Course Description:
This course focuses on the alliance of factual knowledge, procedural proficiency, and conceptual understanding. The parallels of learner development and the progressive nature of mathematics content standards are explored. Teacher candidates will study the elements necessary to help PK-8 students achieve high-quality mathematics instruction.

More specifically, in accordance with SC State, Common Core, and National Standards, teacher candidates will explore numbers and operations, geometry, measurement, data analysis and probability, and algebra. Problem solving, reasoning, multiple representations, connections, and communication are stressed throughout the course coverage of these content areas, facilitating the development of deep conceptual understanding. At the successful completion of the course, teacher candidates will be equipped to teach their future elementary- and middle-school students in a variety of ways such that their students understand mathematics procedures and why mathematics concepts make sense.

Required Text:
❖ Hardcover (used hardcover: $75.00) and paperback available - purchase 4th Edition

Class Supplies:
Common Core Standards (both practice and content) for mathematics 2-6 (online http://www.corestandards.org/Math)
NCTM Standards (both process and content) for 2-6 (online http://nctm.org/standards)
❖ Available online at www.nctm.org (100-day free trial)

Course Requirements:
Demonstration of SOE HHP 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 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. 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 reading reflections - will receive a FIVE-PERCENT deduction per day that it is late. Classwork assignments and reading reflections 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, unless otherwise specified.

Reading Reflection Entries (4)
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 four reading reflective 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 credit.

Each entry should be labeled: “ENTRY #: CHAPTER or CHAPTER SECTIONS”
Each entry should have the following:
1. A succinct outline or summary of each chapter section – NOT JUST HEADINGS. (4 points)
2. A quotation from each section (properly cited – authors, year, p. #/pp. #/#)
3. Reflections on each of the quotations. How do they affect TCs thinking about teaching, learning, and/or future practices. Reflections should include descriptions of “AHA!” moments, topics for which TCs are confused, how topics connect to the 2-6 classrooms (refer to “Connections to the PreK-8 Classroom,” “Analyzing a Textbook Page,” and “Analyzing Student Work” segments), topics connected to field, topics connected to personal experiences in school or with other children in school, and topics that are of concern to TCs (elaborating on why a concern). DO NOT SUMMARIZE A QUOTATION; SUMMARIES ARE NOT REFLECTIONS. (quotations & reflections: 4 points)

Like with all written assignments, TCs should follow APA formatting (outlines are the exception aside from the citations). ½ point will be deducted if improper APA formatting or grammatical errors.

Homework Assignments (2)
In addition to reading reflections, to maximize the development of mathematical thinking, it is important that the TCs engage in the actual mathematics being described both in their readings and in class. As such, throughout the semester, there will be content-based mathematics problems given from the class text and materials provided during class. These will not be collected or graded but will assist TCs in deepening their understanding and recognizing what they do and do not understand in depth related to the critical mathematics content taught to PK-8th-grade students. TCs are encouraged to work together, ask questions during class related to these HW problems, discuss these problems during office hours, etc. While these are not graded, they will serve as a study aid for the final exam.

Classroom Explorations (8)
Throughout the semester, TCs will be asked to participate in and complete classroom explorations related to the content of that day’s class. These explorations will help deepen TCs understanding of the given content by way of problem-based, peer-scaffolded learning opportunities, rather than traditional didactic instruction. Too, they will help TCs learn to communicate and collaborate mathematical ideas, areas of confusion, etc. Because these explorations depend upon peer scaffolding and communication, to receive credit, TCs must be present.

Pre-Classwork Assignments (7)
Throughout the semester, TCs will be asked to complete assignments necessary for class discussion. Each assignment is indicated on the daily schedule. If materials are required for completing the assignments, they will be given the class prior to the assignment’s due date or posted on OAKs.

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. In a table format, with one of the eight CCSS Mathematical Practices per row, 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. At least two examples should be observed per week.

Tests: Midterm & Final
TCs will be expected to complete two tests: a midterm and final. Material on these summative assessments comes from (1) in-class lectures, discussions, and activities and (2) out-of-class readings and assignments. (Test dates are indicated on the schedule.)

Standards Project
In pairs or groups of 3 or 4 (depending on the size of the class), TCs will sign up to examine one of the five NCTM Content Standards (number & operations, measurement, geometry, data analysis & probability, and algebraic thinking) throughout the first three NCTM grade bands (Early Childhood Grade Band, covering PK-2; Elementary Grade Band, covering grades 3-5; Middle Grade Band, covering grades 6-8). TCs will also examine the Common Core Standards (CCSS) that align with their NCTM Content Standard. In order to fully examine their content standard, I expect each pair/group to:

- Familiarize themselves with the NCTM and CCSS, understanding the expectations, objectives, indicators, etc. for each grade or grade band. (The language and breakdown is different for each set of standards.)
- Through this familiarization, articulate how children develop their mathematical thinking from kindergarten through eighth grade with regard to the specified content standard.
Describe clearly how the standard translates into classroom practice.

Because “the mathematical Content and Process Standards...are inextricably linked,” describe how the NCTM Process Standards and CCSS Mathematical Practice Standards are integrated into implementations of the content standard (NCTM, 2000, p. 7).

These are to be achieved in three ways:

1. reading Principles and standards and reviewing the Common Core Standards
2. reviewing and obtaining appropriate activities from either the journal Teaching children mathematics (TCM) or the journal Mathematics Teaching in the Middle School (MTMS), and
3. obtaining appropriate, well-constructed activities from practicing teachers. If this cannot be achieved due to lack of access to the appropriate grade-level teacher, TCs, WITH PERMISSION, may retrieve these activities from the journals/NCTM website as well.

Specifically, each pair/group will be responsible for obtaining the following corresponding to the group content standard. (TCs can either divvy these up or collect together. Whichever, in the final write up, TCs must indicate who was responsible for each activity so that I can accurately assess each TC.)

TCs must obtain the following TWO Early Childhood (PK – 2) activities:
1. Grades 1 or 2 activity from a teacher; and
2. Grades 1 or 2 activity from TCM

TCs must obtain the following FOUR Elementary (3 – 5) activities:
1. Grades 3 or 4 activity from a teacher;
2. Grades 3 or 4 activity from TCM;
3. Grades 4 or 5 activity from a teacher;
4. Grades 4 or 5 activity from TCM

NOTE: Must have at least one third, at least one fourth, and at least one fifth-grade activity.

TCs must obtain the following TWO Middle Grades (6 – 8) activities:
1. Grades 6-8 activity from a teacher;
2. Grades 6-8 activity from MTMS;

The intent of this project is to familiarize TCs with the Standards, to help them understand how to implement standards into classroom practice (better understanding what makes a good standards-based, well-aligned assignment), and to help them understand how children develop their mathematical thinking from K through grade eight. Pragmatically, I want TCs to begin collecting detailed activities that span the Content Standards and grade bands so when they leave my class they do not have to start from scratch.

At the completion of our class coverage of a given content standard (number & operations, measurement, geometry, data analysis & probability, and algebraic thinking), the pair/group which was assigned to that content area will:

1. Teach a lesson on the development of student thinking from K-8 in that given area. (In teaching this, they may consider having the class attempt to order particular expectations/indicators, ask questions about what classmates think fall within the content standard, provide a timeline of what is covered in each grade, etc.). TCs are expected to reveal how the NCTM and CCSS differ in their descriptions of the development of mathematical thinking. Last semester, a group used a Venn diagram to convey this. It was excellent. I DO NOT WANT TO SEE THE STANDARDS CUT AND PASTED INTO PPT SLIDES.

During the lesson, the group will demonstrate two activities – (1) 2nd/3rd/4th-grade activity and (2) 5th/6th/7th-grade activity – exemplifying to their classmates the development of mathematical thinking within the given content area. Each of the group members should contribute equally in the facilitation of the lessons. This will require some out-of-class preparation.

Each group member will have the opportunity to assess the contributions of the other group members. Both the demonstration and peer assessment will be figured into each TC’s Standards Project grade.
Note that while not indicated on the schedule, TCs should (1) work on this project throughout the semester and (2) read chapters three through six in the *Principles and standards for school mathematics*.

**Participation and Attendance**

**Participation**

During class, there will be a number of activities. TCs will be expected to participate in these activities and in general class discussions. In order to earn participation credit for classwork activities and discussions, TCs **must be present**. There are 14 scheduled class sessions, excluding the final exam session: most of the sessions are devoted to Explorations or require Pre-classwork to be completed for which TCs will earn course points. For Week 4 and Week 7, general participation will be assessed at 1 point per class session (2 points total); during peer presentations, general participation will be assessed at 2 points per session (6 points total).

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. 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 200 points during the semester. They will be distributed as follows:

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<thead>
<tr>
<th>Evaluation Category</th>
<th>Points</th>
<th>Percentage</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Reflection Entries (3)</td>
<td>8 points each, 24 points total (12%)</td>
<td>91-100%</td>
<td>4.0</td>
</tr>
<tr>
<td>Pre-Classwork Assignments (7) &amp; In-Class Explorations (8)</td>
<td>4 points each, 60 points total (30%)</td>
<td>89-90%</td>
<td>3.3</td>
</tr>
<tr>
<td>Midterm and Final</td>
<td>30 points each, 60 points total (30%)</td>
<td>88-89%</td>
<td>3.0</td>
</tr>
<tr>
<td>Standards Project</td>
<td>40 points (20%)</td>
<td>87-88%</td>
<td>3.0</td>
</tr>
<tr>
<td>Mathematics is Everywhere</td>
<td>8 points (4%)</td>
<td>86-87%</td>
<td>2.7</td>
</tr>
<tr>
<td>General Participation</td>
<td>8 points (4%)</td>
<td>85-86%</td>
<td>2.7</td>
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</table>

**Evaluation Scale**

<table>
<thead>
<tr>
<th>Letter Grades</th>
<th>Percentage Range</th>
<th>Grade Points</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>91-100%</td>
<td>4.0</td>
</tr>
<tr>
<td>B+</td>
<td>89-90%</td>
<td>3.3</td>
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</tbody>
</table>
Respectful Conduct
TCs are expected to be respectful and considerate of one another. Cell phones should be turned off while in class. If an emergency, TAs may be excused to the hallway to talk or text. 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.

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 (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) School of Education (SOE), (2) National Council for Accreditation of Teacher Education (NCATE), (3) National
Association for the Education of Young Children (NAEYC), (4) National Middle School Association (NMSA), and State Standards for Teacher Education (SC). They, therefore, indicate the expectations for teacher candidates within the School of Education, early childhood teachers, elementary-grades teachers, and middle-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 middle 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, 5

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; SC 4 (contextual teaching and diverse learning styles)

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 5; NMSA 4.K2, 4.K3; SC 4 (contextual teaching)

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 1a, 5; NMSA 3.K5, 3.D4, 4.P3; SC 4 (diverse learning styles; cooperative teaching)

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-8 students exhibiting diversity in its many forms. SOE III; NCATE 4; NAEYC 1, 4b; NMSA 1.P5, 1.P10, 4.K3, 5.K2; SC 4 (diverse learning styles)

7. 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; NMSA 4.K4, 4.D4, 4.P5

8. 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-8 mathematics curriculum as prescribed by the NCTM and the CCSS. SOE II; NCATE 2d; NAEYC 4b, 5; NMSA 4, 6.K5; SC 7

9. TCs will demonstrate the value and integrative nature of the process standards of problem solving, reasoning, communication, connections, and representations within the PK-8 mathematics curriculum as prescribed by the NCTM and, in similar fashion, in the CCSS Mathematical Practice Standards. SOE II; NCATE 2d, 3c; NAEYC 4b, 5, 4c; NMSA 4, 5.K3, 5.P2, 6.K5; SC 4 (contextual teaching); SC 7

10. 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

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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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings &amp; Assignments to be completed for the given class</th>
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</thead>
</table>
| 1/9  |❖ Course overview  
❖ Beliefs about mathematics  
❖ Doing mathematics  
❖ Common Core and NCTM Standards (45 min): Number and Operations Standards Ordering Activity, distinction b/w CCSS, and two activities  
❖ Standard project sign up and explanation  
❖ Mathematics is Everywhere explanation |❖ Syllabus |
| 1/16 |❖ Problem solving: **Exploration 1 Pizza problem**  
❖ Reasoning  
❖ Communicating  
❖ Begin sets and whole numbers  
❖ Assign HW 1 problems: Chs. 1-6 (on OAKs)  
❖ Assign Pre-classwork 1 operation (+, -, x, or /)  
❖ Closure: Learning Styles Video |❖ Read Ch. 1 and 2.1  
❖ Begin working on Reading Reflection Entry 1 (RR 1: Chs. 2 & 3) |
| 1/23 |❖ Whole number operations  
❖ Review of *Everyday mathematics* and *Multicultural mathematics* procedures (Jigsaw fashion)  
❖ Integers (Jigsaw fashion) |❖ Read 2.2, 2.3, 3.3, & 3.4  
❖ Pre-classwork 1: Read *Everyday mathematics* article; Read *Multicultural mathematics* article; take notes on and be prepared to explain the procedures for assigned operation  
❖ Cont. working on RR 1 & HW 1 |
| 1/30 |❖ Numeration  
❖ Number sense, mental math, estimation, & rounding  
❖ Assign Pre-classwork 3 operation (+, -, or x) |❖ Read 2.4, 3.1, & 3.2  
❖ RR 1 Due: Chs. 2 & 3 |
| 2/6  |❖ Factors and divisibility, Prime and composite numbers, & GCF and LCM  
❖ **Exploration 2**  
❖ Integers (Jigsaw fashion) |❖ Read Chs. 4 & 5  
❖ Pre-classwork 2: Complete handout for Ch. 4  
❖ Pre-classwork 3: Take notes on the models for assigned integer operation; be ready to demonstrate to class |
| 2/13 |❖ Rational number system  
❖ Addition and subtraction with fractions  
❖ **Exploration 3** |❖ Read Ch. 6  
❖ Begin collecting activities from teachers and *TCM* or *MTMS* for final project |
| 2/20 |❖ Multiplication and division with fractions |❖ Mathematics is Everywhere Assignment Due |
| 2/27 |❖ Midterm (1 hour 15 minutes)  
❖ Assign Pre-classwork 4: MPG problems (to work on while peers finish midterm)  
❖ Assign HW 2 problems: Chs. 7-13 (On OAKs)  
❖ **Exploration 4: Fraction activity centers** (1 hour)  
❖ Go over final project instructions in depth (15 min) |❖ Study for Midterm |
| 3/6  |**SPRING BREAK – NO CLASS** | |
| 3/13 |❖ Proportional reasoning, ratio, and percent  
❖ **Exploration 5: Unit Prices/Assorted problems**  
❖ **Exploration 6: Percent**  
❖ Discuss MPG issue (if time) |❖ Read 7.1-7.3  
❖ Pre-classwork 4: MPG problems |
| 3/20 |❖ Brief review of lesson plan components and available resources on OAKs (assessment packet, lesson plan template, articles on differentiation)  
❖ Data analysis: Review data analysis case study, |❖ Read Ch. 8  
❖ Pre-classwork 5: Complete Ch. 8 PPP and case study questions |
<table>
<thead>
<tr>
<th>Date</th>
<th>Tasks</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>✤ The Development of “Data Analysis and Probability” Thinking (1 hour 15 min)</td>
<td>✤ Pre-classwork 6: Ch. 9 Handout</td>
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<tr>
<td>4/3</td>
<td>✤ Geometry: Pyth. Thm.; Tessellations; Polygons; Trianquad Concept Attainment Lesson</td>
<td>✤ Read Chs. 10.1, 11.1, and 11.2 (review other sections as you see fit)</td>
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<td>✤ Exploration 7: Trapezoids</td>
<td>✤ RR 2 Due: Chs. 10.1, 11.1, and 11.2 – for vocab, can draw &amp; label diagrams</td>
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<td></td>
<td>✤ The Development of “Geometric” Thinking</td>
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<td>4/10</td>
<td>✤ Measurement Notes</td>
<td>✤ Read Ch. 12</td>
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<td>✤ Exploration 8: Geo &amp; meas activity centers</td>
<td>✤ Pre-classwork 7: Praxis example</td>
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<tr>
<td></td>
<td>✤ The Development of “Measurement” Thinking (1 hour 15 min)</td>
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<tr>
<td>4/17</td>
<td>✤ Algebraic thinking</td>
<td>✤ Read 13.1</td>
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<td></td>
<td>✤ The Development of “Algebraic” Thinking Final</td>
<td>✤ RR 3 Due: Ch. 12 &amp; 13.1</td>
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<td></td>
<td>✤ Assign Extra Credit ---- Theorem (nice connection between geometry, measurement, and algebra)</td>
<td>✤ Synopsis per group of The Development of Mathematical Thinking – Email by noon Friday 4/18</td>
</tr>
<tr>
<td>4/24</td>
<td>✤ NO CLASS</td>
<td>✤ Standards Project Due to mailbox by 4 PM</td>
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<tr>
<td>5/1</td>
<td>✤ Final exam</td>
<td>✤ Study for final</td>
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<tr>
<td>4-7 PM</td>
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<td>✤ Extra credit due: ---- Theorem</td>
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