Instructor: Beth Lloyd, Ph.D.
Office: School of Education, Health, and Human Performance, Room 227
Office Phone: 953-7432
Email: LloydB@cofc.edu
Office Hours: Wed: 9-11 am; Thurs: 12:30-3:30 pm; or by appointment
Email Hours: Mon: Latest check and response 4 pm

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 Text:

Recommended Text:
- Used copies available online for about $3.00 (good resource, but not drawn on in class)

- Available online at [www.nctm.org](http://www.nctm.org)

Additional Sources: Additional readings and/or information may be drawn from, but not limited to, the following sources.

Class Supplies:
South Carolina Mathematics Standards K-3 (online: [www.myscschool.com](http://www.myscschool.com); click educators; standards online; math standards)
Familiarity with the Common Core Standards for mathematics K-3 (online [http://www.corestandards.org/the-standards/mathematics](http://www.corestandards.org/the-standards/mathematics))
Familiarity with the NCTM Standards (both process and content) for K-3 (online [http://nctm.org/standards](http://nctm.org/standards))
Course Requirements:

Demonstration of SOE 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 exams, are listed in the syllabus. Any changes will be announced in class. All assignments must be turned in during the class on the date due. If, for medical or serious personal reasons, an assignment is late, the instructor should be informed of the reasons. Otherwise, each late course assignment – excluding classwork assignments and journal entries - will receive a five-percent deduction per day that it is late. Classwork assignments and journal entries will not be accepted late. DO NOT give assignments to School of Education personnel. Assignments will NOT be accepted via email (unless specified explicitly).

All assignments must be typed and follow APA style guidelines.

WWW Lesson Plan
TCs will choose a website that has value for teaching mathematics. TCs will have 5 minutes to tell about their site using the classroom computer. The purpose of this project is to integrate technology (in this case the World Wide Web) into the development of worthwhile tasks for teaching mathematics.

Specifically, TCs are to construct one lesson based on one WWW site. The resource sites can be sites with data and/or other information that are useful for developing a lesson, or they can be sites that contain actual interactive activities. 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 following criteria:
1. Provide a paragraph description of why the WWW resource was selected. Tell how the lesson will fit into a larger unit. For example, TCs may be using weather data to form graphs that are part of a larger unit on graphing skills. TCs would specify some of the graphing skills that had already been taught and how the WWW-based lessons build on those skills.

2. Provide a lesson plan that is standards based. 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 the web either in the school library or their classroom.

Hard copy and Electronic copy to OAKS DROPBOX Due: 2/25
Rubric and lesson-plan template on OAKS

Cultural Influence Review
The culture review will consist of the following:
1. Cultural artifact: a copy of a comic, speech, quotation, video will need to be included in the review and brought to class. Transcription of speech or video is acceptable in written report, but video must be brought to class if used
2. Summary of the cultural influence of the piece (where it came from, author, importance, influence)
3. Speculation of its potential negative impact on (1) students’ views towards their mathematical abilities or (2) the necessity of learning mathematics. Include a citation from research on how culture influences student’s learning/motivation to support your speculation.

* Mechanics and professional appearance of the review count in the awarding of points.
* Candidates will be prepared to discuss the cultural artifact in class.

Hard Copy Due: 3/18
Rubric on OAKS

Literature Contribution/Book Bag Activity
A wealth of children’s literature exists that illustrates mathematical concepts. TCs will select and bring to class three books that may be used to supplement mathematics instruction. TCs will provide classmates with a half-page summary for each book including the title, author, publisher, a synopsis, SC standard, picture of cover of book, and ideas for when and how each book might be used to teach mathematical concepts. In order to share with classmates, TCs will deposit this into the class dropbox. If no further work is needed on the document, I will upload it to the class content page on OAKS.

Additionally, TCs select one book and align it with a SC mathematics standard. Develop and write up 1 activity that will be sent home for students or parents to do with their child along with a children’s literature book. The book bag will need to include the following parts:
1. A 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
3. A parent letter explaining activity to parents in detail or instruction sheet for students
4. An assessment for student to accompany activity (worksheet);
5. A teacher page listing standards, objectives, and including a rubric for how student sheets will be graded
6. Manipulatives or supplies needed to perform the activity

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

Physical Project presented/given to me IN CLASS and Electronic Document submitted to the OAKS DROPBOX Due: 4/1
Rubric on OAKS

Historical Integration Project
Each TC will develop a page for a class book. The theme of the book will be mathematics as it relates to an important site in Charleston.
TCs will select a site in Charleston. The following need to be included on the book page:

1. A picture of the site in Charleston or surrounding area
2. A synthesized paragraph of historical or important information about the site with references
3. A mathematics problem that relates to the picture or site with answer
4. A SC standard for the activity cited at the bottom of the page.

**Hard Copy Due: 4/15**
After the book is compiled (sometime shortly after the due date), any TC who would like to copy the class book is welcome to do so during my office hours.

**Rubric on OAKS**

**Textbook Analysis**
TCs will analyze mathematics textbooks. Each group’s task is to prepare a written and oral report for the school textbook adoption committee. Because looking at every topic for every grade level is an overwhelming task, TCs will look closely at a single topic throughout the K-3 curriculum for a single series. For the series and topic assigned, each group should address the issues outlined below. TCs must make sure it is clear from comments how tasks, role of the teacher, culture, tools, and equity are dealt with (a) simply by having students use the books, (b) having the students use the books and making use of the ideas presented in the teachers edition, or (c) using the books, teachers edition, and supplemental materials. Of course, there may be situations where TCs believe none of the published materials are sufficient. In these cases, they should explain why. TCs should remember to note specific page numbers from the students or teachers editions as examples to back up any generalizations that are made. **TCs need to cite at least one example from the textbook with page numbers to support conclusions within each of the FIVE sections below.**

**Due: 5/2**

**Rubric on OAKS**

**Five Textbook Analysis Project Sections:**

1. **Nature of the classroom tasks**
   - Do the tasks require students to think as opposed to simply practice?
   - Do the tasks encourage reflection and communication?
   - Are the tasks engaging and interesting enough that students want to pursue them? Specifically, are the tasks intrinsically motivating?
   - Do the tasks lend themselves well to the use of appropriate tools?
   - 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?

2. **Role of the teacher**
   - What kind of guidance is given to a teacher in selecting appropriate tasks?
   - To what extent does the text allow for and encourage student invented algorithms, if appropriate?
   - What is done to help the teacher draw connections between “school math” and everyday experience?
   - What does the text suggest about how much teachers should “tell” students? Scripted instruction?
   - Are the South Carolina state mathematics standards listed and are they accurate?
   - **Correlate the state standards for one topic for one grade in TABLE format. Again, list South Carolina Standards for ONE strand in ONE grade level and provide correlation in table form!!!!**

See below for example.

<table>
<thead>
<tr>
<th>South Carolina Geometry Standard:</th>
<th>Found on Page:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.A.2.1 – Describe, model, and draw two-dimensional geometric shapes with up to eight sides</td>
<td>308-312</td>
</tr>
<tr>
<td>I.A.2.1 – Identify, name, model, and draw two-dimensional geometric shapes with up to eight sides.</td>
<td>308-312</td>
</tr>
<tr>
<td>I.B.2.1 – Compare and describe three-dimensional shapes according to the number and shape of faces, edges, bases, and corners (cube, rectangular solid, square pyramid).</td>
<td>308-316</td>
</tr>
</tbody>
</table>
I.B.2.2 – Compare and contrast plane and solid geometric shapes (circle/sphere, square/cube, triangle/pyramid, rectangle/rectangular solid).

I.C.2.1 – Predict the results of combining and partitioning two- and three-dimensional geometric shapes.

II.B.2.1 – Compare distances between objects on a pictorial map using words such as closer to and farther than.

II.C.2.1 – Identify locations on a pictorial map using the positional words left, right, north, south, east, and west.

III.A.2.1 – Predict the results of and demonstrate transformations of geometric shapes, including slides, flips, and turns.

III.B.2.1 – Using various concrete materials, create figures that are symmetrical across a line.

IV.A.2.1 – Create geometric objects based on mental images.

IV.B.2.1 – Describe congruent and similar shapes.

IV.C.2.1 – Analyze and predict the effect on the number of pieces used to form a geometric shape when various arrangements are formed using the same number of pieces.

IV.C.2.2 – Using square tiles, grid paper, and unifix cubes, connect geometry to related concepts in measurement and number.

IV.D.2.1 – Describe relationships among geometric shapes in the environment, including applications in science, art, and architecture.

IV.D.2.2 – Recognize, describe, extend, and create a wide variety of patterns using geometric symbols and objects.

3. Social culture of the classroom
   To what extent are collaboration and cooperative learning encouraged?
   How forcefully does the text promote a culture where students are expected to share their own methods?  (This is related to invented algorithms, as noted in role of the teacher.)
   How frequently does the text give ideas for creating learning from students’ mistakes?
   What types of assessments are provided? Are they effective in your opinion?
   List all assessment guides, workbooks, and types of assessment used (open-ended, multiple choice, etc.)

4. Mathematical tools
   What tools are essential in this text?
   What tools are listed as optional?
   How well do the tools help students construct meaning?
   To what extent are a variety of tools used to help students understand a single concept?
   List all tools for the topic chosen for all grade levels (i.e. manipulatives, books, games, CDs, websites, supplementary material)

5. Equity and accessibility
   To what extent does the text provide enough options to make it likely that all children will be successful?
   (Provide examples of how all students including special education, Gifted and Talented, English Language Learners, and students with special needs are addressed.)
   Are the suggested accommodations appropriate for all students?
   What is done to help the teacher make sure every student contributes?

Quizzes
TCs will be expected to complete three in-class quizzes. 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. (Quiz dates are indicated on the schedule.)

Reading Reflection Journal
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.

There are nine reading reflective journal entries due throughout the course of the semester. Entries must be submitted to the dropbox in OAKS by the start of class on the date indicated on the daily schedule. Failure to submit on time will result in a loss of full credit. Understanding that we all have very busy lives – some weeks more busy than others, TCs are allowed to omit one of the nine entries without penalty.

Each entry should be labeled: “ENTRY #: CHAPTER #” (If two chapters are included in an entry, label each appropriately.) Each entry should have the following:
1. A succinct outline of each chapter.
2. Three quotations from each chapter. Quotations should come from sections throughout the beginning, middle, and end of the readings, with no two coming from one section entirely.
3. Reflections on how each of the three quotations affects thinking about teaching, learning, and future practices. Reflections should include descriptions of “AHA!” moments, topics for which TCs are confused, and topics that are of particular interest or concern to TCs.
4. One question per chapter that ties in multiple main ideas from the chapter. The question should get at the heart of the main themes being conveyed in the chapter.
5. A thorough answer to the question. TCs should be prepared to ask the question to the class and facilitate class discussion.

Like with all written assignments, TCs should follow APA formatting.

As noted on the daily schedule, there will be some Warm Ups that require TCs to bring their questions and answers to class. TCs should note this so that they are fully prepared for class on these days. Participation points will be earned by those TCs who are prepared.

**Teaching Children Mathematics: Shared Lessons**

*Teaching Children Mathematics (TCM)* is an official journal of the National Council of Teachers of Mathematics (NCTM) and a forum for the exchange of ideas in curriculum, instruction, learning, and teacher education. The primary audience of *TCM* is elementary-school teachers, and the journal contains many articles with ideas that are directly applicable to the classroom. Journals are available for review online for NCTM members. TCs may join NCTM online at [http://www.nctm.org/membership/content.aspx?id=7618](http://www.nctm.org/membership/content.aspx?id=7618). If TCs decide not to join NCTM, they must access the journals (past 1994) by going to the library. The objective in having TCs look at the journals is to help them gain familiarity with them as resources for teaching early-childhood mathematics.

TCs are to find an activity in *TCM* (nothing older than 2004) that fits their assigned content area and grade level. They are to write a complete lesson plan using this activity. The lesson plan should follow the EHHP lesson plan format provided on OAKs. They should also write a brief reflection on why they chose this article and its activity to share with their classmates. TCs will provide a hard copy to me and an electronic copy submitted to the OAKS DROPBOX of the detailed lesson plan (including standards alignment, procedures, materials, SOURCES, etc.), short reflection, and master copies on the date indicated on the schedule. They will also turn in a copy of the article to me. On the day that TCs are required to have these materials, they 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 2-3) to go over the lesson implementation.

Upon choosing their article and activity, TCs should let me know – on the article sign up sheet. There are to be no duplicates in activities. I will carry the article sign up with me each class for TCs to review if needed. I may post it to OAKS as well.

**Hard copy and Electronic copy to OAKS DROPBOX Due Dates Indicated on the Daily Schedule**

**Lesson Plan Template on OAKS**
SUGGESTION: Dr. Cheshire and I have set up the course assignments so that TCs are to share lessons with one another. They should begin building a toolbox of lessons/activities based on what was shared in EDEE 323 and 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 to look on last semesters PBWorks site for additional activities. TCs who did not have me last semester for EDEE 323 and would like access to these activities should let me know so I can invite them to the site.

Participation and Attendance
During class, there will be a number of warm ups, discussions, activities, etc. TCs will be expected to participate in these.

EDEE 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. Writing Lab is located on the first floor of Addlestone Library (Monday through Thursday 9:00 am to 9:00 pm and Friday 9:00 am to noon). 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 250 points during the semester. They will be distributed as follows:

<table>
<thead>
<tr>
<th>Evaluation Category</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation and Attendance</td>
<td>30</td>
<td>12%</td>
</tr>
<tr>
<td>WWW Project</td>
<td>20</td>
<td>8%</td>
</tr>
<tr>
<td>Cultural Artifact Review</td>
<td>20</td>
<td>8%</td>
</tr>
<tr>
<td>Literature Connection/Book Bag Activity</td>
<td>25</td>
<td>10%</td>
</tr>
<tr>
<td>Historical Integration Project</td>
<td>20</td>
<td>8%</td>
</tr>
<tr>
<td>Textbook Analysis</td>
<td>40</td>
<td>16%</td>
</tr>
<tr>
<td>Quizzes (3)</td>
<td>10</td>
<td>12%</td>
</tr>
<tr>
<td>Reading Reflection Journal (8 Entries)</td>
<td>5</td>
<td>16%</td>
</tr>
<tr>
<td>Shared TCM Lesson</td>
<td>25</td>
<td>10%</td>
</tr>
</tbody>
</table>

Evaluation Scale

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage Range</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
<td>4.0</td>
</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>
<td>3.0</td>
</tr>
</tbody>
</table>
B- 84-85% 2.7
C+ 82-83% 2.3
C 79-81% 2.0
C- 77-78% 1.7
D+ 75-76% 1.3
D 72-74% 1.0
D- 70-71% 0.7
F 0-69% 0.0

Respectful Conduct
TCs are expected to be respectful and considerate 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.

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.

Students can find the complete Honor Code and all related processes in the Student Handbook at http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php

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
All teacher preparation programs in the College of Charleston’s School of Education (SOE) are guided by a commitment to the conceptual framework of “Making the Teaching and Learning Connection.” Three elements of teacher competency 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) School of Education (SOE), (2) National Council for Accreditation of Teacher Education (NCATE), and (3) National Association for the Education of Young Children (NAEYC). They, therefore, indicate the expectations for teacher candidates within the School of Education, 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.
   SOE I; NCATE 1; NAEYC 4b

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.
   SOE II, III; NCATE 2d, 3d; NAEYC 4b

3. TCs will convey an appreciation for the discipline of mathematics including its history and the contributions of diverse cultures to the field.
   SOE II, VII; NCATE 2d

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.
   SOE II; NCATE 2d, 2i, 3a; NAEYC 4b

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.
   SOE I; NCATE 2d, 3a, 3d; NAEYC 4b

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.
   SOE III; NCATE 4; NAEYC 1, 4b

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.
   SOE VI; NCATE 4; NAEYC 3, 4b

8. TCs will communicate about and through mathematics verbally and in writing using both everyday language and mathematical representations.
   SOE II; NCATE 2d, 3e; NAEYC 4b

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 and the SC Standards.
   SOE II; NCATE 2d; NAEYC 4b

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 the SC Standards.
    SOE II; NCATE 2d, 3c; NAEYC 4b, 4c

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.
    SOE II; NCATE 2d

12. TCs will state characteristics of a positive classroom environment conducive to the promotion of student confidence in their abilities to understand and use mathematics. SOE I & III; ETC 1
13. TCs will formulate appropriate objectives and student participation activities for math lessons. SOE III; ETC 2, 3

14. TCs will demonstrate the ability to (1) relate mathematical concepts through the use of manipulatives and (2) incorporate appropriate technology into classroom instruction. SOE II & III; ETC 2

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. SOE V; ETC 2
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings &amp; Assignments to be completed for the given class</th>
</tr>
</thead>
</table>
| 1/14  | ✗ Warm Up: Math Problems/Exercises  
       | ✗ Course overview  
       | ✗ Introduction to PK-3 mathematics  
       | ✗ Standards and standards-based teaching (Ch. 1)  
       | ✗ Doing mathematics (Ch. 2)  
       | ✗ Spiral activity – glue, scissors, construction paper | ✗ Read Chs. 1 & 2 |
| 1/21  | ✗ Warm Up:  
       | 1. Student Question Ch. 3  
       | 2. Student Question Ch. 4  
       | 3. Math Problems/Exercises  
       | ✗ Problem solving and problem-based classroom (Ch. 3 & Ch. 4)  
       | ✗ Lesson planning (Ch. 4)  
       | ✗ If time, Learning style video  
       | ✗ If time, Snowman Activity | ✗ Read Chs. 3 & 4  
       | ✗ Reading Reflection Journal Entry #1 (Ch. 3 & 4) |
| 1/28  | ✗ Meet in library (Room TBA)  
       | ✗ Quiz #1 (30 minutes)  
       | ✗ Technology integration (Ch. 7)  
       | ✗ Explanation of WWW Lesson Plan (15 min)  
       | ✗ Explanation of Standards Alignment Assignment for the M² Geometry Unit (5 min) | ✗ Read Ch. 7  
       | ✗ Study for Quiz #1 |
| 2/4   | ✗ Presentation of CCPS Curriculum M²: Karen Reed | ✗ Read Ch. 6  
       | ✗ Reading Reflection Journal Entry #2 (Chs. 6 & 7) |
| 2/11  | ✗ Level 2 Geometry Unit Facilitated by Karen Reed: Designing a Shape Gallery | ✗ Read Ch. 20  
       | ✗ Reading Reflection Journal Entry #3 (Ch. 20) |
| 2/18  | ✗ Level 2 Geometry Unit: Designing a Shape Gallery continued (Karen’s Birthday!) | ✗ Read Ch. 19  
       | ✗ Reading Reflection Journal Entry #4 (Ch. 19) |
| 2/25  | ✗ Warm Up: Thoughts on Dyscalculia  
       | ✗ Present WWW Lesson Plans (90 minutes)  
       | ✗ Assessment (Ch. 5)  
       | ✗ Explanation of Cultural Artifact Project (15 min) | ✗ Read Ch. 5  
       | ✗ Read Gender Article & Dyscalculia Info.  
       | ✗ WWW Lesson Plan |
| 3/4   | ✗ Warm Up:  
       | 1. Class Consensus on Standards Alignment  
       | 2. Math Problems/Exercises  
       | ✗ Geometry & Measurement (Chs. 19 & 20)  
       | ✗ Geometry & Measurement Lesson Rotation (45 min)  
       | ✗ Explanation of Literature Bag Project (20 min) – mention how to evaluate books | ✗ Standards Alignment  
       | ✗ Review TCM to find Shared Lesson Plan Activity  
       | ✗ Geometry/Measurement Shared TCM Lessons  
       | ✗ Catch up on all readings: Chs. 1–7, 19, & 20 |
| 3/11  | ✗ Spring Break | ✗ BE SAFE! HAVE FUN! |
| 3/18  | ✗ Warm Up:  
       | 1. Group Discussion of Reading Reflection Journal Entry #5  
       | 2. Math Problems/Exercises  
       | ✗ Cultural Artifact Presentations (50 min)  
       | ✗ Whole Numbers, Number Sense, & Operations with Whole Numbers (Chs. 8 & 9) | ✗ Cultural Artifact Project  
       | ✗ Read Chs. 8 & 9  
       | ✗ Reading Reflection Journal Entry #5 (Chs. 8 & 9) |
| 3/25  | ✗ Quiz #2  
       | ✗ Mastering Basic Facts & Place Value (Chs. 10 & 11) | ✗ Study for Quiz #2  
<pre><code>   | ✗ Read Ch. 10 &amp; 11 |
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| **4/1** | - Timed-test activity  
- Number & Operations Lesson Rotation (45 min)  
- Reading Reflection Journal Entry #6 (Chs. 10 & 11)  
- N & O Shared TCM Lessons |
| **4/8** | - Warm Up: Group Review of the Different *Everyday mathematics* Algorithms  
- Literature Bag Presentations (90 min)  
- Strategies for Whole Numbers & Computational Estimation (Chs. 12 & 13)  
- Explanation of Historical Integration Project (20 min)  
- Literature Bag Project  
- Read Ch. 12 & 13  
- Read *Everyday mathematics* article  
- Reading Reflection Journal Entry #7 (Chs. 12 & 13)  
- Read Ch. 14  
- Attempt Praxis Example  
- Algebra Shared TCM Lessons |
| **4/15** | - Warm Up: Group Discussion of Praxis Example  
- Textbook Analysis Explanation (30 min)  
- Algebraic Thinking (Ch. 14)  
- Algebra Lesson Rotation (45 min)  
- Read Ch. 15  
- Skim Ch. 16  
- Reading Reflection Journal Entry #8 (Chs. 14 & 15)  
- Historical Integration Project  
- Read Ch. 21  
- Reading Reflection Journal Entry #9 (Ch. 21) |
| **4/22** | - Warm Up:  
1. Student Question Ch. 15  
2. Math Problems/Exercises  
3. Historical Integration Presentations (60 min)  
4. Early Fraction Concepts (Ch. 15 & 16)  
- Read Ch. 15  
- Skim Ch. 16  
- Reading Reflection Journal Entry #8 (Chs. 14 & 15)  
- Historical Integration Project  
- Read Ch. 21  
- Reading Reflection Journal Entry #9 (Ch. 21) |
| **5/2** (8 - 11) | - Quiz #3 (30 min)  
- Textbook analysis project presentations  
- Study for Quiz #3  
- Textbook Analysis Project |