COLLEGE OF CHARLESTON
EDEE 365 (Spring 2016): Teaching Mathematics Pre-K – Grade 3
Section 01: Friday, 9:00 – 11:45 am; Section 02: Wednesday, 12:30-3:15 pm; both sections in ECTR 215

Instructor: Beth Lloyd, Ph.D.
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Office Hours: Wed: 9:30am - Noon; Thurs: 1-3:30 pm; or by appointment
Email Hours: Mon & Tues: Latest check and response 4 pm; Due to teaching/meeting schedule, do not expect immediate feedback if email after office hours on Th (may not respond until M)
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Course Description:
This course focuses on the knowledge, dispositions, and performances necessary for quality early childhood mathematics education. Emphasis is on developmentally appropriate instructional strategies linked to the Grades PreK-3 content and process standards. Active learning, lesson planning, ongoing and worthwhile assessment, and informed teacher decision-making are major components.

Required Texts:


Recommended Text:
❖ Available online at with e-membership www.nctm.org

Class Supplies:
Common Core Standards for mathematics K-8 (online http://www.corestandards.org/Math)
NCTM Standards (process & content) for K-3 (online http://nctm.org/standards if a member or in your hard copy)

Smarter Balanced Assessment Consortium (online http://www.smarterbalanced.org/)

Course Requirements:
Demonstration of SOEHHP Dispositions
Examples of how dispositions are evident are provided in italics.
❖ Belief that all students can learn, participation and attitudes expressed about students and learning
❖ Value and respect for individual differences, interactions in class discussions and participation in group work
❖ Value of positive human interactions, participation in class and in group work
❖ Exhibition and encouragement of intellectual curiosity, enthusiasm about learning, and willingness to learn new ideas, participation in class and group discussions and performance on assessments
❖ Dedication to inquiry, reflection, and self-assessment, participation in class and group discussions; performance on assessments (especially the reading and course reflections assignments)
❖ Value of collaborative and cooperative work, thoughtful, constructive critiques of others’ work, participation in class activities
Sensitivity toward community and cultural contexts, participation in class and group discussions, tolerating, discussing, and respectfully listening to differing points of views

Engagement in responsible and ethical practice, performance on assessments, class attendance, and participation in group activities

Development of professional mastery over time, performance over time in writing, thinking, and expression of knowledge

Utilization of Computer Applications (Available in the CofC managed computer labs located in JC Long, Library, and other campus sites. If unfamiliar with these applications, set up a time for tutoring with me.)
- Internet
- Word processing
- OAKS

Completion of all assigned readings and assignments ON TIME.
See Course Assignments below for detailed descriptions.

Responsibility for ALL course content
Including lecture, text, outside reading, handouts, research, etc.

Responsibility for keeping up with grades and attendance
If you miss a class, ask a classmate for the missed assignments and notes.

Course Assignments:
Due dates for course assignments, as well as scheduled tests, are listed on the tentative daily schedule at the end of the syllabus. Any changes will be announced in class or posted on OAKs. All assignments must be turned in during the class on the date due or posted to OAKs on the due date (depending on what is instructed). If, for medical or serious personal reasons, an assignment is late, the instructor should be informed of the reasons. Otherwise, each late course assignment will receive a FIVE-PERCENT deduction per day that it is late. DO NOT give assignments to SOEHHIP personnel. Assignments will NOT be accepted via email (unless specified explicitly).

All assignments must be typed and follow APA style guidelines, unless otherwise specified.

Tests (2)
TCs will be expected to complete two tests. Material on these assessments comes from (1) in-class warm-ups, lectures, discussions, and activities; (2) out-of-class readings and assignments; and (3) NCTM, SC, and Common Core Standards.

Weekly Assignments: Reading Reflections AND Focus Questions and Tasks
To maximize the development of how to teach mathematics, it is imperative that TCs engage in their readings. Some of the readings will be addressed in class, but due to the vast body of pertinent literature in this field, some of the topics covered in the out-of-class readings will not. Therefore, to ensure active engagement with the readings and maximum knowledge gained from this course, TCs will be responsible for reflecting on readings throughout the semester. These weekly assignments should be kept in a journal of some sort. They DO NOT need to be typed or in APA format; in fact, the preference is that they are hand written in a bond journal of some sort, labeled and dated appropriately. These will be collected periodically.

TCs are to respond to assigned focus questions and tasks per week. Too, TCs are to reflect on each week’s reading by indicating points of confusion, descriptions of “AHA!” moments, topics connected to field, topics connected to personal experiences in school or with other children in school, and/or topics of concern (elaborating on why a concern). DO NOT SUMMARIZE; SUMMARIES ARE NOT REFLECTIONS.

Typically during the class indicated on the daily schedule, TCs will discuss the questions and reflections with their peers and/or with me and add insightful comments to their work as they see fit. Forms of assessment will vary related to this assignment (individual conferences, collection of responses and reflections per individual, collection per group, checklist based on responses during class discussion, site checking for completion, or open-
notes/closed readings quiz). Feedback will be provided either individually or to the class as a whole. However, there will be some chapters from the main text that will be outlined thoroughly and for which class discussion is minimal. This is based on the fact that these particular chapters are dense with pertinent information, thorough, and easy to understand. Material from these chapters will be included on the tests and should be integrated into other class projects as appropriate. This information is meant to serve as a FOUNDATION for the instruction in class that day as well. This will ensure that TCs come to class with the same prior knowledge!

If late to class or not in class the day these are due, TCs will not receive credit for the assignment if I have already assessed the class.

Weekly Assignments on OAKs in ONE document

Mathematics is Everywhere
Throughout the semester, TCs should take note of how the CCSS for Mathematical Practice are integrated into other courses and in the real world. TCs should indicate the “location” where they observed the practice and provide a brief narrative describing what they observed and why it aligns with the given practice. TCs must have at least one distinct example per practice standard.

Literature Connection/Book Bag Activity
A wealth of children’s literature exists that illustrates mathematical concepts. TCs will select three books that may be used to supplement mathematics instruction at three different grade levels. TCs will provide classmates with a hole-punched, third-of-a-page summary for each book including the title, author, publisher, a synopsis, SC & CC standards, picture of cover of book, and ideas for when and how each book might be used to teach mathematical concepts.

Additionally, TCs select one of the three books and develop and write up 1 activity that will be sent home for students OR parents to do with their child (depending on grade level) along with a children’s literature book. The book bag will need to include the following parts:
1. A creative bag/briefcase to put all of the materials needed to complete the activity
2. A children’s literature book related to math content and standard (it can be one of the three already described)
3. A parent letter explaining activity to parents in detail OR instruction sheet for students (depending on grade)
4. An assessment for student to accompany activity (how will the objective be measured?)
5. A teacher page listing standards, objectives, and including a rubric/grading description/etc. for how student sheets will be assessed
6. Manipulatives or supplies needed to perform the activity

A few examples can be found at: [http://www.mrsvandyke.com/bookbags.htm](http://www.mrsvandyke.com/bookbags.htm)

Grading Criteria on OAKs

*Teaching Children Mathematics (TCM) Lesson Plan ONE*
TCs will choose an activity or lesson from an EVEN YEAR of TCM – NOT ILLUMINATIONS; NOT THE SAME ACTIVITIES FROM TCS’ STANDARDS PROJECT. TCs are to construct one full lesson plan based on this activity. Chosen activities/lessons should be problem based, student centered, and truly enhance learning. Additionally, chosen activities/lessons should not be part of traditional, direct instruction or drill and practice. Given that TCs will be assessed on the quality of their lessons rather than where they came from, TCs likely will need to adapt what is found to make sure the quality of the tasks meet the criteria of the provided lesson plan. TCs’ lessons should reflect the characteristics of effective lessons outlined in class. TCs must choose a grade level from PK-3 and can assume that students have access to ample resources.
The assignment will have THREE major components: the creation of a lesson, providing feedback to others (on OAKs discussion board), and the revision of his/her own lesson based on peer feedback.

**Grading Criteria on OAKs.**

*Teaching Children Mathematics (TCM) Shared Lesson TWO*

TCs are to find an activity or lesson from an ODD year of TCM – NOT ILLUMINATIONS; NOT THE SAME ACTIVITIES FROM TCS’ STANDARDS PROJECT that fits their assigned content area and grade level. There are to be no duplicates in activities. TCs are to write a complete lesson plan using this activity. The lesson plan should contain all of the components of the EHHP lesson plan format provided on OAKS and discussed in class.

TCs will (a) provide a copy of the lesson to and (b) rehearse the lesson for their content group prior to presenting it to the class. The content-group peers must EACH provide constructive feedback about the lesson plan and implementation. Feedback elements included on grading criteria on OAKS.

TCs will not be permitted to teach the lesson to the class unless approved by their peer group ahead of time. If for some reason, a content peer did not provide feedback, documentation must be presented to indicate an attempt was made early enough for the peer to provide expected feedback.

Each TC will have time set aside in class to review how the lesson should be implemented to a classroom of students. This means that TCs should have all of the materials ready to demonstrate the lesson to their classmates. They will have fifteen minutes per group (three groups total – PK-1, 1-2, and 3) to go over the lesson implementation. Peers are expected to provide “the teacher” with constructive feedback. TCs will utilize this feedback to update the lesson.

To be submitted to me a week following the lesson demonstration/rotations: (1) a brief explanation of why they chose this article and its activity to share with their classmates (see grading criteria for specifics). (2) all peer feedback in a bulleted list (telling who it came from) -- **SO MAKE SURE YOUR TYPE UP THE FEEDBACK DISCUSSED DURING THE REHEARSAL AND TAKE NOTES ON THE FEEDBACK DURING THE LESSON ROTATIONS**, (3) the final lesson plan draft which should take into account both the content-peer feedback and the remaining peer feedback from the day of the demonstration and indicate this feedback in some organized, clear fashion within the final draft (tracked changes, highlighting, comments, change in font color, strike-through font, etc.), (4) a brief written reflection (see grading criteria for specifics), and (5) an appendix with the TCs critique to his/her content peers – **SO MAKE SURE YOUR TYPE UP THE FEEDBACK DISCUSSED DURING THE REHEARSAL**.

These lessons are categorized by the NCTM content standards. Presentations will be in center format. That is, there will be three centers – PK-1st, 1st – 2nd, and 3rd. Each center will have 15 minutes to teach the MAIN ACTIVITY PORTION of the lesson to a small group. Small groups will rotate through all three centers. Presenters must keep in mind the time limit, along with what materials they need to teach to all three groups. The rationale for sharing lessons in this center format is to allow each TC multiple times to teach the same activity, ideally improving with each iteration, and to provide TCs with a multitude of lesson ideas for future teaching across the grade band.

**Draft and Rehearsal: Due A WEEK BEFORE PRESENTING IN CLASS to content peer group for approval and feedback (Draft submitted to OAKs Discussion Board)**

**Presentation: Due date indicated on daily schedule**

**Final Project: Due a week following the presentation (HARD COPY)**

**Grading Criteria and Lesson Plan Template on OAKS**
SUGGESTION: TCs should begin building a toolbox of lessons/activities based on what is shared in this class. I recommend that throughout the semester, TCs compile the lessons gained from their classmates into a portfolio organized either by grade level or content standard. TCs are reminded that they can email their classmates via OAKs or request that I post their lessons to OAKs.

Curriculum Analysis Final Project

TCs will be assigned a unit from a mathematics curriculum to analyze and revise to address a certain content area within the CCSS and SC Standards. As a group or in pairs, they will (1) analyze the ENTIRE unit, guided by the questions below; (2) revise and/or replace one lesson within the unit, choosing the lesson that is least effective in meeting the standards in a problem-based manner based on the analysis; (3) address what should be revised in the entire unit.

(1) Analyze the ENTIRE unit, looking at each lesson and the arc of the lessons:
Questions to address in completing the presentation related to: Nature of classroom tasks, Social culture of the classroom, and Equity and accessibility
- Do the tasks require students to think as opposed to simply practice?
- Do the tasks encourage reflection, communication, and/or cooperative learning?
- Are the tasks engaging and interesting enough that students want to pursue them? Specifically, are the tasks intrinsically motivating?
- How well do the tasks take into account related tasks from previous experiences, both in and out of school?
- Is the required thinking mathematical as opposed to simply rote learning?
- Are the Common Core and SC mathematics standards ACCURATELY aligned? If not aligned, what standards (both practice and content) align with each lesson within the given unit? What standards are missing?
- To what extent does the text provide enough options to make it likely that all children will be successful? How are students including special education, Gifted and Talented, English Language Learners, and students with special needs addressed?
- Are the suggested accommodations appropriate for all students?
- What is done to help the teacher make sure every student contributes?

(2) Revise and/or Replace one lesson within the unit

Based on the analysis, choose the lesson that is the least effective in meeting the standards in a problem-based manner. Revise and/or replace the lesson by utilizing what was discussed in class about high-quality mathematics instruction (addressing all learners; utilizing innovative techniques that encourage problem solving, communication, connections, multiple representations, and reasoning; integrating technology, literacy, and other content areas; etc.). TCs are free to use resources discussed in class (NCTM journal articles, illuminations, the texts, etc.) and/or seek help from expert teachers, making sure to cite accordingly.

TCs must include the original lesson from the unit that is being revised or replaced, with markings, comments, and critiques. TCs must include the final lesson plan which should take into account these markings, comments, and critiques. In some organized, clear fashion, the comments and critiques of the chosen lesson influencing how the lesson was revised or why it was replaced should be indicated on the final draft (tracked changes, highlighting, comments, change in font color, strike-through font, etc.).

(3) Revise the unit

Explain how the unit was revised (based on the revised lesson) AND how the unit should be revised in order for it to address deficits related to standard alignment, nature of the classroom tasks and culture of classroom, and equity and accessibility. In order to prove that there were not deficits for certain standards, nature of classroom components, and/or equity/accessibility components, TCs must provide an example and location for each of the satisfactory/met criteria/standards. TCs should address each component and standard (all CC practice and all assigned CC content) under its own distinct heading.

Project due date: EXAM DAY
Grading Criteria on OAKs
Participation and Attendance
There will be a number of warm ups, discussions, activities, and homeworks TCs will be expected to participate in and/or complete. For completed assignments indicated with an asterisk on the tentative daily schedule, points will be earned.

Participation points will be deducted for cell phone use in class and disrespectful conduct. If an emergency, TAs may be excused to the hallway to talk or text. Otherwise, I should not see fingers typing on phones underneath tables.

TEDU Attendance Policy
Excessive absences (i.e., more than 15% - approximately 5 hours/2 classes) may result in receiving a “WA/F.” Students will be tardy if they arrive in class within the first 20 minutes after class has started. Three tardies result in one absence. Students will be absent if they arrive after 20 minutes or if they leave class early. Regarding being tardy or having to leave class early, exceptions will be made on an individual basis, but students must speak with me about extenuating circumstances for such exceptions. Regarding absences, if a student exceeds allowable absences due to extenuating circumstances beyond the student’s control, a panel of professors from that semester will review the circumstances and make a final decision.

If a student exceeds allowable absences due to extenuating circumstances beyond the student’s control, a panel of professors from that semester will review the circumstances and make a final decision. SNAP students, if they wish special accommodations, must see the professor within the first two weeks of the course or as soon as they find out about potential accommodations if determined mid semester. Athletes who will miss class due to athletic events must see the professor within the first two weeks of the course and submit athletic schedule for the semester, identifying classes that will be missed. No other absences will be allowed for athletes who miss the maximum allowable absences due to athletic events.

Written and Oral Communication
TCs are expected to use correct grammar at all times. Points will be deducted on written assignments for grammatical errors. All references must follow the American Psychological Association (APA) Guidelines for Term Papers. TCs are encouraged to take advantage of the Writing Lab in the Center for Student Learning (Addlestone Library, first floor). Trained writing consultants can help with writing for all courses; they offer one-to-one consultations that address everything from brainstorming and developing ideas to crafting strong sentences and documenting sources. For more information, please call 843.953.5635 or visit http://csl.cofc.edu/labs/writing-lab/. Further, it is imperative that TCs use correct grammar in all oral communication, especially during field experiences. Classroom teachers, student peers, and I will collaborate to eliminate all oral grammatical errors, using an approach of constructive criticism.

Evaluation
It will be possible to earn 200 points during the semester. They will be distributed as follows:

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<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Weekly Reading Reflections &amp; Focus Questions</td>
<td>39</td>
<td>19.5%</td>
</tr>
<tr>
<td>In- and Out-of-Class Assignments/Participation</td>
<td>16</td>
<td>8%</td>
</tr>
<tr>
<td>Mathematics is Everywhere</td>
<td>10</td>
<td>5%</td>
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<tr>
<td>Literature Contribution/Book Bag Project</td>
<td>25</td>
<td>12.5%</td>
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<tr>
<td>TCM Lesson Plan ONE</td>
<td>25</td>
<td>12.5%</td>
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<td>TCM Shared Lesson TWO</td>
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<td>12.5%</td>
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<tr>
<td>Tests (2)</td>
<td>30</td>
<td>15%</td>
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<tr>
<td>Curriculum Analysis Final Project</td>
<td>30</td>
<td>15%</td>
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<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>GPA</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
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</tr>
<tr>
<td>A-</td>
<td>91-92%</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>89-90%</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>86-88%</td>
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<tr>
<td>B-</td>
<td>84-85%</td>
<td>2.7</td>
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<tr>
<td>C+</td>
<td>82-83%</td>
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<tr>
<td>C</td>
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<td>C-</td>
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<td>F</td>
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Respectful Conduct

TCs are expected to be respectful of one another. Cell phones should be turned off while in class. Laptops should only be used in class if they are facilitating the development of mathematical thinking; if they appear to be a distraction, I will ask that they be put away. **Disrespectful conduct will result in a loss of participation points.**

CofC Honor System

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved. Incidents where the instructor determines the student’s actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.


ADA Accommodations

In compliance with the Americans Disabilities Act (ADA), all qualified students are entitled to “reasonable accommodations.” Any students requiring accommodations should contact the Center for Disability Services (953-1431) and provide me with documentation of needed accommodations within the first two weeks of the course or as soon as they find out about potential accommodations if determined mid semester.

Course Objectives and Standards

All teacher preparation programs in SOEHHPHHP are guided by a commitment to the conceptual framework of “Making the Teaching and Learning Connection.” Three elements of teacher competency (ETC) are fundamental to this framework; teachers must (1) understand and value the learner, (2) know what and how to teach and assess within a conducive learning environment, and (3) understand themselves as professionals. In addition, these competencies are foundational to the learning and assessments within this course, facilitating the development of knowledge, skills, and dispositions necessary for becoming an effective teacher.

Below are the specific end-of-course outcomes related to these teacher competencies. They are derived from the standards set forth by the National Council of Measurement in Education (NCME) and relate to those of the (1) SOEHHP, (2) CAEP 1.1 (10 InTASC Standards), (3) National Association for the Education of Young Children (NAEYC), and State Standards for Teacher Education (SC). They, therefore, indicate the expectations for teacher candidates within SOEHHP, early childhood teachers and elementary-grades teachers.

1. Teacher candidates (TCs) will develop the understanding of how students learn to construct mathematical ideas from the concrete early childhood experiences through the development of thinking abilities in early elementary grades. SOEHHP I; NCATE 1; NAEYC 1c; InTASC 1
2. TCs will articulate a vision of school mathematics that supports access of all students to a curriculum that emphasizes important mathematical concepts; effective and engaging research-based instructional practices; and high expectations with appropriate accompanying accommodations. SOEHHP II, III; NCATE 2d, 3d; NAEYC 4b, 5a, 1c, 1b (linguistic contexts); InTASC 2, 3, 6, & 8

3. TCs will convey an appreciation for the discipline of mathematics including its history and the contributions of diverse cultures to the field. SOEHHP II, VII; NCATE 2d; SC 4 (contextual teaching and diverse learning styles), NAEYC 4a; InTASC 2

4. TCs will articulate the knowledge that mathematics curriculum must be coherent and focused on important useful concepts that are connected within the discipline and across disciplines. SOEHHP II; NCATE 2d, 2i, 3a; NAEYC 5a; NMSA 4.K2, SC 4 (contextual teaching); InTASC 4

5. TCs will recognize the importance of the role of student ideas, interests, and needs in the design, implementation, and evaluation of mathematically-based learning experiences. SOEHHP I; NCATE 2d, 3a, 3d; NAEYC 1a, 5c; NMSA 3.K5, 3.D4, 4.P3; SC 4 (diverse learning styles; cooperative teaching); InTASC 1, 5, & 7

6. TCs will demonstrate an understanding of the need for a variety of instructional strategies to effectively address developmental, ability and learning style needs of PK-3 students exhibiting diversity in its many forms. SOEHHP III; NCATE 4; NAEYC 1c, 4b; NMSA 1.P5, 1.P10, 4.K3, 5.K2; SC 4 (diverse learning styles); InTASC 1, 2, & 8

7. TCs will develop the knowledge of, and dispositions that value, ongoing, systematic, formal, and informal assessment as an integral part of instruction that guides and enhances learning. SOEHHP VI; NCATE 4; NAEYC 3a, 3b, 3c, 4d (this objective needs to be written better to acknowledge self reflection), 6d (needs to be better written to cover critical analysis); NMSA 1.P6, 5.K8, 5.D5, 5.P4, 6(all); InTASC 6, 9

8. TCs will communicate about and through mathematics verbally and in writing using both everyday language and mathematical representations. SOEHHP II; NCATE 2d, 3e; NAEYC 4c (check on b), 5a; NMSA 4.K4, 4.D4, 4.P5; InTASC 3 & 4

9. TCs will demonstrate knowledge of the organization of the content standard areas of number and operations, algebra, geometry, measurement, data analysis and probability within the PK-3 mathematics curriculum as prescribed by the NCTM, CC, and the SC Standards. SOEHHP II; NCATE 2d; NAEYC (check this), 5b; NMSA 4, 6.K5; SC 7; InTASC 4

10. TCs will demonstrate the value and integrative nature of the process standards of problem solving, reasoning, communication, connections, and representations within the PK-3 mathematics curriculum as prescribed by the NCTM and reflected in the Common Core State Standards for Mathematical Practices and the SC Standards. SOEHHP II; NCATE 2d, 3c; NAEYC (check on this), 5b, 5c, 4c; NMSA 4, 5.K3, 5.P2, 6.K5; SC 4 (contextual teaching); SC 7; InTASC 3, 4, 5, & 8

11. TCs will demonstrate competency in, and an understanding of the value of, a breadth and depth of mathematical knowledge and skills that extend beyond the level for which the TC is preparing. SOEHHP II; NCATE 2d; NAEYC 5a, 5c; InTASC 4

12. TCs will state characteristics of a classroom environment conducive to the promotion of student confidence in their abilities to understand and use mathematics. SOEHHP I & III; ETC 1; NAEYC 1c; SC 6; InTASC 3

13. TCs will formulate appropriate objectives and student participation activities for math lessons. SOEHHP III; ETC 2, 3; NAEYC 5c; InTASC 5 & 7

14. TCs will demonstrate the ability to (1) relate mathematical concepts through the use of manipulatives and (2) incorporate appropriate technology into classroom instruction. SOEHHP II & III; ETC 2; NAEYC 4b, 5c; SC 16; InTASC 5
15. TCs will develop awareness and be able to communicate how mathematics relates to various career options with the goal of emphasizing to students the usefulness of mathematical content. SOEHHV; ETC 2; SC 4; InTASC 5

**TEACHER EDUCATION PROGRAMS: COMMON CORE ELA AND MATHEMATICS STANDARDS**

**Course Alignment with Common Core Standards**

**College and Career Readiness Mathematics Practice Standards**
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

**College and Career Readiness ELA Standards**

**Reading.**

*Key ideas and details.*
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

*Craft and structure.*
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

*Integration of knowledge and ideas.*
7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

*Range of reading level and text complexity.*
10. Read and comprehend complex literary and informational texts independently and proficiently.

**Writing.**

*Text types and purposes.*
1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.

*Production and distribution of writing.*
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

*Range of writing.*
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

**Speaking and Listening.**

*Comprehension and collaboration.*
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others’ ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric.

   Presentation of knowledge and ideas.

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

   Language.

   Conventions of Standard English.

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

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**TEACHER EDUCATION PROGRAMS: FINAL DRAFT OF EEDA PERFORMANCE STANDARDS**

1. **DEFINITION:** Career Guidance is a process by which students become aware of the world of work, explore career options, and prepare for post-secondary opportunities. **Performance Standard:** Teacher candidates will explain the career guidance process.

2. **DEFINITION:** The curriculum framework for career clusters of study is an organizational model that integrates career preparation components with academic coursework, providing the foundation for the development of the Individual Graduation Plan (IGP). The IGP, organized around career clusters and majors, is an educational plan aligned with students' interests, aspirations, and experiences. **Performance Standard:** Teacher candidates will explain the curriculum framework for the career clusters of study concept and its relevance to the Individual Graduation Plan (IGP).

3. **DEFINITION:** The elements of the Career Guidance Model are awareness, exploration, and preparation. **Performance Standard:** At the age-appropriate level of instruction, teacher candidates will explain the use of the career guidance standards and competencies as specified in the *South Carolina Comprehensive Developmental Guidance and Counseling Program Model*.

4. **DEFINITION:** Character education encompasses the identification, understanding, and performance of core values (listed in §59-17-135) that enhance citizenship, relationships, and quality of life. **Performance Standard:** Teacher candidates will identify instructional strategies that promote core values, as specified in §59-17-135, in the school community.

5. **DEFINITION:** Contextual teaching is a concept that refers to methodologies used by teachers that focus on concrete, hands-on instruction and content presentation with an emphasis on real-world application and problem solving. **Performance Standard:** Teacher candidates will use concrete, hands-on instruction and content presentation with an emphasis on real-world application and problem solving.

6. **DEFINITION:** Cooperative learning is an instructional technique where students interact collaboratively to complete a task. **Performance Standard:** Teacher candidates will implement learning strategies that promote cooperation.

7. **DEFINITION:** Learning styles is a concept that refers to methodologies intended to accommodate diversity in student learning. **Performance Standard:** Teacher candidates will implement strategies to accommodate the needs of diverse learners.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>Topic</th>
<th>Assignments to be completed for the given class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Introduction &amp; Standards-Based Teaching and Learning</strong>&lt;br&gt;01: 1/8&lt;br&gt;02: 1/13</td>
<td>❖ Weekly Assignment ONE (not assessed but are expected to know information for the first class session)</td>
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<td>❖ Introduction&lt;br&gt;❖ Mathematical proficiency&lt;br&gt;❖ Standards and standards-based teaching&lt;br&gt;❖ Explanation of Mathematics is Everywhere&lt;br&gt;❖ Course overview and goals</td>
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<td>2</td>
<td><strong>Problem-Based Teaching and Learning &amp; Beginning Lesson Planning</strong>&lt;br&gt;01: 1/15&lt;br&gt;02: 1/20</td>
<td>❖ Weekly Assignment TWO</td>
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<td>❖ Warm up: Review Weekly Assignment TWO&lt;br&gt;❖ Snowman activity* -- Problem based?&lt;br&gt;❖ Problem solving and problem-based classroom&lt;br&gt;❖ Explanation of Aims Problem-Solving Activity&lt;br&gt;❖ Watch and reflect: “Persistence in Problem Solving” (reflect questions included on Weekly Assignment TWO)&lt;br&gt;❖ Lesson planning: Beginnings</td>
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<td>3</td>
<td><strong>More Lesson Planning and Assessment</strong>&lt;br&gt;01: 1/22&lt;br&gt;02: 1/27</td>
<td>❖ Weekly Assignment THREE&lt;br&gt;❖ Mathematics is Everywhere Assignment (to dropbox by 9 AM)</td>
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<td>❖ Critique lesson plans, using form (45 min)&lt;br&gt;❖ Choral counting&lt;br&gt;❖ Show video and Problem based?&lt;br&gt;❖ Show created lesson plan (TCs may use this as a field lesson)&lt;br&gt;❖ Explanation of TCM Lesson Plan ONE Assignment (15 min)&lt;br&gt;❖ Warm up: Snowman assessment&lt;br&gt;❖ Assessment (Ch. 3): Timed tests, rubrics, analyzing student errors*, Smarter Balanced Assessment Consortium&lt;br&gt;❖ If time: Learning styles video (relates to individual differences)&lt;br&gt;❖ CLOSURE: One way to help all children learn and to help you assess is through concrete modeling (which we will talk about in depth in the coming weeks). In groups, use the base-ten blocks to perform the “Children’s Thinking” problems on the Weekly Assignment THREE; What might you look for to see if a child has an understanding of these operations? What assessment tool might you use to gather your data?</td>
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<td>4</td>
<td><strong>Equity and Accessibility</strong>&lt;br&gt;01: 1/29&lt;br&gt;02: 2/3</td>
<td>❖ Weekly Assignment FOUR&lt;br&gt;❖ Aims Problem-Solving Activity HW</td>
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<td>❖ Equity and accessibility lecture: early finishers and gifted and talented, struggling, SPED, ELL, and culturally diverse (Using Weekly Assignment FOUR)&lt;br&gt;❖ Sharing Aims activities (including objective(s) &amp; standard alignment)*</td>
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<td>5</td>
<td><strong>Early Number Sense</strong>&lt;br&gt;01: 2/5</td>
<td>❖ Weekly Assignment FIVE&lt;br&gt;❖ TCM Lesson Plan ONE draft due to peer group via OAKs discussion board by beginning</td>
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<td>❖ Early number sense* (Ch. 8)&lt;br&gt;❖ Share Valentine’s Day Estimation Example&lt;br&gt;❖ Begin Addition &amp; Subtraction</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
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| 6    | 02: 2/10   | **Children’s Thinking about Addition & Subtraction**                 | Problem Types for Developing the Meaning of Addition and Subtraction  
Children’s Solution Strategies for Addition and Subtraction Problems, How Those Strategies Develop  
Problem Type Identification Activity*  
Problem Strategy Identification Activity*  
Explanation of Clinical Interview Assignment  
If time, Begin Multiplication  
Weekly Assignment SIX  
*TCM Lesson Plan ONE critiques due to your peers by beginning of class via OAKs discussion board. This will be checked. |
| 01: 2/12 |           |                                                                        |                                                                                                                                                                                                           |
| 02: 2/17 |           |                                                                        |                                                                                                                                                                                                           |
| 02: 2/17 |           |                                                                        |                                                                                                                                                                                                           |
| 7    | 02: 2/19   | **Children’s Thinking about Multiplication, Fact Mastery, and Fluency** | Finish discussion of Addition and Subtraction from last week  
Problem Types for Developing the Meaning of Multiplication and Division  
Children’s Solution Strategies for Multiplication and Division Problems, How Those Strategies Develop  
Problem Type and Strategy Activity*  
Fact Mastery and Fluency  
Show students their content area for JIGSAW to be prepared by WEEK 9 (5 min)  
Weekly Assignment SEVEN – THIS IS A HEAVY WEEK; PACE YOURSELF!  
*TCM Lesson Plan ONE Final Project due at the beginning of class (HARD COPY) |
| 01: 2/24 |           |                                                                        |                                                                                                                                                                                                           |
| 02: 2/24 |           |                                                                        |                                                                                                                                                                                                           |
| 8    | 01: 2/26   | **Place Value**                                                       | Test 1  
Share reflections and activities from TCs chosen articles*  
Development of Children’s Understanding of Base-10 and Place-Value Concepts  
Big Ideas in Base-10 and Place Value  
CLOSURE: Weekly Assignment SEVEN Children’s Thinking questions  
Explanation of Shared *TCM Lesson TWO Assignment (go over any major errors that occurred with the Lesson Plan ONE)  
Give instructions for Test 1  
If time, Praxis review*  
Weekly Assignment EIGHT  
Place-value HW |
| 02: 3/2 |           |                                                                        |                                                                                                                                                                                                           |
| TEST 1 | 3/5 Noon   | **Test 1 – TAKE HOME**                                               | Note: I reserve the right to make this an in-class test on Week 8 if TCs are not completing weekly assignments up to par each week.  
Work on Test 1  
Test 1 due to OAKs dropbox by Noon 3/5 in order to be included in midterm grade |
| 9    | 01: 3/4    | **Strategies for Whole-Number Computation & Estimation**             | Computation & Estimation for whole numbers: Jigsaw Activity Part I* (10 min); Jigsaw Activity Part II (80 min)  
Closure: Week 9 Children’s Thinking Questions  
Explanation of Literature Connection/Book Bag Assignment  
Begin Fractions  
Weekly Assignment NINE  
Jigsaw HW |
| 02: 3/16 |           |                                                                        |                                                                                                                                                                                                           |
| 01: 3/18 | 02: 3/23 | **Children’s Thinking about Fractions**  
- Warm up: Share clinical interview assignments* and discuss themes and issues that emerge  
- Equal sharing and the early development of children’s understanding of fractions  
- Sign up and explanation of Curriculum Analysis  
- Final Project (30 min) |  
- Weekly Assignment TEN  
- Clinical interview HW |
|---|---|---|---|
| 01: 3/25 | 02: 3/30 | **Algebraic Thinking**  
- Share Literature Connection/Book Bag Ideas (1/2 of class)  
- Number and Operations Lesson Rotations (15 min each)  
- Algebraic Thinking* (Ch. 13)  
- Algebra Lesson Rotations (15 min each) |  
- Weekly Assignment ELEVEN  
- Number and Operations Shared TCM Lesson TWO  
- Algebra Shared TCM Lesson TWO  
- Literature Connection/Book Bag Projects for TCs NOT demonstrating Shared TCM Lesson TWO |
| 01: 4/1 | 02: 4/6 | **Geometry and Measurement**  
- Warm Up: What is a trianquad? (15 min)  
- Geo/Measurement Lesson Rotation (15 min each)  
- Geometry & Measurement Centers* (Chs. 19 & 20) (75 min)  
- Geo & Measurement Centers debrief (15 min) |  
- Weekly Assignment TWELVE  
- Geometry/Measurement Shared TCM Lesson TWO |
| 01: 4/8 | 02: 4/13 | **Data Analysis and Probability**  
- Share Literature Connection/Book Bag Ideas (remaining 1/2 of class)  
- Finish Geometry & Meas; If time, NAEP preassessments  
- Data Analysis & Probability* (Ch. 21)  
- DA & Prob Lesson Rotation (15 min each) |  
- Weekly Assignment THIRTEEN  
- Data Analysis Shared TCM Lesson TWO  
- Literature Connection/Book Bag Projects for remaining TCs (those who did not submit during Week 11) |
| 01: 4/15 | 02: 4/20 | **Blurring the ELA-Mathematics Divide Through Problem-Based Instruction**  
- Finish probability  
- Evaluations  
- Blurring the ELA-Mathematics Divide: Oral and Written Communication via Problem-Based Curricula Mentoring Young Mathematicians  
- Test 2 |  
- Weekly Assignment FOURTEEN  
- Study for Test 2: You must complete the entire review sheet by hand |
| EXAM DAY | 01: 4/29 9-11:45 | **Curriculum Analysis Project**  
- Mini-PD with Karen Reed: Mentoring Young Mathematicians: Representative activities* |  
- Projects due at the BEGINNING OF THE SCHEDULED EXAM TIME  
- Group member evaluation due SEPARATELY – I will not grade projects without this evaluation |
| 02: 4/25 12-3 |
Each week I will assess the weekly assignment in some manner, participation in general, and completion of in- and/or out-of-class activities. 2 absences are permitted, but participation points cannot be earned if not present. Assessment data will be recorded on this sheet. At the end of the semester, this will be used to calculate the weekly assignment and participation grade.

<table>
<thead>
<tr>
<th>Week</th>
<th>Out-of-Class Assignments/Preparation and GENERAL In-class PARTICIPATION</th>
<th>Participation and/or HW Score</th>
<th>Weekly Assignment 3 pts each</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Snowman (1 pt in class)</td>
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<td>Week 2:</td>
</tr>
<tr>
<td>3</td>
<td>Analyzing Student Errors (1/2 pt in class)</td>
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<td>Week 3:</td>
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<tr>
<td>4</td>
<td>Aims Activity (both in- and out-of-class)</td>
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<td>Week 4:</td>
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<tr>
<td></td>
<td>a. Out-of-class prep (1 pt)</td>
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<tr>
<td></td>
<td>b. In-class participation (1/2 pt)</td>
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<tr>
<td>5</td>
<td>Early Number Sense Activity (1/2 pt in class)</td>
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<td>Week 5:</td>
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<td>6</td>
<td>+/- Problem Type Identification Activity (1/2 pt in class)</td>
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<td>Week 6:</td>
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<tr>
<td></td>
<td>+/- Problem Strategy Identification Activity (1/2 pt in class)</td>
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<td>7</td>
<td>x Problem Type and Strategy Activity (1/2 pt in class)</td>
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<td>Week 7:</td>
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<td>8</td>
<td>Place Value Activity</td>
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<td>Week 8:</td>
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<tr>
<td></td>
<td>a. Out-of-class prep (1 pt)</td>
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<td></td>
<td>b. In-class participation (1/2 pt)</td>
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<td></td>
<td>In-class Praxis sample (1/2 pt in class)</td>
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**TOTAL POINTS at midterm**

<p>| /7 | /21 |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Strategies for Whole Number Computation and Estimation Jigsaw Activity (both in- and out-of-class)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Out-of-class prep (1 pt)</td>
<td></td>
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<tr>
<td></td>
<td>b. In-class participation (1/2 pt)</td>
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<tr>
<td>10</td>
<td>Clinical Interview (both in- and out-of-class)</td>
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<tr>
<td></td>
<td>a. Out-of-class prep (2 pts – 1 each)</td>
<td></td>
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<tr>
<td></td>
<td>b. In-class participation (1/2 pt)</td>
<td></td>
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<tr>
<td>11</td>
<td>Algebraic Thinking Activities (1/2 pt in class)</td>
<td></td>
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<tr>
<td>12</td>
<td>Geo &amp; Measurement Centers Assessment Packet (1 pt in class)</td>
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<tr>
<td>13</td>
<td>Data Analysis &amp; Probability Activities (1/2 pt in class)</td>
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<tr>
<td>14 &amp; 15</td>
<td>Mentoring Young Mathematicians: Representative activities* (3 pts in class)</td>
<td></td>
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<tr>
<td></td>
<td>TOTAL POINTS after midterm</td>
<td>/9</td>
</tr>
<tr>
<td></td>
<td>TOTAL POINTS after midterm</td>
<td>/18</td>
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</tbody>
</table>

GENERAL PARTICIPATION in class is expected; NOTE: ½ pt deduction from earned participation pts for every cell phone/non-class-related internet use