WKU	**ELED 505:** **"Advanced Materials and Methods in Modern Mathematics for Elementary Teachers"** Spring 2022 Syllabus – DRAFT 1.4.22
Instructor:	Dr. Janet Tassell
Class Location: Online	
Instructor's Office Hours: Mondays, 2:30-5:30 p.m. and Tuesdays, 12-3 p.m., and online appointments via Zoom at this link: https://wku.zoom.us/j/94517560413 Office Location: GRH 1104	

*Note: This document and other class related materials are available on our course site at https://wku.blackboard.edu.

Course Description:

This course involves the conceptual, the computational, and application aspects of mathematics with emphasis on the structural aspects of mathematics and on the "why"of mathematics instruction design.

Prerequisites:

NA -- Graduate Status

Textbooks and Required Materials:

Required Textbook:

Van de Walle, J. A., Karp, K. S., Bay-Williams, J. M. (2019). *Elementary and middle school mathematics: Teaching developmentally.* Boston, MA: Pearson.

***A "first-day access" version of this book is available through Blackboard, electronically. You will be charged for the book UNLESS you decline the purchase.**

Optional Textbooks:

- Sousa, D. A. (2008). *How the Brain Learns Mathematics.* ISBN: 978-1-4129-5306-1
- Sheffield, L. J. (2003). *Extending the Challenge in Mathematics*. ISBN: 0-7619-3851-6

Major Course Topics:

- Teaching Mathematics in the Era of the NCTM Standards and Common Core Mathematics Content Standards and Standards for Mathematical Practice
- Professional Noticing of Children: Noticing and Diagnosing Early Numeracy Skills
- Exploring what it means to Know and Do Mathematics
- Teaching through Problem Solving and Planning in the Problem-Based Classroom
- Building Assessment into Instruction and Analyzing Student Data
- Teaching Mathematics Equitably to All Children
- Elementary School Mathematics Content:
    - Problem Solving, Basic Numeration, Basic Operations, Geometry, Fractional Numbers, Algebraic Thinking, Geometry

Course Objectives: (list course objectives -- number them)

1. Design mathematics tasks and lessons that reflect appropriate consideration of student needs, objectives to be achieved, content to be taught, materials /technologies to be used, engaging instructional strategies to be utilized.

2. Implement mathematics tasks and lessons that with consideration of pre-assessment results and modifications/differentiation demonstrated.
3. Analyze instruction and assessment cycle impact on students.
4. Exhibit enthusiasm and proficiency for the learning and teaching of mathematics.

Description of Course Assessments: (*narrative*)

- **Personal Math Autobiography, Pre/Post:**
    - Write a reflection addressing portions of life candidate feels are important to describing life experiences in mathematics, from K-college. Some ideas for what candidate may include are challenges, successes, instructional strategies that worked, what was learned about self that will apply to being a teacher of mathematics, etc. The goal is to be very reflective, personally, about the mathematics education journey. The Autobiography is completed at the beginning as the pre then again at the end as a post-reflection review of what was originally written as an additional section on the learning from the Math Methods semester.
- **Design and Teach Mathematics Unit with Implemented Pre/Post Assessment and Formative Assessments:**
    - Candidates develop and use an assessment system: pre/post assessment and formative assessments to determine P-5 student growth related to the math Learning Goals. Multiple assessment modes and approaches aligned with learning goals to assess student learning must be included before, during, after instruction. These assessments should be designed to measure student learning with reference to the goals and may include performance-based tasks, created responses, paper-and-pencil tasks, or personal communication.
    - Design and implement a pre/post assessment with students over the learning goals for the mathematics unit.
    - Design and implement a 2-day lesson plan based on the grade level mathematics standards to implement with their students.
    - Identify and list KAS for content taught in the unit. Design one or two learning goals for the unit and explain how the learning goal(s) address the KAS. A pre/post assessment will be used to determine P-5 student growth related to the Learning Goals.
- **Analysis of Pre/Post Assessment and Formative Assessment Data**
    - Analyze the pre/post and formative assessment data from the mathematics unit to determine how students did with the instruction.
- **Math Parent/Guardian Interview: What is Important to you?**
    - Candidates choose a parent/guardian of a K-6 age student and ask questions about beliefs and experiences with their student learning mathematics
    - Analyze the interview, interfacing with the learning in the Math Methods course.
- **Math Student Interview**
    - Identify a student struggling with math skills, interview the child using the diagnostic instruments, interpret the data, plan next steps, and implement the plan.
    - Design an interview and then develop an individual plan for intervention to help the student grow in math skills over the semester.
- **Mathematics Content:**
    - **Mathematics Pre/Post Assessment on Standards/Praxis II Content Proficiency**
        - Pre/Post Assessment taken on mathematics content standards connected to state/national mathematics standards K-6 and Praxis II Content exam. Learn about mathematics content strengths and growth areas.
    - **Math Content Standards Exercises – Khan Academy**
        - Candidates work on Khan Academy mathematics skill building based on the PreAssessment on mathematics content. Plans are individualized with choice.
    - **Math Professional Development Group Research Presentation**
        - Using assigned math content standards, teacher candidates will work together to research and develop a mathematics content professional development presentation.

Course Grading and Evaluation:

Assessment Name	Point Value	DUE DATES
Course Reading Responses	55	Throughout Semester
Personal Math Autobiography (beginning 20 pts. and end of sem. 10 pts.)	30	Beginning and End
Mathematics Pre/Post Assessment on Standards/Praxis II Content Proficiency (20 pts. for pre/20 pts. for post)	40	Beginning and End
Pre/Post Assessment Design for Math "Unit"	*40	Beginning
Mathematics Lesson #1. Lesson will reflect the KCAS/SMP and NCTM Standards from which the lesson has been developed.	*30	Beginning
Mathematics Lesson #2. Lesson will reflect the KCAS/SMP and NCTM Standards from which the lesson has been developed.	*30	Beginning
Analysis of Student Learning **Key Assessment #5B and QEP fulfillment**	60	End of Semester
Math Content Standards Exercises – Khan Academy	20	Throughout Semester
Mathematics Instruction DISCUSSION BOARDS	TBD	Mid-semester
Math Parent/Guardian Interview: What is Important in Mathematics?	20	Mid-semester
Math Content Research/Professional Development Presentation	35	Toward End
Math Fluency Module Pre/Post Survey Submission	10	Beginning and Mid-Semester
Math Student Interview	30	Mid-semester
Class Professionalism: Disposition in ELED 505 (10 pts)	10	Throughout Semester
Field/Clinical Professionalism	20	Throughout Semester
Total Points		

*Assignment counts in both ELED 505 and ELED 509 if taking concurrently.

The following represents the grade equivalent for accumulated points and percentage expectations:

Grading Scale:

Grading Scale	
Grade	**Percent**
A	**93-100%**
B	**85-92%**
C	**77-84%**
D	**70-76%**
F	**≤69%**

Attendance and Participation Policy:

Participation/Professionalism and Communication:

Students in this online course are not expected to physically attend any class at WKU; however, student class participation in online and synchronous class sessions is required. You ARE a part of a distributed class, i.e., you and your classmates are spread around the US and even the world! Each time you come to class via Blackboard on the web, please check Announcements for any current or relevant new information. You must discipline yourself to complete assignments on time. It is strongly suggested that the student notify the instructor in advance of a possible absence for three or more days. Students' participation grade includes completion of class assignments, reading all assigned materials, turning in assignments on time, maintaining contact with the instructor, use of the Q & A Discussion board, and maintaining a positive professional attitude.

Students' professionalism grade includes completion of class assignments, reading all assigned materials, turning in assignments on time, maintaining contact with the instructor, use of the Q & A Discussion board, and maintaining a positive professional attitude. Your instructor is happy to make an appointment (either in person or by phone) with any student to help with any assignment or answer any questions. However, it is easier for your instructor to respond more quickly to email than regular postal mail or phone messages.

Extra Assignments: Faculty members may assign extra work for students who have missed any part of a class or clinical to help the student regain what was lost during their absence if the faculty member feels this is appropriate.

Emails to Instructor:

1. ALL emails should be to both of your instructors and MUST be in the following format:

   ELED 573, First Initial, Last Name, Topic

   Emails without this format will (gently) be returned to you to revise the subject. We are not trying to be rude! Our email programs sort mail according to the class number. If you do not use this standard email format, your message may get lost and many have been lost in past courses. Please help us with this!

2. Please set your email options such that when you reply to any message, it will include the original message. When you email me, my email software will retain your original message when I reply. If you reply back, your message should retain both your original message and my response. This helps to remind me of our ongoing conversations. Thanks!!

3. Remember that your emails are professional communication with your instructor.

Submission of Assignments:

1. You will maintain your own blog journal through Blackboard. It should be private but allow your instructors access to read your reflections.
2. There will be various methods used for class discussions. Some will be Discussion Boards through BlackBoard; however, other Web 2.0 discussion tools will also be used.
3. **The preferred method for submission of your assignments is to upload your assignment file through BlackBoard.**
   a. View the assignment description under Assignments in our BlackBoard course.
   b. Click on the link "View/Complete Assignment: Assignment Name" under the assignment description.
   c. Type a comment to your instructor about your assignment. It will not submit if you do not type something.
   d. Click "Browse" and locate your assignment file.
   e. If you have another file to upload, click "Add Another File" and Browse to locate your file. Be sure to add all files that you need to submit before you click Submit. You cannot come back to this screen.

f. Click "Submit" to send your file to your instructor.

Naming Files:
In general, all files submitted should begin with your last name, then a period, then the module code, and a description of the assignment. For example, "Tassell.Leadership.Plan.doc".

Class Time Management:
Management of your personal "class time" is one of the most difficult issues for students in an online class. Most face-to-face classes meet three hours a week and students are expected to spend up to six hours per week in class preparation and assignments. Therefore, you can expect to spend up to nine hours per week on any university course whether face-to-face or online. (Travel time has been a major consideration for many of you in face-to-face classes.) It is not advisable to procrastinate not only because of the time involved but the technical issues you may face and the time required to teach your lesson.

Student Disability Services:

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

COVID-19:

All students are strongly encouraged to get the COVID-19 vaccine. Out of respect for the health and safety of the WKU community and in adherence with CDC guidelines and practices of all public universities and colleges in Kentucky, the University requires that a cloth face covering (reusable or disposable) that covers both the nose and mouth must be worn at all times when in public areas within all buildings. Students must properly wear face coverings while in class regardless of the room size or the nature of the classroom activities. Students who fail to wear a face covering as required will be in violation of the WKU Student Code of Conduct and will be asked to comply or will face disciplinary action, including possible dismissal from the University. Accommodations can be requested in special cases through the Student Accessibility and Resource Center (SARC): 270-745-5004 (voice), 270-745-3030 (TTY), or 270-288-0597 (video).

All students must immediately report a positive Covid-19 test result or close contact with a person who has tested positive to the Covid-19 Assistance Line at 270-745-2019. The assistance line is available to answer questions regarding any Covid-19 related issue. This guidance is subject to change based on requirements set forth by public health agencies or the office of the governor. Please refer to the Healthy on the Hill website for the most current information. www.wku.edu/healthyonthehill

Title IX/Discrimination & Harassment:

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Sex and Gender-Based Discrimination, Harassment, and Retaliation (#0.070) and Discrimination and Harassment Policy (#0.2040). Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Deborah Wilkins, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

Statement of Diversity:
Western Kentucky University is committed to empowering its campus community to embrace diversity by building equitable and inclusive learning, working, and living environments. At the heart of our mission, we seek to provide holistic education and employment experiences that prepare students, faculty, and staff to become effective scholars, contributors, and leaders in our diverse and evolving communities. To that end, this classroom is an inclusive space where all participants are welcomed and treated with respect, dignity, and acceptance. Immoral, illegal, or unethical behavior and/or communication will not be tolerated.

While the majority of students are comfortable with the pronoun sets "he/him" or "she/her," there is a growing population who prefer "they/them" pronouns, or another pronoun sets like ze/zir, per/pers, ey/em, or xe/xem, to avoid binary gender association. Participants in this course may choose to go by the pronoun sets with which they identify and are most comfortable. In addition to pronouns, all students have the right to indicate their preferred first name on TOPNET; this will appear on class rosters. If you did not specify your preferred name on TOPNET, please let me know what name and pronouns I should use for you. Student's chosen names and pronouns will be respected at all times in the classroom.

Plagiarism:
To represent written work taken from another source as one's own is plagiarism. Plagiarism is a serious offense. The academic work of a student must be the student's own. One must give any author credit for source material borrowed from another. To lift content directly from a source without giving credit is a flagrant act. To present a borrowed passage without reference to the source after having changed a few words is also plagiarism.
For more information about the Process for Academic Dishonesty

Kentucky Teacher Performance Standards: (Link to the standards and all 174 indicators)

Teacher Standards for Educator Preparation and Certification established June 30, 2018. These standards shall be used in the evaluation and assessment of a teacher for initial or advanced certification and for the accreditation of educator preparation providers.

NOTE INDICATORS in each cell below:

KTPS with INTASC Details/Indicators -- Core Curriculum Alignment	ELED 503	ELED 505	ELED 506	ELED 507	ELED 509	LTCY 519	SPED 515	PSY 510	EDU 589
Standard 1. Learner Development: The teacher shall understand how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and shall design and shall implement developmentally appropriate and challenging learning experiences.		X a, b, c, d, e, g, h, i, j, k							

Standard 2. Learning differences: The teacher shall use the understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.		X d, h, j, l, n							
Standard 3.Learning environments: The teacher shall work with others to create environments that: Support individual and collaborative learning; and Encourage positive social interaction, active engagement in learning, and self-motivation.		X a, g, h, m, p, q, r							
Standard 4. Content knowledge: The teacher shall: Understand the central concepts, tools of inquiry, and structures of the discipline he or she teaches; and Create learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.		X a, b, d, e, f, g, h, k, l, m, n, o, p							
Standard 5. Application of content: The teacher shall understand how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and ollaborative problem solving related to authentic local and global issues.		X b, c, d, f, l, m, n, o							
Standard 6. Assessment: The teacher shall understand and use multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the educator's and learner's decision making.		X a, b, c, d, e, f, g, i, j, k, l, m, r, t							

Standard 7. Planning for Instruction: The teacher shall plan instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.		X a, b, c, d, g, j, k, l							
Standard 8. Instructional strategies: The teacher shall understand and use a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections and to build skills to apply knowledge in meaningful ways.		X b, e, f, g, h, i, j, l, r							
Standard 9. Professional learning and ethical practice: The teacher shall engage in ongoing professional learning, shall use evidence to continually evaluate his or her practice, particularly the effects of his or her choices and actions on others, such as learners, families, other professionals, and the community, and shall adapt practice to meet the needs of each learner.		X a, b, g, h, l,							
Standard 10. Leadership and collaboration: The teacher shall seek appropriate leadership roles and opportunities to: Take responsibility for student learning; Collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth; and Advance the profession.		X e, h, i, n, o, r, s, t							

Student Learning Outcomes:

School of Teacher Education Student Learning Outcomes								
Graduates of the WKU School of Teacher Education Initial Preparation Programs are able to:								
Courses	**1. Demonstrate content knowledge in the academic disciplines**	**2. Apply the foundational principles of learning and teaching**	**3. Exhibit teaching competence in a clinical environment**	**4. Select, administer, and analyze results of formative and summative assessments**	**5. Identify, evaluate, and implement individualized instruction**	**6. Apply content knowledge, pedagogical skills, and technology to instructional practice**	**7. Identify, evaluate, and implement literacy practices**	**8. Display the dispositions of a professional educator**
ELED 503								
ELED 505	I	D	D	D	D	R		D
ELED 506								
ELED 507								
ELED 509								
LTCY 519								
SPED 515								
PSY 510								
EDU 589								

I - Initial, R-Reinforced, D-Demonstrated, M-Mastered

Major Course Assessments Aligned with Standards:

Major Course Assessments	**Course Objectives**	**SPA Standard(s): CAEP/ELED**	**KY Teacher Performance Standards/INTASC**	**Overall Core Program Student Learning Outcomes (number)**
Clinical Experiences and Assessments				
Math Student Interview ☒ Clinical; _8__hours	Obj. #1, 2, 3	CAEP/ELED: 1.a, 3.a, 4.a, 4.g	KTPS Std. # 1: a, h, i, j, k 2: h., n 3: r 4: e, k, l, q 5.d 7: a, b, c	SLO #2, 3, 5
Design and Implement Mathematics Pre/Post Assessment	Obj. #1,2,3,5,6,8	CAEP/ELED: 5.a	KTPS Std. # 1.a 2: d, l	SLO #4

☒Clinical; _8__hours			4.q 6: a, b, c, d, e, f, g, i, j, k, l, r, t 7: d, g, l 8: b, e 9: h, l	
Design and Teach Mathematics Mini-Unit ☒Clinical; _14_hours	Obj. #1,2,3,5, 6, 8	CAEP/ELED: 3.c, 3.d, 4.b, 4.c, 4.d, 4.e, 4.f, 5.a	KTPS Std. # 1: a, b, e, g, h, i, j, k 2: d, h, j, l, n 3: g, h, m, p, q, r 4: a, b, d, e, f, g, h, k, l, m, n, q 5: c, d, l, m, n 6: i, m 7: a, b, c, g, j, k 8: e, f, g, h, i, j, l, r 9: h, l 10: e, n, o	SLO #1,2,3,4
Math Parent/Guardian Interview: What is Important to you? ☒Clinical; _4_hours	Obj. #4	CAEP/ELED: 1.c	KTPS Std. # 1: c, k, j 3: a, r	SLO #8
Course Experiences and Assessments				
Personal Math Autobiography, Pre/Post ☐Clinical; ___hours	Obj. #4	CAEP/ELED: 5.b	KTPS Std. # 10: s, t	SLO #8
Analysis of Pre/Post Assessment and Formative Assessment Data ☐Clinical; ___hours	Obj. #3	CAEP/ELED: 3.b	KTPS Std. # 6: a, b, c, g, j, k, l, r, t 7: d, l 9: g, h, l	SLO #4
Mathematics Pre/Post Assessment on Standards/Praxis II Content Proficiency ☐Clinical; ___hours	Obj. #4	CAEP/ELED: 2.b	KTPS Std. # 4.n 9.a, b 10.t	SLO #1
Math Content Standards Exercises – Khan Academy ☐Clinical;	Obj. #4	CAEP/ELED: 2.b	KTPS Std. # 4.n 9.a, b	SLO #1

___hours			10.t	
Math Professional Development Group Research Presentation ☒Clinical; _8_hours	Obj. #1,2,4	CAEP/ELED: 2.b	KTPS Std. # 3: g, h, m, q, r 4: o, p 5: c, d, l, m, n 6.i 7.g 8: g, h, i, r 10: e, h, i, n, o, r	SLO #1,2,3,6,8

ADDITIONAL COURSE INFORMATION AND EXPERIENCE RELATED TO EDUCATION PREPARATION
(EPSB Program Level Requirements)

Course Required P-12 Classroom Observation or Clinical Experiences and Assessments:

(List assessment or experience if this course includes the criteria. If none, put "N/A" and delete the table below. For others, use the table below to provide the number of observation hours and check each type of experiences candidates have during those hours. Note: The table categories are those that the KY EPSB requires each program to have as outlined by **16 KAR 5:040 Section 5(3)**.)

Total Number of Hours: minimum of 40	
EPSB Required Candidate Experience Types - 16 KAR 5:040 Section 5(3)	
(a) Engagement with diverse populations of students which include:	
1. Students from a minimum of two (2) different ethnic or cultural groups of which the candidate would not be considered a member;	X
2. English language learners;	X
3. Students with disabilities; and	X
4. Students from the following grade levels:	
● Elementary	X
● Middle School	
● Secondary	
(b) Observation in schools and related agencies, including:	
1. Family Resource Centers; or 2. Youth Service Centers	
(c) Student tutoring	X
(d) Interaction with families of students;	X
(e) Attendance at school board and school-based council meetings;	X
(f) Participation in a school-based professional learning community; and	X
(g) Opportunities to assist teachers or other school professionals.	X

Course Assessments Related to Standards:

- **The Kentucky Academic Standards (KAS)**
- **The Kentucky P-12 Curriculum Framework**
- **P-12 Assessment System to Guide Instruction**

Prior to graduation, every teacher candidate must be fluent in the Kentucky Academic Standards (KAS) for their content area and for literacy, must be able to deconstruct the standards into learning targets, and must be able to create formative assessments. (See Common Lesson Planning Template at end of document.) Provide descriptive evidence of meeting the following expectations of EPSB:

EPSB Questions to Address regarding:	**Course Assessment and HOW Assessed -- Include Criteria Demonstrating Depth of Knowledge of Candidate**

• **KAS/KECS** • **KY P-12 Curriculum Framework** • **P-12 Assessment System to Guide Instruction**	
1. How does the EPP measure a candidate's knowledge and understanding of the Kentucky Academic Standards? How does the candidate demonstrate a deep understanding of a system-wide process for designing curriculum aligned to the KAS at the school or district level?	**Pre/Post Assessment for Math Proficiency** **AND** **Individualized Math Content Standards Exercises via Khan Academy:** Practice on mathematics content standards to strengthen personal skills. Learn about how important individualized instruction via an online platform can be.
2. Briefly describe how candidates use the Kentucky Academic Standards and appropriate assessment data to guide instruction.)	**Math Lesson Unit Design and Implementation--** **Learning Goals & Pre/Post Assessment:** Identify and list KAS for content taught in the unit. Design one or two learning goals for the unit and explain how the learning goal(s) address the KAS. A pre/post assessment will be used to determine P-5 student growth related to the Learning Goals.
3. Describe how candidates use the Kentucky Academic Standards in lesson plans? (To what extent did the EPP provide evidence of candidates' use of the KAS framework in lesson plans?)	**Math Lesson Unit Design and Implementation--** **Learning Goals & Pre/Post Assessment:** Identify and list KAS for content taught in the unit. Design one or two learning goals for the unit and explain how the learning goal(s) address the KAS. A pre/post assessment will be used to determine P-5 student growth related to the Learning Goals.
4. Provide evidence of candidate's abilities to create and use formative and summative assessments to guide instruction toward P12 student mastery of the Kentucky Academic Standards.	**Pre/Post and Formative Assessment Design for Math "Unit":** Candidates develop and use an assessment system: pre/post assessment and formative assessments to determine P-5 student growth related to the math Learning Goals. Multiple assessment modes and approaches aligned with learning goals to assess student learning must be included before, during, after instruction. These assessments should be designed to measure student learning with reference to the goals and may include performance-based tasks, created responses, paper-and-pencil tasks, or personal communication.
5. How does the candidate demonstrate understanding of how a school/district implements the curriculum at the school and classroom level?	**Math Lesson Unit Design and Implementation:** **Learning Goals & Pre/Post Assessment:** Candidates collaborate with the clinical setting teachers to identify and list KAS for content taught in the unit.
6. How do candidates learn about the state's assessment system for student learning and how that influences their instruction and assessment of their students?	**Pre/Post and Formative Assessment Design for Math "Unit":** Candidates develop and use an assessment system: pre/post assessment and formative assessments and learn about the connection to how the state's assessment system is multi-faceted -- especially in how the students are assessed with different types of questions. **Analysis of Student Learning of Math Content:** Analyze the pre-, formative, and post- math assessment data from the mathematics unit to determine how students did with the instruction.

Course Assessment Serving as Education Preparation Program "Key Assessments" aligned to CAEP Accreditation:

(Please name and briefly describe the assessment and check which category in the table below the assessment represents. If none, put "N/A.")

CAEP Key Assessment Areas	Assessment and Description
Assessment #1: Content Assessment	
Assessment #2: Other Assessment of Content Knowledge	
Assessment #3: Assessment of Professional Capabilities	
Assessment #4: Clinical Experiences Measure of Teaching Proficiency	
Assessment #5: Measure of Candidate Assessment Proficiencies	5B: Analysis of Student Learning
Assessment #6: Candidate ability to diagnose and prescribe for personalized Student Learning	
Assessment #7: Application of Content Knowledge and Pedagogical Skills (Instructional Practice)	
Assessment #8: Assessment of Literacy Outcomes	
Assessment #9: Dispositions	
Assessment #10: Exit Survey	

Course Experiences or Assessments Addressing Learned Society (SPA) Standards:

(Please refer to your EPSB Program Review Document SPA Table to see what you and your program faculty have determined takes place in your course related to meeting SPA standards. Provide those standard numbers and description/titles below and briefly describe the course experiences and assessments that prepare candidates in this area. NOT necessary for CORE -- delete this section if CORE COURSE.)

SPA Standard # and Description *CAEP 2018 Elementary Teacher Standards*	Course Experiences and Assessments -- note standard AND indicator alignment
STANDARD 1 – Understanding and Addressing Each Child's Developmental and Learning Needs 1.a – Candidates use their understanding of how children grow, develop and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that take into account the individual strengths and needs of children. 1.b – Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs. 1.c – Candidates work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation.	**Math Student Interview (CAEP/ELED 1.a)** **Math Parent/Guardian Interview: What is Important to you? (CAEP/ELED 1.c)**
STANDARD 2 – Understanding and Applying Content and Curricular Knowledge for Teaching Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and across literacy, mathematics, science, and social studies. 2.a – Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication.	**Pre/Post Assessment for Math Proficiency (CAEP/ELED 2.b)** **Individualized Khan Academy Mathematics Skill Development (CAEP/ELED 2.b)**

2.b - Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains. 2.c – Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science. 2.d - Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.	**Mathematics Problem Solving Individual Presentations (CAEP/ELED 2.b)** **Mathematics Content Research Group Professional Development Presentation (CAEP/ELED 2.b)**
STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students' social and emotional development. 3.a – Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs. 3.b – Candidates use assessment results to improve instruction and monitor learning. 3.c – Candidates plan instruction including goals, materials, learning activities and assessments. 3.d – Candidates differentiate instructional plans to meet the needs of diverse students in the classroom. 3.e – Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations. 3.f – Candidates explicitly support motivation and engagement in learning through diverse evidence based practices.	**Pre/Post Assessment for Math Proficiency (CAEP/ELED 3.a)** **Math Student Interview (CAEP/ELED 3.a)** **Analysis of Pre/Post Assessment and Formative Assessment Data (CAEP/ELED 3.b)** **Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments (CAEP/ELED 3.c and 3.d)**
Standard 4 – Supporting Each Child's Learning Using Effective Instruction. Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child. 4.a – Candidates use a variety of instructional practices that support the learning of every child. 4.b – Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child. 4.c – Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content. 4.d – Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement. 4.e – Candidates lead	**Math Student Interview (CAEP/ELED 4.a and 4.g)** **Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments (CAEP/ELED 4.b, 4.c, 4.d, 4.e, 4.f)**

whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom. 4.f – Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child. 4.g – Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.	
STANDARD 5- Developing as a Professional Candidates promote learning and development of every child through participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community. 5.a – Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth. 5.b – Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice. 5.c - Candidates participate in peer and professional learning communities to enhance student learning.	**Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments (CAEP/ELED 5.a)** **Personal Math Autobiography, Pre/Post (CAEP/ELED 5.b)**

Course Experiences or Assessments Addressing ILA (literacy) Standards: (to the indicator level)
(Please refer to your course and the ILA standards below to see what you and your program faculty have determined takes place in your course related to meeting ILA (literacy standards.)

International Literacy Association Standard # and Description	Course Experiences and/or Assessments
STANDARD 1: FOUNDATIONAL KNOWLEDGE Candidates demonstrate knowledge of the major theoretical, conceptual, and evidence-based foundations of elementary/intermediate literacy and language and the ways in which they interrelate.	**Math Student Interview** (ILA 1.3 and 1.4)
STANDARD 2: CURRICULUM AND INSTRUCTION Candidates apply foundational knowledge to critically examine elementary/intermediate literacy curricula; design, adapt, implement, and evaluate instructional approaches and materials to provide a coherent and motivating literacy program that addresses both general and discipline-specific literacy processes	**Math Student Interview** (ILA 2.4) **Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments** (ILA 2.4)
STANDARD 3: ASSESSMENT AND EVALUATION Candidates understand, select, and use appropriate assessments to gather evidence on elementary/intermediate students' language acquisition and literacy development for instructional and accountability purposes.	
STANDARD 4: DIVERSITY AND EQUITY Candidates examine their own culture and beliefs; set high expectations for their students; learn about and appreciate the cultures of their students, families, and communities to inform instruction.	**Math Parent/Guardian Interview: What is Important to you?** (ILA 4.1 and 4.4) **Math Student Interview** (ILA 4.2 and 4.3)

	Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments (ILA 4.2 and 4.3)
STANDARD 5: LEARNERS AND THE LITERACY ENVIRONMENT Candidates apply knowledge of learner development and learning differences to create a positive, literacy-rich learning environment anchored in digital and print literacies.	
STANDARD 6: PROFESSIONAL LEARNING AND LEADERSHIP Candidates are lifelong learners who reflect upon practice; use ongoing inquiry to improve their professional practice; advocate for students and their families to enhance students' literacy learning.	**Teach Mathematics Unit with Pre/Post Assessment and Formative Assessments** (ILA 6.3)