisco: Jossey-Bass.
- Reys, R. E., Suydam, M. N, Smith, N. L., Lindquist, M. M, & Helland, F. (1999). *Helping children learn mathematics* (5th ed). Boston: Allyn and Bacon.
- Roth, W-M. (1993). Construction sites: Science labs and classroom. In K. Tobin (Ed.), *The Practice of Constructivism in Science Education* (pp. 145-170). Cambridge, MA: AAAS Press.
- Rousseau, J.J. (1957). *Emile*. London, England: J.M Dent & Sons Ltd.
- Rowan, T. & Bourne, B. (1994). *Thinking like mathematicians*. Portsmouth, NH: Heinemann.

- Ruopp, R., Gal, S. Drayton, B., & Pfister, M. (1993). *LabNet: Toward a community of practice*. Hillsdale, NJ: Erlbaum Publishers,
- Schwab (1960). *The Practical: translation into curriculum*. Ian Westbury and Neil Wilkof (Eds.) *Science, Curriculum and Liberal Education*. Chicago: University of Chicago press.
- Sheffield, L. J. and Cruikshank, D. E. (2000). *Teaching and learning elementary and middle school mathematics*. NewYork: John Wiley and Sons.
- Sprague, M., Pennell, D., & Sulzberger, L. (1998). Engaging all middle level learners in multi-disciplinary curricula. *NASSP Bulletin*, 82(602).
- Stenmark, J. K., ed. (1991). *Mathematics assessment*. Reston, VA: NCTM.
- Stormzand, M. (1924). *Progressive methods in teaching*. Boston: Houghton Mifflin.
- Stein, M. K., Smith, M. S., Henningsen, M. A., & Silver, E. A. (2000). *Implementing standards-based mathematics instruction: A casebook for professional development*. Reston, VA: NCTM..
- Thompson, V. & Mayfield-Ingram, K. (1998). *Family math*. Berkeley, CA: Lawrence Hall of Science.
- Tobias, S. (1993). *Overcoming math anxiety*. New York: W. W. Norton.
- Tucker, B. F., Singleton, A. H., & Weaver, T. L. (2002). *Teaching mathematics to all children: Designing and adapting instruction to meet the needs of diverse learners*. Upper Saddle River, NJ: Merrill Prentice Hall.
- Van de Walle, J. A. (2001). *Elementary and middle school mathematics: Teaching developmentally* (4th ed.). White Plains, NY: Addison Wesley Longman Publishing, Inc.
- Welchman-Tischler, R. (1992). *Start with manipulatives*. White Plains, NY: Cuisenaire Company of America.
- Whitin, P., & Whitin, D. J. (2000). *Math is language too: Talking and writing in the mathematics classroom*. Urbana, IL: National Council of Teachers of English, & Reston, VA: NCTM.
- Wicklein, R. S., & Schell, J. W. (1995). Case studies of multidisciplinary approaches to integrating mathematics, science and technology education. *Journal of Technology Education*, 6(2).
- Wiggins, G. & McTighe, J. (2001). *Understanding by design*. Prentice-Hall, Inc.: Upper Saddle River, New Jersey.

Wilcox, S. K., & Lanier, P. E. (2000). *Using assessment to reshape mathematic teaching: A casebook for teachers and teacher educators, curriculum and staff development specialists*. Mahwah, NJ: Lawrence Erlbaum Associates.

Zemelman, S., Daniels, H., and Hyde, A. (1998). *Best practice: New standards for teaching and learning in America's schools*, 2nd edition. Portsmouth, NH: Heinemann Publishing.

UNIVERSITY OF KENTUCKY COLLEGE OF EDUCATION

EDC 520 Assessment and Accountability in Middle Level Education
Spring 2014

"Research and Reflection for Learning and Leading"

Instructor	Dr. Margaret Rintamaa
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Location	
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Number	
Email	Margaret.Rintamaa@uky.edu
Office Hours	By appointment
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Requirements	facilities.
For	Contact TASC at http://www.uky.edu/TASC or call 859.257.8272
Technological	Contact Information Technology Customer Service Center
assistance	http://www.uky.edu/UKIT or 859.257.1300
Technical	Contact the College of Education Instructional Technology Center
Complaints	at 859.257.7967 or contact Information Technology Customer Service Center http://www.uky.edu/UKIT or 859.257.1300
Preferred	email
method for	
contacting	
instructor	
Anticipated	24 hours
Response	
Time	
Face-to-Face	Sarah Vaughn, Education Librarian
Librarian	sarah.vaughn@uky.edu 859.257.7977
Face-to-Face	http://libguides.uky.edu/educ
Interlibrary	
Loan Service	

Course Description:

This capstone course is designed to be taken during the student teaching experience and is taught via an online modality. The purpose of the course is to investigate and document teaching effectiveness. Candidates design an integrated unit of study, pre and post test student learning, analyze learning gains drawing on formative and

summative measures, and make modifications and accommodations based on the results.

Prerequisite: Admission to teacher education.

Clinical Experience: This course is taken alongside student teaching. Students are in middle level classrooms full-time, Monday through Friday, for 16 weeks.

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 middle 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:

The general goal of the practicum course is to strengthen teachers' understanding of the relationship among assessment, teaching effectiveness and learning. Specifically, this course focuses on student growth in developing assessments and using the assessments to drive instructional decision-making. In keeping with the college's theme of *Research and Reflection for Learning and Leading*, particular attention is given to translating relevant research and theory into classroom practice and to reflecting upon and understanding how a teacher's instructional assessments affect student behavior and learning.

These learning targets are aligned with Senate Bill 1 expectations including, Kentucky Academic Core 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)
After completing this course, the student will be able to:	
Develop formal and informal assessment strategies for use in a middle school classroom	Assessment Folder (Formative) Discussion board participation (Formative) Teacher Work Sample (Summative)
Use pre-assessment data to develop learning outcomes and activities	Assessment Folder (Formative) Discussion board participation (Formative) Teacher Work Sample (Summative)
Use formative data to make adjustments during a unit of instruction	Assessment Folder (Formative) Discussion board participation (Formative) Teacher Work Sample (Summative)
Use summative data to analyze student learning for individuals and groups	Teacher Work Sample (Summative)
Communicate learning results with constituents	Discussion board participation (Formative)

Course Delivery

This course is designed as a hybrid class. We will meet face-to-face twice during the semester, once at the start, and once at the end. The remainder of the course will be online, with readings and presentations presented through Blackboard.

Senate Bill 1 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, 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 middle school students in Kentucky schools, they will address one or more components of the Senate Bill 1 initiatives.

Course readings and assessments have been selected and arranged in compliance with policies set forth by Senate Bill 1 (March 2009), 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.

Required Texts:

1. Stiggins, R., Arter, J., Chappuis, J., & Chappuis, S. (2011). *Classroom assessment for student learning: Doing it right-- Using it well*. Portland, OR: Educational Testing Service.
2. Other course readings will be provided by the instructor and placed on Blackboard.

Kentucky Teacher Standards:

Standard 1: The teacher demonstrates applied content knowledge

Standard 2: The teacher designs and plans instructions

Standard 3: The teacher creates and maintains learning climate

Standard 4: Implements and manages instruction Standard 5:

Assesses and communicates learning results Standard 6:

Demonstrates implementation of technology Standard 7:

Reflects and evaluates teaching and learning Standard 8:

Collaborates with parents, colleagues, and others

Standard 9: Evaluates teaching and implements professional development

Standard 10: Provides leadership within school/community/profession

Description of Course Activities and Assignments

This clinically-based course serves as a capstone experience in the Middle Level Teacher Education Program. It provides support during the student teaching experience for the collection and analysis of data used to document teaching effectiveness. The Teacher Work Sample will be used as final documentation of attention of all ten Kentucky's Teacher Standards. During the semester, candidates are placed full-time in a middle school setting. The critical task for the internship is the compiled Teacher Work Sample.

Projects/Assignments for EDC 520:

Task	Points	Due date	Standards Alignment
Online discussion prompts	60 pts.	ongoing	All ten Kentucky Teacher Standards
Teacher Work Sample	100 pts.	Due May 5th	All ten Kentucky Teacher Standards
Assessment Folder	60 pts.	ongoing	All ten Kentucky Teacher Standards
Exhibition	40 pts.	Due May 5th	All ten Kentucky Teacher Standards

Summary Description of Course Assignments

- 1. Course readings and responses to Online Discussion prompts (60 points)** – see course schedule for assigned readings and due dates for discussion prompts. You are required to participate online in five online discussion prompts during the semester. These online discussion prompts will focus on the assigned readings and the progress and reflection of the development of your Teacher Work Sample. See online discussion prompt rubric on page 12.
- 2. Teacher Work Sample (100 points)**- The Teacher Work Sample, a major source of evidence, is an integrated unit demonstrating planning, instruction, assessment, and reflection. You will design the unit and have the opportunity to implement your work sample during your field placement. Your work sample must include the following components: a site description, rationale, goals and objectives, five consecutive lesson plans, pre/post assessment, bibliography and appendices. Additional sections on analysis and interpretation of student learning gains and a final reflective essay will also be included. The work sample will be compiled and uploaded to OTIS. See further description and scoring rubric on pp. 13-14.
- 3. Assessment Folder (60 points)** – You are required to contribute to a class assessment folder housed on Blackboard. You will accumulate assessment tasks with annotation in the assessment folder that will be able to be shared and utilized by the rest of the class. Pieces from the assessment folder will also be utilized for the class discussion board. You may choose to include examples while responding to the online discussion prompts.
- 4. Exhibition (40 points)**- Final Teacher Work Samples will be disseminated and presented publically and then archived for the MLTE Program's electronic database.

Graduate Credit (100 points): If this course is taken for graduate credit, in addition to all other assignments, graduate candidates must include a thorough review of the literature on assessment, both in literacy and their content area disciplines. Additionally, students must submit a comprehensive bibliography as part of the final work sample. The scoring rubric for the review of literature and bibliography will be co-constructed with students.

Course Grading

Grading scale and point distribution for undergraduates:

234-260 points: 90–100% = A

208-233 points: 80-89% = B

182-207 points: 70-79% = C

156-181 points: 60-69% = D

0-155 points: 59-below = E

Grading scale and point distribution for graduates:

331-360 points: 92–100% = A

295-330 points: 82-91% = B

252-294 points: 70-81% = C

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

Course Policies:

Submission of Assignments:

Assignments will be submitted electronically via Blackboard, email, and in OTIS.

Attendance Policy for Clinical Hours

Excused Absences:

Students need to notify the university supervisor and cooperating teacher of absences prior to being absent 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 must notify the instructor of their absence prior to the absence or within **one week** after the absence. Students must submit any written documentation supporting their excused absence within **one week** after the absence.

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. Students must provide documentation for absences within one week of the absence.

Participation and Professionalism:

The Middle School Teacher 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.

Middle Level Teacher Education Program Dispositions

There are specific dispositions for the Middle Level Teacher Education Program. 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. The Middle Level Teacher Education Program Dispositions are:

Beliefs about Teaching:

Believes complexities of adolescence require use of multiple teaching strategies
Accepts responsibility for teaching all students
Understands that good teaching is demonstrated in documented learning gains
Conveys accurate information

Communication Skills:

Listens and speaks at appropriate times
Demonstrates appropriate non-verbal behavior
Communicates across multiple perspectives
Gives appropriate feedback to others
Asks thoughtful and respectful questions
Writes effectively

Responsibility for Learning:

Accepts responsibility; does not shift blame to others
Displays initiative and seeks ways to help
Conscientious; attends; meets all responsibilities
Is academically honest
Does not plagiarize or misrepresent work

Problem-Solving Skills:

Can self assess/self correct
Demonstrates analytical thinking
Recognizes and defines problems
Is open to new perspectives

Personal Characteristics:

Displays self-confidence and enthusiasm
Is honest, tactful, and diplomatic
Recognizes own biases and changes behavior
Accepts criticism, and is punctual and reliable

Stress Management:

Meets deadlines and commitments
Recognizes sources of own stress
Demonstrates effective coping skills

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 (e.g. Turnitin.com) to check for plagiarism.

Accommodations due to disability:

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.

Distance Learning Policies

It is expected that most students have access to personal computers in order to access course materials. In the event that an enrolled student has technical problems with access or does not have access, we will provide support through the resources of the College of Education.

Help with Delivery and/or Receipt of the Course

The following UK resources are available for any questions or technical problems that may arise.

Teaching and Academic Support Center: <http://www.uky.edu/TASC/index.php>

859.257.8272

Information Technology Customer Service Center: <http://www.uky.edu/UKIT>

859.257.1300

Policies Regarding Distance Learning

We all appreciate the flexibility afforded via distance classes and at the same time acknowledge that technology can sometimes fail or be frustrating to work with. Should you encounter difficulties relating to any aspect of the technological delivery of this contact, simply email or phone the instructor and he/she will work with you and UKIT to resolve problems.

Your instructor will respond to all communications regarding your course within 24 hours Monday through Friday and no later than 5PM on Monday for weekend communications.

Information on Distance Learning Library Services

Information on library services for distance learning can be found at <http://www.uky.edu/Libraries/DLLS>

The Distance Librarian is Carla Cantagallo and she can be reached at 859.257.0500 ext. 2171 or long distance 1.800.828.0439 (option 6). Email her at : dllservice@uky.edu

The URL for Distance Learning Interlibrary Loan services is:

http://www.uky.edu/Libraries/libpage.php?lweb_id=253&lib_id=16

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EDC 520 *Tentative* Course Schedule and Outline

Date	Topics	Readings/Assignments
January 27	Introduction Syllabus/Course Expectations Pre-assessment	
February 3	Theory Assessment <i>for</i> and <i>of</i> learning Principles of Assessment	Chapters 1,2
February 10	Communicating progress to students and parents/guardians Standards-based report cards	Chapter 12 Discussion Prompt #1 due
February 17	Item construction and scoring: Selected response Constructed response Restricted response Extended response	Chapters 5, 6, 7 & 8 Item construction module on Bb
February 24	Creating Rubrics	Creating rubrics module on Bb Assessment Folder check Discussion Prompt #2 due
March 3	Test administration and analyses Validity and reliability Test bias	Articles in Bb
March 10	Performance and Portfolio Assessments	Chapter 11 Discussion Prompt #3 due
March 17	Grading The purposes of grading Measures of central tendency Weighting	Chapters 9 & 10 Grading module in Bb
March 24	Standardized tests and score reports Achievement tests Aptitude tests	Standardized tests module in Bb Discussion Prompt #4 due
March 31	Spring Break	
April 7	Assessment and exceptional learners	Module in Bb
April 14	School-wide assessments	Assessment Folder check Discussion Prompt #5 due
April 21	Writing Day	
April 28	Last class – celebration of learning Class and self evaluations	Teacher Work Sample due by May 5th

This schedule is subject to change with prior communication to students.

Online Discussion Prompt Rubric

You will be responsible for participating in online discussion boards. These online discussion prompts will focus on the assigned readings and the progress and reflection of the development of your Teacher Work Sample. Each post is worth 12 points, for a total of 60 points over the course of the semester. Students are encouraged particularly to respond to other student's posts and add resources that can be shared.

Criteria	Outstanding (3 pts)	Satisfactory (2 pts)	Needs Improvement (1 pt)
Content	Discussed thoughtfully and with insight; Key issues from the prompt are identified and answered Clear discussion with no digressions.	Discussed at surface level; Key issues from the prompt are identified but not all are answered; Clear discussion most of the time.	Difficult to follow; Key issues from the prompt are not identified or answered.
Context	Posted by the assigned due date; Few or no stylistic errors; Organized with direct & clear communication.	Posted by the assigned due date; Several stylistic errors; Weak organization, not always direct & clear communication.	Posted late; Many stylistic errors: Not organized, no direct & clear communication.
Extensions	Resources that extend the discussion are added.	Resource that extends the discussion is added.	No Resource added
Community response	Two peer responses indicating understanding of the other author's comments.	1 peer response indicating understanding of the other author's comments.	No peer response.

EDC 520: The Teacher Work Sample (TWS)

A major component of this semester is the work sample that you will design and implement in your field placement. These descriptors will let you know how to construct the sample.

I. Organization and Presentation

The work sample should be well organized, and easy to navigate. You should plan to put everything in a 3-ring binder for ease of presentation. Please don't put individual pages in plastic sleeves, and please use dividers (post-it notes are fine) to make it easier to see each section. The TWS should be typed and have a minimum of grammatical errors. These pieces should be included:

- Cover page with your name, title of the unit, school and grade level, and dates taught.
- Table of contents;
- Rationale for unit including goals;
- Five lesson plans (that include any materials used in the lesson);
- Pre and post assessment items;
- Interpretative description of the assessment data;
- Bibliography (if needed).

2. Rationale

Discuss why the unit is significant generally, and then specifically for these students. Discuss how the overall goals for the unit are aligned with the Standards.

3. Lesson Plans

You are required to create five consecutive lessons. The lesson plans need to follow the KTIP lesson plan format. This can be found at: <http://www.kyepsb.net/internships/ktiiptemplates.asp> Each part of the KTIP template should be complete. Be sure to list accommodations and extensions you will need to make for specific students. Be sure that your procedures are detailed. Also, your assessment and your lesson activities need to align (or match up with) your objectives. Be sure that you are shifting activities and strategies frequently, moving between individual and group work. Include any materials immediately after the lesson (i.e. a worksheet used, etc.)

4. Assessment - Pre and Post Test Assessment

The work sample needs to include pre and post assessment items that align to the goals and objectives. The pre and post assessment should be identical. In the assessment you should use a variety of assessment items. The post assessment will be your summative assessment. You should also have formative assessments with each lesson to assess student's learning for the objectives for the day.

5. Data Interpretation/Reflection

Show the analysis of the data, first by showing (in a table) the learning gains for the students. Second, cluster the data (as you did previously), and look for patterns in the data. Finally, look at the post-test data to see how students performed as a group on each item. Discuss any item that a majority of students missed on the post.

Generally you want to answer the question "what does my assessment data show about the student learning that occurred?" Tell me any changes you would make next time if doing this again. Also, based on the data results, briefly discuss the next instructional steps you will make.

EDC 520 Teacher Work Sample Analytic Trait Scoring Guide

1. Organization and Presentation (10)
 - a. Typed and neat, well organized, includes cover page, table of contents, rationale and goals, 5 lesson plans, pre and posttests, data analysis and interpretation essay.
2. Rationale (10)
 - a. Why this unit is important to teach, and how it aligns with the standards.
 - b. Goals for the unit are listed and connected to the Standards.
3. Lesson Plans (50)
 - a. Lessons are in KTIP lesson plan format, procedures are detailed and specific. Assessment is clearly tied to objectives. Materials for the lesson are attached with the lesson.
4. Pre and post assessments (5)
 - a. Blank pre and post assessments are included, and are either identical or closely matched. Assessment is aligned to objectives.
5. Data analysis and interpretative essay (25)
 - a. Two data analyses are included: student learning gains data grouped into clusters, and test item data for the class. Interpretative essay includes what the data told you (for both analyses), an analysis of how specific clusters or students did and how you interpret that, and a final reflection of what you might change for the next time and why. briefly discuss the next instructional steps you will make.

Overall score: _____

Brothers, Sheila C

From: Schroeder, Margaret <m.mohr@uky.edu>
Sent: Tuesday, November 10, 2015 1:56 PM
To: Brothers, Sheila C; Hippisley, Andrew R
Subject: Fwd: Proposed New Graduate Certificate: General Radiological Medical Physics
Attachments: Certificate_Proposal-Revision-October2015.pdf

Proposed New Graduate Certificate: General Radiological Medical Physics

This is a recommendation that the University Senate approve the establishment of a new Graduate Certificate: General Radiological Medical Physics, in the Department of Radiation Medicine within the College of Medicine.

The revised proposal is attached.

Best-

Margaret

Margaret J. Mohr-Schroeder, PhD | Associate Professor of STEM Education | [COE Faculty Council Chair](#) | [SAPC University Senate Committee Chair](#) | [University Senator](#) | Secondary Mathematics Program Co-Chair | [STEM PLUS Program Co-Chair](#) | [Department of STEM Education](#) | [University of Kentucky](#) | www.margaretmohrschroeder.com



APR 10 2015

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Vice President for Clinical
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MEMORANDUM

TO: Susan Carvalho, Ph.D.
Associate Provost and Interim Dean

FROM: Frederick C. de Beer, M.D.
Dean, College of Medicine
Vice President for Clinical Academic Affairs

Marcus E. Randall, MD, FACR, FASTRO
Professor and Chair, Department of Radiation Medicine

DATE: November 4, 2014

SUBJECT: Graduate Certificate in General Radiological Medical Physics

I am pleased to offer my support to the effort of the Radiation Sciences division in the Department of Radiation Medicine to create a Graduate Certificate in General Radiological Medical Physics. Given the new ABR requirements for certification of what is known as "Alternative Pathway" Medical Physicists, Ph.D.s from other closely related fields such as Physics or Engineering will need to document the completion of a basic core curriculum in Radiological Medical Physics to become eligible for the certification process. There are limited opportunities for these potential outside candidates to obtain this curriculum. Our existing graduate program in Radiological Medical Physics is well-positioned to offer such a curriculum. The necessary courses and staff are existing infrastructure within the Division of Radiation Sciences and the establishment of this Graduate Certificate will not require any additional resources. This proposal is proceeding in conjunction with an effort by the division of Radiation Sciences to obtain accreditation of this curriculum by the Committee on Accreditation of Medical Physics Education Programs (CAMPEP) as a General Radiological Medical Physics certificate.

University of Kentucky College of Medicine
Division of Radiation Sciences in the Department of Radiation Medicine
November 24, 2014

Proposal for a Graduate Certificate In General Radiological Medical Physics

I. Background and Rationale

The field of Radiological Medical Physics is the study of the use of radiation to diagnose and treat human diseases and is a relative newcomer in medically-related scientific disciplines. The first “Radiological Physics” practitioners were trained in the basic sciences, typically physics. Dedicated Radiological Medical Physics education programs are a recent phenomenon. These programs strive to combine the scientific and medical aspects of the field but they remain small and few in number. To help meet the demand for workers in Radiological Medical Physics, it has been common over the past 40 years to accept persons with closely related scientific backgrounds into the field and provide them with on-the-job training. Even today, a large fraction of practicing Radiological Medical Physicists have degrees in fields other than Radiological Medical Physics. Many of these are leaders in the field and their contributions have been and will remain very important. Their work experience has traditionally provided the pathway into certification for these Radiological Medical Physicists. However, given the recent changes adopted by the Medical Physics education community, these potential outside candidates must document completion of a basic core curriculum in Radiological Medical Physics in addition to a Ph.D. degree received in a closely related discipline in order to qualify for certification by the American Board of Radiology (ABR) in Radiological Physics.

Certification by the ABR in Radiological Physics is imperative for the continued employment of clinical Radiological Medical Physicists in the US. The current process for Radiological Medical Physics certification by the ABR requires the successful completion of three steps. Parts 1 and 2 are written exams and successful completion of these first two parts is followed by a Part 3 oral exam. Candidates are eligible to take the Part I written exam upon entering a Medical Physics education program that is accredited by the Committee on Accreditation of Medical Physics Education Programs (CAMPEP). The types of educational programs included in this requirement are MS or PhD Graduate programs, DMP programs, Certificate programs, or Medical Physics Residency programs. Eligibility for Part 2 requires graduation from a CAMPEP accredited Medical Physics Residency. Part 3 then follows a successful completion of Part 2.

An alternative pathway into the certification process is allowed for PhDs from closely related, non-Medical Physics backgrounds. These candidates can become eligible for accredited Medical Physics Residencies given documented evidence of completion of a core Radiological Physics curriculum. This curriculum can be obtained from any Medical Physics

graduate program or from an institution offering a Radiological Medical Physics Certificate program, either of which is accredited by CAMPEP. The required curriculum is outlined in The American Association of Physicists in Medicine (AAPM) report 197S. Since Radiological Medical Physics programs or courses are uncommon, most graduates from traditional physics or other scientific programs wanting to enter Radiological Medical Physics through the alternative pathway will not have had the opportunity to complete the required core coursework. Unless provided with an opportunity to complete this core curriculum, these outside candidates would be effectively barred from competing for Radiological Medical Physics residencies.

The Radiological Medical Physics program at the University of Kentucky is a logical choice to offer this core curriculum given the course structure currently in place. Ours is one of the oldest programs of its kind and has been in existence for more than 40 years. We are currently providing the core curriculum in Radiological Medical Physics as defined by AAPM Report 197S as part of our CAMPEP accredited MS degree program. Therefore, we are well-positioned to offer a core curriculum training certificate for those persons from other backgrounds needing such coursework but not needing another graduate degree. It is a valuable service we could provide for the Radiological Medical Physics community and it could be implemented immediately and without the need for any additional resources.

II. The Radiological Medical Physics Program at UK

The Radiological Medical Physics MS degree program is administered in the Division of Radiation Sciences and is accredited by CAMPEP. Radiation Sciences is a unit of the Department of Radiation Medicine in the College of Medicine. This program has existed within the University of Kentucky for over 40 years and has a well-established reputation for training clinically oriented medical physicists. The current Radiation Sciences Division is administered by Janelle Molloy, Ph.D, Director and E. Lee Johnson, Director of Graduate Studies. J. Molloy would be the proposed director of the Graduate Certificate program. The Radiation Sciences division currently has 6 members on the Graduate Faculty and two other faculty members in the College of Medicine, which contribute to the instructional components of the program. We believe the infrastructure is in place to successfully incorporate a Graduate Certificate Curriculum within the Division of Radiation Sciences that meets the requirements of the Graduate School and the University of Kentucky.

III. The Proposed Graduate Certificate Curriculum

Certificate Director: Janelle Molloy, Ph.D is the proposed certificate director. Dr. Molloy is currently the Division Director of Radiation Sciences, the Director of Medical Physics in the Department of Radiation Medicine in the College of Medicine, and a member of the graduate faculty.

Graduate Faculty of Record: Graduate Faculty of Record are the graduate faculty in the Radiation Sciences Division. They include the following members:

Dennis Cheek, Ph.D., DABR
 Janelle Molloy, Ph.D., DABR, FAAPM
 Peter Hardy, Ph.D., DABMP
 Lee Johnson, Ph.D., DABR
 Wei Luo, Ph.D., DABR
 Travis Painter, MS, DABR
 Jie Zhang, Ph.D., DABR
 William St. Clair, MD, Ph.D
 Mahesh Kudrimoti, MD

If a graduate faculty member leaves the graduate faculty of record, the remaining graduate faculty of record will meet together to elect a replacement.

Certificate Prerequisites: The following courses are preferred to be prerequisites for the certificate but may be taken concurrently upon approval of the certificate director. Suitable equivalents may be substituted.

Course Listing	Course Name	Credit Hours
ANA 209	Human Anatomy	(3)
PGY 206	Human Physiology	(3)
RM/PHY 472G	Interactions of Radiation with Matter	(3)

Certificate Curriculum: The core Radiological Medical Physics curriculum topics to be addressed in our proposed certificate curriculum, as outlined in the AAPM report No. 197S, are as follows: 1) Radiation Physics and Dosimetry, 2) Radiation Safety and Protection, 3) Fundamentals of Medical Imaging, 4) Radiobiology, and 5) Radiation Therapy Physics. Note that Anatomy and Physiology are also required topics but are taught outside the Radiation Sciences division. These topics, therefore, will be listed as prerequisites and are considered outside the scope of this proposed certificate. Based on the current course structure in the Radiological Medical Physics MS program in the Division of Radiation Sciences, the required core topics would be covered in the following offerings:

Course Listing	Course Name	Credit Hours
RAS/RM 545	Radiation Protection and Radiation Safety	(3)
RAS/RM 546	General Medical Physics	(3)
RAS/RM 647	Physics of Diagnostic Imaging I	(3)
RAS/RM 649	Radiation Therapy Physics	(3)
RAS/RM 601	Advanced Radiation Dosimetry	(2)
RM/BIO 740	Mammalian Radiation Biology	(2)
		Total Credits:16

As outlined above, the proposed certificate curriculum would require the completion of these 16 credit hours. Under the current course schedule, RAS/RM 546 and RM/BIO 740 are taught every fall semester and RAS/RM 545, RAS/RM 601, RAS/RM 647, and RAS/RM 649 are taught every spring. Participants would be expected to complete the certificate program within a 5 year period and maintain a minimum 3.0 GPA. However, a highly-motivated student could complete the requirements in one year given that the proposed course outline is a subset of the courses taken in the first year by students in the MS Graduate program. Even at slower rate of one course per semester, participants could complete the certificate in the reasonable time of 3.5 years.

IV. Requirements for Admission

The working premise is that participants in this certificate curriculum would not need to obtain a degree from the Radiation Sciences division and would not be admitted into the MS Radiological Physics program upon completion of the certificate curriculum. Admission requirements would be as follows:

1. Applicants must satisfy the minimum requirements of the Graduate School for admission to a Graduate Certificate. These are the same requirements applied to applicants seeking Post Baccalaureate status.
2. Applications for the General Radiological Medical Physics Graduate Certificate must be submitted in accordance with the procedures of the Graduate School.
3. Applicants must satisfy one of the following conditions: a) Have successfully completed ANA 209 Human Anatomy (3), PGY 206 Human Physiology (3), and RM/PHY 472G Interactions of Radiation with Matter (3) or their equivalents; or b) Take these courses concurrently with the General Radiological Medical Physics Graduate Certificate. Fulfillment of this requirement is as determined and/or approved by the certificate director.
4. Applicants to the General Radiological Medical Physics Certificate must meet one of the following conditions: a) Be concurrently enrolled in a Ph.D. graduate degree program in Physics, Engineering, or other closely related scientific program at an accredited University; or b) Have previously earned a Ph.D. graduate degree in Physics, Engineering, or other closely related scientific program from an accredited University.
5. Acceptance in the General Radiological Medical Physics Graduate Certificate is at the discretion of the certificate director and is based, in part, on the candidates past academic history. The certificate director may request additional information be provided by the applicant to aid in the evaluation process.

V. Requirements for Completion of the Certificate

Requirements for the completion of the General Radiological Medical Physics Graduate Certificate are as follows:

1. Completion of the 3 prerequisite courses.
2. Completion of all required certificate coursework.
3. Maintenance of a 3.0 GPA as determined from all certificate curriculum coursework.
4. Completion of all required courses within 5 years of admission.

Upon successful completion of the above outlined requirements, the Director shall complete and submit a Graduate Certificate Completion Form to the Dean of the Graduate School.

1. Introduction

1.1. Program Goal:

It is the goal of the certificate to prepare “Alternative Pathway” PhD candidates from other programs, such as Physics or Engineering, to become eligible for CAMPEP accredited Medical Physics Residency programs. The certificate will document the basic Radiological Medical Physics curriculum required for a Medical Physics residency has been met. This curriculum is designed to assure the candidate has achieved basic proficiency in theory and practice in Radiological Medical Physics. We propose to use the RAPHEX exam as the metric by which to measure progress through the certificate curriculum.

1.2. Basic Assessment Approach

Students will be assessed for learning outcomes by select program faculty or graduate committees. Student scores and evaluations will be compiled at the direction of the Program Director who, along with appropriate program faculty, will use the statistics for program review as outlined below. Recommendations on program improvement will be formulated based on the program review and taken to the full faculty for discussion and implementation. This report, including recommendations, then goes to the Office of University Assessment, where it will be evaluated by the University Assessment Council (UAC) and then the UAC liaison will facilitate communication between UAC and the M.S/Ph.D. program faculty, as appropriate.

2. Assessment Oversight, Resources

- 2.1. College Learning Outcomes Assessment Coordinator – Lana Spicer & Dr. Terry Stratton
- 2.2. Unit Assessment Coordinator – Dr. Janelle Molloy

3. Program-Level Learning Outcomes

- 3.1. Knowledge: The student demonstrates the ability to recall factual information such as physical constants, definitions, patient specific doses, radioactive decay properties, dose calculation methodologies, imaging components, and types of radiological physics equipment. The Essential Didactic Elements for Alternative Pathway candidates are:
 - 3.1.1. Radiological Physics and Dosimetry
 - 3.1.2. Radiation Protection and Radiation Safety
 - 3.1.3. Fundamentals of Imaging in Medicine
 - 3.1.4. Radiobiology
 - 3.1.5. Radiation Therapy Physics
- 3.2. Comprehension: The student demonstrates comprehension of complex concepts and ideas by the application of analytical and problem solving skills.

4. Curriculum Map

Learning outcome	RAS546 <i>Intro to Med Radiological Physics,</i>	RAS 647 <i>Physics of Diagnostic Imaging I</i>	RM 601 Advance <i>Radiation Dosimetry</i>	RAS545 <i>Radiation Hazards and Protection</i>
	RM740 Mammalian <i>Radiation Biology</i>	RAS 649 <i>Physics of Radiation Therapy</i>		
Demonstrate a mastery of the fundamental principles of Medical Physics	I	I,R	I,R,E	I,R,E
Demonstrate comprehension by pulling together concepts in solving complex problems.	I	I,R	I,R,E	I,R,E

I- outcome introduced
 R- outcome reinforced
 E- outcome emphasized
 A- outcome applied

5. Assessment Methods and Measures (Formative and Summative recommended)

5.1. Direct Methods

5.1.1. RAPHEX Exam

5.1.1.1. RAPHEX is a yearly practice exam written by the New York chapter of the American Association of Physicists in Medicine (AAPM) intended to help residents in Radiation Medicine prepare for board exams. National participation is approximately 300 per year. The proctored exam is administered locally but scored and analyzed by Medical Physics Publishing. Therefore, we consider the exam to be an unbiased estimator of Radiological Medical Physics knowledge and understanding. RAPHEX sample questions are shown below.

5.1.1.2. Our plan is to administer the exam at three different time points. The first (P1) being in the Fall upon entry into our certificate curriculum, the second (P2) will occur after completion of at least 1/2 of the required credit hours, and finally at the completion of the certificate (P3). We propose to use credit hours completed for the determination of the test points due to the fact that the rate of progress through the certificate coursework will likely vary among individuals enrolled in the certificate.

5.1.1.3. We plan to collect the national percentile ranking as reported by Medical Physics Publishing for each student at each time point. Our benchmarks will be time point specific. For P1, we low scores. This is reasonable since students will, in all likelihood, not have any significant previous exposure to Radiological Medical Physics. Scores in the bottom 10th percentile are realistic. For P2, our target is elevation for all student scores into range between the 10th and 30th percentile. Scores above the 30th percentile are expected for the final testing period, P3. These expectations are lower but in line with those of our MS students.

5.1.1.4. Student progress will be monitored by the certificate director and exams will be scheduled when required. The certificate director will collect and analyze the test scores and document student progress.

5.2. Benchmarks/Goals are determined through the assessment process of the Master's Degree program.

6. Assessment Cycle and Data Analysis

6.1 Assessment of the Graduate Certificate will be housed within the Master of Radiation Medicine for reporting purposes. This will meet SACSCOC and University Assessment Council (UAC) annual and cyclical reporting requirements.

6.1.1. Reports are due to the University Assessment Council every October 31st for the previous Academic Year (i.e., the 2015-2016 Academic Year is reported on October 31st, 2016).

6.2. Data Analysis Process/Procedures

Data will be collected and compiled by faculty and provided to the unit coordinator/DGS. The data will be analyzed by two or more individuals, where improvement actions will be sought for the program. The final results and suggested improvement actions will be discussed at a faculty meeting, where a timeline for improvement implementation and any other suggestions can be discussed.

7. Teaching Effectiveness

7.1. The University of Kentucky administered Teacher Course Evaluation (TCE) process will be used by all instructors to permit evaluation of teaching effectiveness by their students each semester. The Department Chair will review, for each program instructor, several informational items (the TCE results, teaching portfolio, teaching philosophy, pedagogical style and relevant supplemental information such as voluntary mid-course evaluations or peer review assessments) and provide feedback to the instructor. This will occur near the end of even numbered calendar years for tenured teaching faculty and every year for non-tenured instructors).

8. What are the plans to evaluate students' post-graduate success?

- 8.1. Initial residency placement records will serve as an indication of initial post-graduate performance. This is to be supplemented by anecdotal evidence indicating successful completion of the residency and ultimately certificate by the American Board of Radiology. Further opportunities will be explored by the Radiation Medicine and Radiology Graduate Program Committee.

9. Appendices

9.1. Sample RAPHEX Questions

therapy questions

- ✓ T1. Beta-plus decay has a _____ energy distribution because the energy is shared between the _____.
- A. Discrete beta-plus particle and the recoil nucleus.
 - B. Continuous beta-plus particle, antineutrino, and recoil nucleus.
 - C. Continuous beta-plus particle, neutrino, and recoil nucleus.
 - D. Discrete beta-plus particle, anti-neutrino, and recoil nucleus.
- ✓ T2. Listed below are some elements and their atomic numbers (Z). ^{60}Co decays via beta-minus decay to which of the following isotopes?
- | Element | Z |
|---------|----|
| Fe | 26 |
| Co | 27 |
| Ni | 28 |
| Cu | 29 |
- A. ^{59}Fe
 - B. ^{59}Co
 - C. ^{60}Ni
 - D. ^{60}Cu
- ✓ T3. It is determined that 60 ^{125}I seeds, of a specified activity, are needed for an implant. The case is then postponed for 10 days. How many of these same seeds would you need to implant on the new date? (Half-life of ^{125}I = 60 days.)
- A. 60
 - B. 67
 - C. 70
 - D. 77
- ✓ T4. A novel isotope with a half-life of 15 days was used for a permanent seed implant. Total dose will be 100 Gy. When the patient returns for further evaluation 30 days post-implant, what dose has he already received?
- A. 75 Gy
 - B. 78 Gy
 - C. 83 Gy
 - D. 90 Gy
- ✓ T5. A diagnostic x-ray tube is running at 80 kVp and 10 mAs. The settings are changed to 120 kVp and 5 mAs. What is the *approximate* change in tube output?
- A. Does not change
 - B. Decreases by 50%
 - C. Increases by 10%
 - D. Decreases by 10%
 - E. Increases by 50%

SIGNATURE ROUTING LOG

General Information:

Proposal Type: Course Program Other

Proposal Name¹ (course prefix & number, pgm major & degree, etc.): Graduate Certificate In
General Radiological Medical
Physics

Proposal Contact Person Name: Lee Johnson Phone: 323-1570 Email: elijj@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
Basic Science Sub-Committee	1/8/15	Tom Roszman / 859-257-5286 / tlos00@email.uky.edu	
Curriculum Committee	1/20/15	Chris Feddock / 859-257-5286 / chris.feddock@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ²
Undergraduate Council			
Graduate Council	4/9/15	Roshan Nikou	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

¹ Proposal name used here must match name entered on corresponding course or program form.

² Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

University of Kentucky
Department of Radiation Medicine
800 Rose Street Pavilion H
Lexington, KY 40536-0293
Phone: (859) 323-6486
Fax: (859) 257-4931

November 3, 2015

MEMORANDUM

Physicians

Marcus E. Randall, MD, FACR, FASTRO

Professor

Department Chair

Markey Foundation Endowed Chair

Ronald C. McGarry, MD, PhD

Professor

Vice-Chair for Research

Director of Body Radiosurgery Program

William St. Clair, MD, PhD

Professor

Co-Director of Gamma Knife

Radiosurgery Program

Mahesh Kudrimoti, MD

Professor

Vice-Chair for Clinical Operations

Residency Program Director

Jonathan Feddock, MD

Assistant Professor

Robin Reams, MD

Assistant Professor

Medical Director

Morehead Cancer Treatment Center

Pushpa Patel, MD

Associate Professor

Morehead Cancer Treatment Center

Physicists

Janelle Molloy, PhD, FAAPM

Professor

Director of Medical Physics

E. Lee Johnson, PhD

Associate Professor

Wei Luo, PhD

Assistant Professor

Dennis Cheek, PhD

Assistant Professor

Prakash Aryal, PhD

Instructor

Mike Sanders, MS

Gamma Knife

Sam Gerring, MS

Instructor

Pushpa Otageri, MS

Instructor

Cancer Research

Vivek Rangnekar, PhD

Professor

Alfred Cohen Chair in Oncology Research

Associate Director of Translational Research,

Markey Cancer Center

William St. Clair, MD, PhD

Professor

To: Margaret Schroeder,
COE Faculty Council Chair

FROM: Marcus Randall, MD *Marcus E. Randall, MD, FACR*
Chair, Department of Radiation Medicine

RE: New Committee Item SAPC - New Graduate Certificate in
General Radiological Medical Physics

Initial approval to pursue the graduate certificate in General Radiological Medical Physics was given by the Radiation Sciences Graduate Education Committee on September 15th, 2014. Preparation of the proposal commenced soon thereafter. The need for full Radiation Sciences faculty approval was identified during the subsequent review process on October 23, 2015. The proposal was presented to the Radiation Sciences faculty and a voting period opened on October 28th, 2015. The voting was concluded on November 2, 2015 with unanimous approval given by Radiation Sciences faculty members.

Please call our offices at 7-7618 with any questions or concerns.



UNIVERSITY OF KENTUCKY

D r e a m • C h a l l e n g e • S u c c e e d

DEPARTMENT OF PHYSICS AND ASTRONOMY

October 8, 2015

RE: Graduate Certificate in General Radiological Medical Physics

To Whom It May Concern,

The Department of Physics and Astronomy would like to offer our support for the proposal to create a graduate certificate in General Radiological Medical Physics. This certificate provides the necessary coursework for Alternative Pathway PhD candidates (i.e. Physics PhDs) to become eligible for residency training in Medical Physics and transition into a career as a practicing Medical Physicist. This is coursework required for certification in Medical Physics by the American Board of Radiology. Given the limited opportunities for Physics PhDs to obtain this coursework, it seems a reasonable approach to utilize the existing resources in the Radiation Sciences Division for this purpose. Therefore, the Department of Physics and Astronomy fully supports the effort by the Radiation Sciences division to implement the graduate certificate in General Radiological Medical Physics.

Tim Gorringer,

A handwritten signature in black ink, appearing to read 'Tim Gorringer'. The signature is fluid and cursive, with a large loop at the end.

Director of Graduate Studies,
Department of Physics and Astronomy.



College of Engineering
Dept. of Biomedical Engineering
522 Robotics and Manufacturing
Building
143 Graham Avenue
Lexington, KY 40506-0108

September 24, 2015

RE: Graduate Certificate in General Radiological Medical Physics

To Whom It May Concern

I am writing this letter to offer my support to create a Graduate Certificate in General Radiological Medical Physics in the Department of Radiation Medicine. This program provides an alternative pathway for bioengineering students to become eligible for the certification process. In fact, there are limited opportunities for our students in the Biomedical Engineering Department to obtain this curriculum.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Guoqiang Yu". The signature is fluid and cursive, with a long horizontal stroke at the end.

Guoqiang Yu, Ph.D.
Associate Professor
Department of Biomedical Engineering
University of Kentucky
Tel: 859-257-9110
E-mail: guoqiang.yu@uky.edu



College of Engineering
Department of Biomedical Engineering
514A Robotics and Manufacturing Bldg.
143 Graham Ave.
Lexington, KY 40506-0108
www.bme.uky.edu
859 257-2728
859 257-1856 (*facsimile*)
abhijit@uky.edu

To whom this may concern:

I am pleased to offer strong support to the proposal for a Graduate Certificate in Radiological Medical Physics that has been submitted by the Radiation Sciences division. It is my understanding that the certificate was created to address the requirements of their accrediting body and the certification organization for persons in Medical Physics. This is a program that some of our students may be interested in pursuing and thus would provide an unmet need at our institution.

Please do not hesitate to contact me should you have any questions about this letter of support.

Sincerely,

A handwritten signature in black ink that reads 'A.R. Patwardhan'.

Abhijit Patwardhan, Ph.D.
Professor and interim chair
Director of graduate studies

Brothers, Sheila C

From: Schroeder, Margaret <m.mohr@uky.edu>
Sent: Wednesday, December 02, 2015 11:48 AM
To: Brothers, Sheila C; Hippisley, Andrew R
Subject: MS Agriculture Deletion
Attachments: MS Sociology Deletion FINAL.pdf

Proposed Deletion of MS: MS Agriculture (Rural Sociology)

This is a recommendation that the University Senate approve the deletion of an existing MS: MS Agriculture (Rural Sociology), in the Department of Sociology within the College Arts & Sciences.

Please note the contacts for this proposal should be updated to **Tanaka, Keiko** <ktanaka@email.uky.edu> and Harmon, Camille <camille.harmon@uky.edu>

The revised proposal is attached.

Best-

Margaret

Margaret J. Mohr-Schroeder, PhD | Associate Professor of STEM Education | [COE Faculty Council Chair](#) | [SAPC University Senate Committee Chair](#) | [University Senator](#) | Secondary Mathematics Program Co-Chair | [STEM PLUS Program Co-Chair](#) | [Department of STEM Education](#) | [University of Kentucky](#) | www.margaretmohrschroeder.com





Department of Sociology
1515 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027

June 20, 2015

To Whom It May Concern:

The Department of Sociology proposes to eliminate the MS in Agriculture, because this is an outdated remnant from a period in which the Department of Sociology resided in both the Colleges of Agriculture and Arts & Sciences.

The Graduate Faculty in the Department of Sociology voted unanimously to eliminate the MS in Agriculture option from our program in December 2013. The Graduate Faculty of the Department of Community and Leadership Development, where most of the sociology faculty in the College of Agriculture now have primary appointments, were notified of this decision and offered the opportunity to accept transfer of this program. They voted against accepting the transfer of this MS degree program in April 2014.

In short, none of the Graduate Faculty is willing to offer the MS in Agriculture with a concentration in Rural Sociology. Therefore, it should be eliminated from the university bulletin.

Please direct any questions to me at Shaunna.scott@uky.edu or 859-771-4698.

Sincerely,

A handwritten signature in cursive script that reads "Shaunna L. Scott".

Shaunna L. Scott, PhD
Associate Professor, Sociology
Director of Graduate Studies
Editor, *Journal of Appalachian Studies*

PROGRAM SUSPENSION/DELETION FORM

1. General Information

College:	Arts and Sciences	Department:	Sociology
Major Name:	Sociology	Degree Title:	MS in Agriculture (Rural Sociology)
Formal Option(s), if any:	_____	Specialty Field w/in Formal Options, if any:	_____
CIP Code:	_____	Today's Date:	6/18/15
Requested Effective Date:	<input checked="" type="checkbox"/> Semester following approval.	OR	<input type="checkbox"/> Specific Date ¹ : _____
Contact Person in the Dept:	Shaunna Scott	Phone:	7-6882
		Email:	shaunna.scott@uky.edu

2. Suspension/Deletion Information

Nature of action:	<input type="checkbox"/> Suspension	<input checked="" type="checkbox"/> Deletion
Rationale for suspension/deletion:	<p><u>We seek to eliminate the MS in Agriculture, because this is an outdated remnant from a period in which the Department of Sociology resided in both the College of Agriculture and Arts and Sciences. The graduate faculty in the Department of Sociology voted unanimously to eliminate the MS in Agriculture from our program in Decemeber 2013. The graduate faculty of the Department of Community and Leadership Development, where most of the Sociology faculty in the College of Agriculture now have primary appointments, were notified of this decision and were offered the oppurtunity to accept transfer of this program. They voted against accepting the transfer for this MS degree program in April 2014.</u></p>	
What provisions are being made for students already in the program?	<p><u>There are no students currently in the program.</u></p>	
Will another degree program replace the one suspended/deleted?	<p><u>We will continue to offer the MA in Sociology en passant degree for PhD students who entered the PhD program without a Masters degree.</u></p>	
Will courses connected with the program be dropped?	Yes* <input type="checkbox"/>	No <input checked="" type="checkbox"/>
*If Yes, forms for dropping a course(s) must be attached.		

¹ Suspensions/deletions are made effective for the semester following approval. No suspension/deletion will be made effective unless all approvals, up through and including Board of Trustees approval, are received.

PROGRAM SUSPENSION/DELETION FORM

Signature Routing Log

General Information:

Proposal Name: MS in Agriculture (Rural Sociology)

Proposal Contact Person Name: Shaunna Scott Phone: 7-6882 Email: shaunna.scott@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
Sociology DGs		Shaunna Scott /7-6882/shaunna.scott@uky.edu	
Sociology Chair		Claire Renzetti / /	
College EPC		Stephen Testa / /	
Assoc. Dean		Anna Basch / /	<i>Anna Basch</i>
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ²
Undergraduate Council			
Graduate Council		<i>Roshan Nikou</i>	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

² Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.



Department of Sociology
1501 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027

March 29, 2015

Dear Colleagues:

On behalf of the department, I hereby express support for the Department of Sociology's proposal to revise the MS program in Sociology to eliminate the option of earning a Master's of Science in Agriculture with a concentration in Rural Sociology.

The MS in Agriculture is an outdated remnant from a period during which the Department of Sociology resided in both the Colleges of Agriculture and Arts & Sciences. The Graduate Faculty in the Sociology Department voted unanimously in December 2013 to eliminate the MS in Agriculture option from our program.

The Graduate Faculty in the Department of Community and Leadership Development, where most of the Sociology faculty in the College of Agriculture now have primary appointments, were notified of this decision and offered the opportunity to accept transfer of this program. They voted against accepting the transfer of this MS degree in April 2014.

In short, the MS in Agriculture with a concentration in Rural Sociology will not be offered by either the Department of Sociology or the Department of Community and Leadership Development.

If you have any questions, please feel free to call (7-6424) or email me (claire.renzetti@uky.edu). Thank you for your attention to the Department's proposal.

Sincerely,

A handwritten signature in cursive script that reads "Claire M. Renzetti".

Claire M. Renzetti, Ph.D.

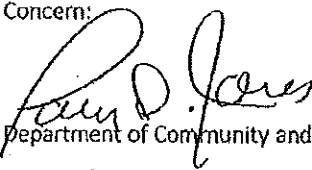
Judi Conway Patton Endowed Chair for Studies of Violence Against Women
Professor and Chair of Sociology



March 25, 2015

MEMORANDUM

TO: Whom It May Concern:

FROM: Larry D. Jones 
Interim Chair, Department of Community and Leadership Development

RE: Support for Eliminating M.S. in Agriculture with Concentration in Rural Sociology

College of Agriculture, Food
and Environment
Community and Leadership
Development
500 Garrigus Building
Lexington, KY 40546-0215
859 257-3471
fax 859 257-1164
or 859 257-4354
www.uky.edu

On behalf of the Department of Community and Leadership Development, I hereby support the Department of Sociology proposal to revise the MA program in Sociology to eliminate the option of earning a Masters of Science in Agriculture with a concentration in Rural Sociology.

The MS in Agriculture is an outdated remnant from a period in which the Department of Sociology resided in both the Colleges of Agriculture and Arts & Sciences. The Graduate Faculty in the Department of Sociology voted unanimously to eliminate the MS in Agriculture option in December 2013.

The Graduate Faculty of the Department of Community and Leadership Development, where most of the sociology faculty in the College of Agriculture now have primary appointments, were notified of this decision and offered the opportunity to accept transfer of this program. We voted against accepting the transfer of this MS degree program in April 2014.

In short, the MS in Agriculture with a concentration in Rural Sociology will not be offered by either the Departments of Sociology or Community Leadership and Development.

Please contact me if you have any questions.

New Cmte Item SAPC_Suspend MS in Agriculture

Renzetti, Claire <claire.renzetti@uky.edu>

Wed, Nov 18, 2015 at 11:43 AM

To: FW_mmohr2 <m.mohr@uky.edu>, "Tanaka, Keiko" <kstanaka@email.uky.edu>

Cc: "Harmon, Camille" <camille.harmon@uky.edu>, "Bosch, Anna" <anna.bosch@uky.edu>

That's not a problem, since if an email will suffice, I can take care of it now:

The department met on October 24, 2015 at 3:30 pm in 1545 POT. Dr. Tanaka presented the proposal for closing the MS in Agriculture -- Rural Sociology Program. There was a brief discussion during which it was agreed that due to lack of student interest (no students completing the concentration since Summer 2012), it does not make sense to maintain it. The graduate faculty members then voted on the proposal. The outcome of the vote was 12 in favor (of ending the program), 0 opposed, 0 abstaining. Four faculty members were absent from the meeting and one is on leave this semester.

Please let me know if you have additional questions or if any further information is needed. I'm not sure whether the minutes of the meeting have been transcribed yet, but I can try to get those pertaining to this issue if they are needed in addition to this email.

We appreciate your help!

Claire

Claire M. Renzetti, Ph.D.

Judi Conway Patton Endowed Chair for Studies of Violence Against Women

Professor and Chair of Sociology

University of Kentucky

[Violence Against Women: An International, Interdisciplinary Journal](#)

Tanaka, Keiko <kstanaka@email.uky.edu>

Wed, Nov 18, 2015 at 11:49 AM

To: FW_mmohr2 <m.mohr@uky.edu>

Cc: "Renzetti, Claire" <claire.renzetti@uky.edu>, "Harmon, Camille" <camille.harmon@uky.edu>, "Bosch, Anna" <anna.bosch@uky.edu>

March 28, 2014 was the date which the Community & Leadership Developed voted to support Sociology Department's request for the elimination of the MS-Ag with Rural Sociology concentration. April 11, 2014 was the date which the Sociology Department voted to approve the elimination of the MS-Ag with Rural Sociology concentration.

Thanks!

Keiko

Tanaka, Keiko <kstanaka@email.uky.edu>

Wed, Nov 18, 2015 at 11:54 AM

To: "Renzetti, Claire" <claire.renzetti@uky.edu>

Cc: FW_mmohr2 <m.mohr@uky.edu>, "Harmon, Camille" <camille.harmon@uky.edu>, "Bosch, Anna" <anna.bosch@uky.edu>

October 24, 2015 was the date that I informed to the Sociology department a response from the Institutional Effectiveness about the process of SAPC and presented a choice between "suspension"

and "closure". The Sociology Department voted to close rather than suspend the program. However, the initial decision to close this program was made back in 2014. The discussion began in late fall of 2013 and the final decision was not made until April 2014 because the CLD Department, which included rural sociologists, was not sure whether to request a transfer of the MS-Ag program from Sociology Department to CLD Department or support Sociology Department's request to close the MS-Ag program. The final decision by the CLD Department was made in March 2014. This enabled the Sociology Department to official vote to approve the closure of the MS-Ag program.

Hope this history helps. Yes, it is rather complicated...

Keiko



College of Arts & Sciences
Educational Policy Committee
202 Patterson Office Tower
Lexington, KY 40506-0027

859 257-6689
fax 859 257-2635

www.as.uky.edu/education-policy-committee

November 18, 2015

Dear University Senate,

On behalf of the faculty of the College of Arts and Sciences, the Education Policy Committee discussed and approved the elimination of the MS in Agriculture- Rural Sociology proposal 9:0:0 on Tuesday, April 21, 2015.

Sincerely,

A handwritten signature in blue ink that reads "Stephen Testa". The signature is written in a cursive style and is enclosed in a thin black rectangular border.

Stephen Testa
Chair, Education Policy Committee



Community & Leadership Development
College of Agriculture, Food & Environment
500 Garrigus Building
Lexington, KY 40546-0215
Phone: 859-257-3471
Fax: 859 257-1164 or 859 257-4354

Dr. Keiko Tanaka
Director of Graduate Studies in CLD
Phone: (859) 257-6878
Cell: (859) 351-9252
E-mail: ktanaka@email.uky.edu

November 6, 2015

To Whom It May Concern;

The Department of Sociology requests a closure of the program, titled Master's of Science in Agriculture with concentration in Rural Sociology. Although my primary appointment is in the Department of Community and Leadership Development, I have a joint appointment with the Department of Sociology. I am writing this letter because I was the Director of Graduate Studies in Sociology when we developed and submitted a series of curriculum change requests.

This degree program is a remain of the time when the Department of Sociology in the College of Arts and Sciences included several rural sociology faculty members with a primary appointment in the College of Agriculture. At that time, the two colleges jointly managed the graduate degree programs in sociology (MA in Sociology, MS in Agriculture with Rural Sociology concentration, and PhD in Sociology).

In 2002, the Department of Community and Leadership Development (CLD) was created within the College of Agriculture to house all those rural sociology faculty members along with several faculty members from Agricultural Education, Agricultural Communication, and Extension and Program Development programs. Although a few rural sociology faculty members in the CLD Department continue to maintain joint appointments with the Department of Sociology, the two colleges no longer operate the sociology graduate programs jointly. The CLD Department has successfully established the Master's of Science in Community and Leadership Development degree program. This created a problem for the Sociology Department to keep the MS in Agriculture with Rural Sociology concentration in the book.

The Graduate Bulletin Part 2 of 2013 was the last time when this degree program was listed in the description of the sociology graduate program (<http://www.research.uky.edu/gs/CurrentStudents/Bulletins/current/bulletin-13-part2-final.pdf>, Page 353).

For several decades, even before the creation of the CLD Department, we have not admitted any students into this degree program. In our knowledge, only one student has completed that degree in the last three decades (Summer 2012). Even this student was not formally admitted to the MS in Agriculture program. Rather, she was admitted to the MA in Sociology program, and then at the last semester of the program, she requested to graduate with a MS in Agriculture with Rural Sociology concentration. In other words, this degree program has been treated as merely an option within the Sociology Master's degree program.

This closure will not affect any faculty, staff, or students in either the Sociology or CLD Departments. Below we provide the required information for a closure request:

1. Date of Closure. We request this program's closure as of July 1, 2016 so that no student will be admitted for the academic year of 2016.

2. Informing Affected Parties (students, faculty, staff). In order to reach our decision to close this degree program, graduate faculty members in Sociology from the Department of Sociology in the College of Arts and Sciences and the Department of Community and Leadership Development in the College of Agriculture, Food, and Environment discussed the matter at the respective department's faculty meetings between December 2013 and April 2014. Both sets of the faculty approved the closure of this degree program.

3. Assistance to Affected Students. Currently, no student is in this degree program. Therefore, the teach-out plan does not need to provide assistance to any students.

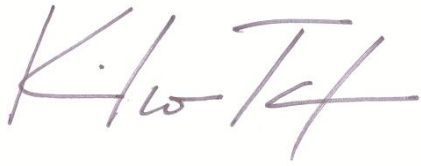
4. Additional Charges. This closure will not incur any additional charges because no student is in this degree program.

5. Teach-Out Agreements with Other Institutions. No teach-out agreement with other institutions is necessary because there is no student in this degree program.

6. New Employment of Faculty and Staff. No faculty and staff have been or will be affected by the closure of this program. There is no need for any of faculty and staff in the Department of Sociology in the College of Arts and Sciences or Department of Community and Leadership Development in the College of Agriculture, Food, and Environment to be redeployed to another assignments or helped to find new employment. Sociology graduate faculty member in the latter unit with a joint appointment with the former will continue to contribute to the Sociology graduate program.

If you have any questions, please do not hesitate to contact me. Thank you for your assistance on this matter.

Sincerely,

A handwritten signature in dark ink, appearing to read "Keiko Tanaka". The letters are fluid and connected, with a prominent horizontal stroke across the top of the "K" and "T".

Keiko Tanaka
Associate Professor of Rural Sociology
Former Director of Graduate Studies in Sociology

cc: Dr. Claire Renzetti, Chair, Department of Sociology



Substantive Change Checklist¹

Substantive change, according to the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC or SACS), is “a significant modification or expansion of the nature and scope of an accredited institution.”² Substantive change is a federal concept, based in the regulations of the U.S. Department of Education,³ which regional accreditors are required to enforce.

The University is required to submit any substantive change to SACS for review, and in some cases approval, prior to implementation of such substantive change. As noted by SACS:

“if an institution fails to follow the substantive change policy and procedures of the Commission on Colleges, it may lose its Title IV funding or be required by the U.S. Department of Education to reimburse it for money received by the institution for programs related to the unreported substantive change. In addition, the institution’s case may be referred to the Commission for the imposition of a sanction or for removal from membership.”⁴

Checklist Instructions: To ensure substantive change compliance, individuals should complete the checklist on the following pages in the early stages of any proposal (e.g. new degree program, new certificate program, etc.) or curricular revision. **Upon completion, the form must be submitted to the associate provost for institutional effectiveness or designee by e-mail to InstitutionalEffectiveness@uky.edu. A determination as to whether the proposed program or changes to the existing program constitutes a substantive change will be made within seven (7) business days of receipt and next steps will be communicated accordingly.**

Questions concerning substantive change are to be directed to Dr. GT Lineberry, associate provost for faculty advancement and institutional effectiveness (gt.lineberry@uky.edu) and Dr. Mia Alexander-Snow, director of planning and institutional effectiveness (mia.alexander-snow@uky.edu).

¹ Adapted, with appreciation, from University of Virginia’s “Substantive Change Checklist.”

² See *Substantive Change for Accredited Institutions of the Commission on Colleges: Policy Statement*, p. 1.

³ See 34 C.F.R. § 602.22.

⁴ See *Substantive Change for Accredited Institutions of the Commission on Colleges: Policy Statement*, p. 9.

University of Kentucky

Substantive Change Checklist

Instructions: Email completed form to: InstitutionalEffectiveness@uky.edu, Subject line: SACSCOC Sub Change Questions concerning substantive change are to be directed to Dr. GT Lineberry, associate provost for faculty advancement and institutional effectiveness (gt.lineberry@uky.edu) and Dr. Mia Alexander-Snow, director of planning and institutional effectiveness (mia.alexander-snow@uky.edu).

Name of Proposed Program/Action: Master's of Science in Agriculture with Rural Sociology Concentration

Total number of Credit hours for Degree Completion (if applicable): 36 hours

Total number of Credit Hours for Program Major (if applicable):

Sponsoring College/Home Educational Unit: College of Arts & Sciences, Department of Sociology

College/Department/Educational Unit Contact: Keiko Tanaka / Community & Leadership Development / College of Agriculture, Food and Environment

Date: October 26, 2015

SACSCOC Substantive Change Items	Yes	No	Don't Know	Provide brief explanation (if necessary)
The proposed program or existing program requires a <u>number of new faculty.</u>		xx		
<u>More than 25 percent of the required courses for the proposed or existing program are new.</u>		xx		
<u>More than 50 percent of the required courses for the proposed or existing program are new.</u>		xx		

The proposed or existing program requires new library or other learning resources.	XX		
SACSCOC Substantive Change Items	Yes	No	Provide brief explanation (if necessary)
The proposed or existing program requires new equipment or facilities.		XX	
The proposed or existing program requires a new resource base.		XX	
The proposed or existing program will initiate a <u>branch campus</u> .		XX	
The proposed or existing program will initiate a <u>dual degree program with another institution</u> .		XX	
The proposed or existing program will initiate a <u>joint degree program with another institution</u> .		XX	
The proposed or existing program will initiate a <u>certificate program</u> ? (if yes, answer the following)		XX	
<ul style="list-style-type: none"> • Will the proposed certificate program utilize existing courses? 		XX	
<ul style="list-style-type: none"> • Will the proposed certificate program be offered at a new off-Grounds site? 		XX	
<ul style="list-style-type: none"> • Does the proposed certificate program represent a significant departure from previously approved programs? 		XX	
The proposed or existing program will be initiated <u>at a new off-Grounds site</u> ? (if yes, answer the following)		XX	
<ul style="list-style-type: none"> • Will a student be able to earn 50 percent or more of program credits at the site? 		XX	

<ul style="list-style-type: none"> Will a student be able to earn 25 to 49 percent of program credits at the site? 	XX		
<p>SACSCOC Substantive Change Items</p>	Yes	No	Don't Know
<ul style="list-style-type: none"> Will a student be able to earn 24 percent or less of program credits at the site? 		XX	
<p>The proposed or existing program will be at an <u>existing off-Grounds site?</u> <i>(if yes, answer the following)</i></p>		XX	
<ul style="list-style-type: none"> Does the proposed program represent a significant departure from previously approved programs [at the existing site]? 		XX	
<p>The proposed or existing program will be offered via distance education. <i>(if yes, answer the following)</i></p>		XX	
<ul style="list-style-type: none"> Will more than 50 percent of the program be offered via distance education? 		XX	
<ul style="list-style-type: none"> Will 25-49 percent of the program be offered via distance education? 		XX	
<ul style="list-style-type: none"> Will less than 25 percent of the program be offered via distance education? 		XX	
<p>The proposed or existing program or courses will be initiated through contractual agreement or consortium.</p>		XX	
<p>The proposed or existing program will relocate an existing off-Grounds site.</p>		XX	
<p>The change to the existing program will <u>significantly alter the length of the currently approved program.</u></p>		XX	
<p>The proposed or existing program will initiate a degree completion program.</p>		XX	
<p>The proposed program will close an existing program.</p>	XX		See the attached.



April 17, 2015

Andrew Hippisley
Chair, University Senate Council
205E Main Building
CAMPUS 0032

College of Medicine
Office of the Dean
Senior Associate Dean for
Medical Education
College of Medicine Building
138 Leader Avenue, Room 209
Lexington, KY 40506-9983
859 257-5286
fax 859 323-2076
www.mc.uky.edu/meded/index.asp

Dear Prof. Hippisley:

As you may know, in 2011 the College of Medicine changed its grading scheme from a traditional letter-grade system to simply assigning a numeric grade (i.e., 88.5, 92.1) (SR 5.1.2.3). The University Registrar's office staff recently notified the Office of Medical Education that the numeric grading policy rules as codified in the Senate Rules contain errors and language that contradicts other College of Medicine-applicable Senate Rules.

On close reading, I noted several problems with 5.1.2.3, all of which appear to be editorial in nature (deletion of any references to grades, deletion of references to "quality points" which are not applicable to a numeric grading system). Further, the change in the grading policy directly impacted the promotion and retention criteria outlined in 5.3.3.3 where references to grade-point averages remain in the rule. The changes I have made in the attachment reflect the practices of our Student Progress and Promotions Committee since 2011.

Sheila Brothers suggested that I submit the information to you so that you could conduct an initial review of the matter before referring to the Rules Committee. Please see the attached file for details on the needed editorial changes.

If you have questions or concerns about the numeric grading policy and its impact on promotion and retention criteria, please contact me so that we can discuss.

Sincerely,

A handwritten signature in black ink, appearing to read "Chipper", written over a white background.

Charles "Chipper" Henry Griffith, III, MD, MSPH
Senior Associate Dean for Medical Education

Attachment

5.1 GRADING SYSTEMS

5.1.1 GENERAL GRADING SYSTEM

5.1.2 EXCEPTIONS TO THE GRADING SYSTEM

5.1.2.3 College of Medicine [US: 3/10/86; 5/9/2011]

All professional program (MD degree) courses in the College of Medicine will determine a minimum level of competency. Courses taken for grade will reflect student performance with a numeric value of three significant digits between 0.0% and 100%, with 0.700 and 1.00 (70.0%-100%) for those students achieving minimum competency. The course performance will be valued at the achieved numeric performance for each credit hour. Students failing to achieve minimum competency will may receive one of the grades below. For courses taken on a pass/fail basis, the achievement of minimum competency will be the only determination.

Class rank will be determined by multiplying the numeric value assigned for each course by the total number of credit hours for that course and normalizing by the summing of all courses taken for grade. The numeric average is reported to three significant digits. Pass/Fail courses will not contribute to determination of class rank.

EF Represents failure to achieve minimum competency and unacceptable performance in a ~~numerically graded or~~ pass/fail course. ~~It is valued at zero (0) quality points for each credit hour.~~

P Represents achievement of minimum competency and a passing grade in a course taken on a pass/fail basis. ~~It is not used in quality point calculations.~~

W Denotes withdrawal from the college or from an elective course. W must be approved or recommended by the Student Progress and Promotion Committee. Withdrawal from a required course is not permitted, except when a student withdraws from the college. A student may withdraw from an elective and the W will remain on the record.

~~**U** Represents unsatisfactory performance in a specific area of course requirements. It is conferred instead of an E grade when evidence exists that the student might earn a passing grade (0.700 or above) upon completion of make-up work. In the interim the U will be valued between 0.600 and 0.699 depending on student performance for each credit hour. The temporary grade must be replaced with a permanent grade before the student can be promoted to the next year of the curriculum. The quality point calculation will then utilize the numeric grade conferred after the make-up. Failure to satisfactorily make-up the work will result in the assignment of an E grade as described above. [US: 3/18/96; US: 5/9/2011]~~

I Represents incomplete work at the time grades are submitted for courses. It is conferred only when there is a reasonable possibility that ~~a grade of C or better will be earned~~ the student can demonstrate a minimum level of competency upon completion of the work. All I grades in required courses must be replaced by a passing grade before a student can be promoted to a subsequent year. If a student later withdraws from the College, an outstanding 'I' grade can revert to a W grade at the discretion of the Student Progress and Promotion Committee.

5.3.3.3 College of Medicine [US: 3/10/86]

A. Assessment of Student Learning

The College of Medicine is charged with the education and training of competent physicians. Competence must be assured not only in the students' fund of knowledge and technical expertise, but also in their standards of personal and professional conduct. Student progress shall be carefully monitored to certify that students have acquired appropriate knowledge, skills, behavioral characteristics, and ethical principles. To this end, students are responsible for conforming to all rules and regulations specified by the *Health Care Colleges Code of Student Professional Conduct*, the "Technical Standards" detailed in the *College of Medicine Bulletin*, and the academic standards established in these *University Senate Rules*.

The Student Progress and Promotion Committee (SPPC) is charged with the monitoring of student progress through the curriculum. The SPPC regularly reviews each student's performance and makes recommendations to the Dean on such actions as graduation, promotion, remediation, dismissal and leaves of absence. Final authority on all matters of student progress and promotion is vested in the Dean of the College of Medicine except as otherwise provided below.

Assessment Criteria

1. Student work is assessed by the faculty through the assignment of grades upon completion of all required courses and clerkships. Basic science grades are based upon such measures as written and oral examinations, laboratory practicals, and case write-ups. In the clinical years, grades are accompanied by detailed descriptive comments reflecting the instructors' impressions of each student's knowledge, attitudes, and technical skills.
2. Departmental faculty determine the level of student competence in the course or clerkship for which they are responsible. Within four weeks of the termination of each course, every department shall submit to the Office of Medical Education a grade, and where possible, written comments on each student's performance. The Office of Medical Education will promptly provide every student a copy of this grade sheet.
3. Because of advanced academic pursuit in a biomedical discipline, some students may wish to bypass a particular first or second year course. With permission of the Instructor of Record and the SPPC, a student may sit for an "opt-out" examination. The course director will determine the appropriate level of performance for bypass privileges.

4. Passing scores are required on both the Step 1 written examination (taken at the end of Year 2) and Step 2 written examination and clinical skills examination. Students have from the end of their third year through December 31 of their fourth year to sit for both parts of the Step 2 examination. Students have three attempts to pass each part of the examination before dismissal, with appeals. Students are not required to take Step 2 examinations in any particular order. [US: 4/12/2004]

5. Students will be required to pass a Clinical Performance Examination (CPX) prior to graduation. Students who do not initially pass the examination will be required to participate in remediation activities and pass a retest. [US: 3/18/96]

B. Promotion and Retention Criteria

The education of a physician is a complex process, longitudinal in character, with many incremental steps. To assure that students graduating from the College of Medicine have the necessary knowledge, skills, demeanor, and ethical principles essential to professional competence, the following procedures will be used to evaluate and promote students:

1. **General.** At regular intervals the SPPC will review the academic record of each student and make specific recommendations addressing promotion, remediation, or dismissal. Beyond these recommendations, potential actions include but are not limited to the adjustment of academic load, repetition of curriculum segments, and participation in counseling sessions.

2. **Promotion** to sequential semesters or years in the curriculum is contingent upon attaining the expected level of performance as prescribed by the Faculty of the College of Medicine. Students attaining a numeric average of 93.0% or higher in their current academic year will be promoted to the subsequent year **With High Distinction**. Students attaining a GPA of 3.7 or higher attaining a numeric average of 90.0% to 92.9% in their current academic year will be promoted to the subsequent year **With Distinction**. ~~This~~ These accomplishments will be noted in their academic records and on their transcripts.

Commencement honors of High Distinction and Distinction will be awarded at graduation for students who attain the appropriate GPA-numeric average achievement, i.e., 3.70-93% for High Distinction, ~~3.50-3.69~~ 90.0% to 92.9% for Distinction. [US: 3/18/96]

3. A **non-promotional category** will identify students who are not being promoted due to unfulfilled requirements. These students may be involved in remediation activities, be working to complete an "I" grade, or be retained for not passing the CPX. Students in the non-promotional category will be promoted upon satisfactory correction of the deficiency or dismissed.

4. A **non-routine promotion** category will identify students ~~receiving marginal grades~~ receiving a numeric average of 76.10% to 79.9% in their current academic year. It will indicate marginal performance and ~~whose performance warrants~~ warrant close monitoring. Marginal performance may indicate the need for remediation or repetition of curriculum segments. Continued marginal performance may be justification for dismissal.
5. A student receiving a numeric grade of "U" or "E" below 70.0% has performed at an unacceptable level. To redress the grade, the SPPC will review both the student's academic record and the recommendations of the Instructor of Record. The SPPC will determine a plan of action which may include remediation, repetition of all or a portion of the course, clerkship, or curriculum year, or dismissal from the College.
6. The Student Progress and Promotion Committee determines how many repeat attempts are allowed. **Unlimited** opportunity to repeat courses, clerkships or curriculum sequences is neither feasible nor desirable.
7. A **probation category** ~~encompasses~~ identifies those students who ~~earn a GPA of less than 2.50~~ attain a numeric average of 70.0% to 76.075.9% for any academic year. ~~or those students who earn any "U" or "E" grades.~~ Students promoted while on probation must improve their academic performance in the subsequent academic year or risk dismissal.
8. **Dismissal** from the College of Medicine **will** result when students have an annually ~~calculated cumulative GPA of less than 2.00; earn two or more "E" grades; earn three or more "U" grades in any academic year; earn a "U" or "E" grade while on academic probation; or fail either Step 1 or Step 2~~ calculated numeric average of 69.9% or below; receive two or more numeric course grades below 60.0%; receive three or more numeric course grades between 60.0%-69.9% (inclusive); receive a numeric course grade below 70.0% while on academic probation; or fail any of the comprehensive standardized examinations on three attempts. At the discretion of the SPPC and the Dean, students **may** be dismissed if they ~~earn two "U" grades~~ receive two numeric course grades below 70.0%.

C. Leaves of Absence

Students are normally expected to complete the curriculum in four consecutive years. Under compelling circumstances, leaves of absence may be approved by the SPPC. The request for a leave of absence must be submitted in writing to the Associate Dean for Medical Education. Return from a leave must be approved by the SPPC, may necessitate an amended curriculum, and is subject to the availability of space in required courses. The following three categories of leave may be recommended by the SPPC and approved by the Dean:

1. Academic Leave of Absence is available to a student who wishes to undertake specialized academic pursuits in a defined field of study. Students must be in good academic standing. Approval will not be given for intervals in excess of one year without reapplication.

2. Personal Leave of Absence is initiated at the student's request. A student must be in good academic standing. Leaves in this category may range from a number of weeks to a maximum of one year.

3. Medical Leave of Absence. Illness can seriously disrupt or impede student progress through the course of study. A student anticipating an absence of ten (10) days or more must secure a medical leave of absence. Application for this type of leave may be requested through the Office of Medical Education and must be accompanied by a letter from the student's attending physician.

(a) Processing and approval of a medical leave by the SPPC may require a review of the student's pertinent medical records by a specially appointed committee of physicians with relevant medical expertise. The length of the medical leave of absence will be determined by the SPPC in consultation with the student, the student's attending physician, and the ad hoc committee of physicians. Request for reentry must be accompanied by a statement from the student's attending physician which addresses the student's ability (mental and physical) to carry a full academic load. At this juncture, the SPPC may again require review of the student's medical records and/or a medical assessment, at the student's expense, by a physician with relevant clinical expertise.

(b) Absences due to acute illness do not require a medical leave of absence. However, for absences which encompass a major performance examination or more than five days of a clinical clerkship, the student is responsible for notifying the Office of Medical Education as soon as possible. Further, a supporting statement from an attending physician must be filed with the Office of Medical Education prior to returning to class.

D. Other Considerations and Restrictions

1. The demands of the study of Medicine consume the entire efforts of medical students. Therefore, upon acceptance to the program of study students are required to sign a statement indicating that they will not have outside employment during the academic year. For the exceptional case, permission may be granted by the SPPC upon petition by the student.

2. Due to curricular requirements, Saturday examinations are frequently scheduled. Allowances will be made for students who religious beliefs prohibit participation in Saturday examinations.

3. Clinical responsibilities during the third and fourth year will necessitate night and weekend work.

Proposed Changes to SR 5.2.1.1 and 5.2.1.4 to accommodate International Baccalaureate Program Examinations as used by the University

Background: These proposed changes to the SR are to reflect the way UK actually uses the International Baccalaureate (IB) Program Examinations in awarding course credit, and to clarify acronyms. The use of the IB program to award course credit was added to the SR in 2002, and we have been awarding credit since about 2006. The implementation and use mirrored that of awarding Advanced Placement (AP) credit for courses. Student take IB course(s) in schools that follow the IB program curriculum (<http://www.ibo.org>). Locally, only Tates Creek High School has an IB program, but the numbers continue to grow each year throughout the country. After students complete an IB course, they must take the associated IB subject examination. Scores on the exam range from 1 to 7. Based on the student's performance, they are eligible to receive college course credit. The awarding of credit and the associated performance requirements is decided by the local units across campus. In the 2015-16 Bulletin, pages 74-75 define performance requirements on the exams and associated course credit awarded.

Although students are required to take IB courses, course credit is only awarded at UK for performance on the IB examinations, as detailed in the 2015-16 Bulletin (p 62). However, SR only authorize awarding credit for courses in the IB program, and not the examination. Reviewing SR 5.2.1.1, students who participate in other national programs (CLEP, AP, PEP) only receive credit based on their performance on the associated exam. The proposed changes to SR 5.2.1.1 is to properly reference that credit will be awarded for the CELP, AP, PEP, and IB examinations and to remove the reference to award credit for IB courses. The other changes to 5.2.1.1 are editorial in nature, namely, defining the acronyms used later in the SR.

Finally, SR 5.2.1.4 defines that maximum amount of credit that can be awarded for exams. The registrar's office recommended that IB exams be added to the list. Under the current rules a student could receive more than half of the credit toward an undergraduate program using IB examinations alone, or in combination with the other exams.

Please review the proposed changes to the appropriate SR, below.

5.2.1.1 Accelerated Programs

The College Board College-Level Examination Program (CLEP) Subject and General Examinations, the College Board Advanced Placement (AP) Examinations, the American College Testing Program Proficiency Examination Program (PEP) Subject Examinations, International Baccalaureate (IB) Program Examinations and courses evaluated by the American Council on Education for which credit recommendations are made under the National College Credit Recommendation Service (NCCRS) Program on Noncollegiate Sponsored Instruction and courses in the International Baccalaureate Program are recognized as appropriate credit for meeting degree requirements [US: 10/14/2002]. College Faculties and/or department Faculties representing the discipline, as designated by the Associate Provost for Undergraduate Education, shall determine and publish appropriate cut-off scores for the CLEP, AP, PEP and IB examinations and report them to the Office of Admissions and Registrar. [US: 9/13/82; US: 10/14/2002] No AP, CLEP or IB credit hours shall be letter graded. Rather, all such earned credit hours shall be shown on the student's academic record as course credit (CR). (See also SR 5.1.4)

5.2.1.4 **Maximums**

No more than half of the credit toward an undergraduate degree may be earned by any combination of CLEP Examinations, PEP Examinations, PONSI-NCCRS courses, Special Departmental Examinations, ~~and~~ Advance Placement Examinations, and IB Examinations.