Course Title: Mathematics: Development of Mathematical Thinking

Course # and Section: EDEE 323 Section 01

Semester: SPRING 2016

Instructor: Dr. mutindi ndunda
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Tel: 843-953-8046
Meeting Times: M/W 9:25-10:40 AM ECTR 215
Office Hours: M&W: 12-3:30PM or by appointment

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 P-8 students achieve high-quality mathematics instruction.

More specifically, in accordance with South Carolina College and Career Ready Standards for Mathematics (SCCCR) and National Standards for mathematics, 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 and Resources


1 This will be the required text which is accessible online at WebAssign. Access key will be provided
https://ed.sc.gov/scde-grant-opportunities/NewSCStandards.cfm

The text will be used to provide a system for learning the concepts. In addition, we will use online resources to help with
deeper understanding of concepts. Please feel free to look up resources online to enhance your learning. Please remember,
understanding is personal ☺

5. Pbworks- This will be the online interactive site which notifies the user when a message or an item has been posted on the site.
   You will use the site to:
   a) Submit your journals/ reflections
   b) Download course materials that might not be on oaks
   c) Post questions that can be answered by our community.
6. Khan Academy: https://www.khanacademy.org/ This site has many short lessons addressing different math concepts. Please use
   it to review and enhance your math concept understanding.
7. Edmodo. I will use edmodo to post resources/ assignments for you. I will provide the group password shortly.

Outcomes for Candidates:

| TCs (Teacher candidates) will develop the understanding of how students learn to construct mathematical ideas from the concrete early childhood experiences through the development of abstract thinking abilities in young adolescence. | SOE I; NCATE 1; NAEYC 4b; NMSA 1.K1, 1.P2, 1.P4, 5.K4 |
| T Cs 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; NMSA 1.D3, 5.D7 |
| 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 |
| 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; NMSA 4.K2 |
| 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; NMSA 3.K5, 3.D4, 4.P3 |

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\(^2\) Common core math standards have changed “Pursuant to Act 200 passed by the General Assembly and signed by the Governor in June 2014.
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

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; NMSA 1.P6, 5.K8, 5.D5, 5.P4, 6(all)

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

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 SC Standards. SOE II; NCATE 2d; NAEYC 4b; NMSA 4, 6.K5

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 the SC Standards. SOE II; NCATE 2d, 3c; NAEYC 4b, 4c; NMSA 4, 5.K3, 5.P2, 6.K5

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 candidate is preparing. SOE II; NCATE 2d; NMSA 4.K1, 4.P2

Course Assignments:/Evaluation:
It will be possible to earn 500 points during the semester. They will be distributed as follows:
Test (4) 120 (24%)
Comprehensive final test(1) 100 (20%)
Lesson &Class demonstration (1) 30 (6%)
Standards Project 50 (10%)
Homework (5) 90 (18%)
Article critique(1): 50 (10%)
Attendance 30 (6%)
Journals (3) 30 (6%)
Total 500 (100%)

Test:
There will be four tests (6% each) and a final comprehensive test (20%).

Text:
There is a large quantity of excellent information and sample problems in the text. Because it will be impossible to discuss all of these valuable resources in class, *students are expected to read the material and be familiar with the text exercises.*

1. **Reading Checks/ Homework Assignments**
   There will be biweekly assigned chapter readings and activities. The assigned chapters will be content-based math problems and other relevant readings/assignment from the class text and online resources such as edmodo, khan academy and other online resources (ex. Videos) on oaks and or voicethread.
   You will have 5 homework assignments. You will be required to submit the homework assignments on due dates. **You must come prepared to class! Impromptu quizzes will be given to test your knowledge of assigned readings.**

2. **Standards project**
   1. The SCCCR are being called mathematical process standards that demonstrate "the ways in which students develop conceptual understanding of mathematical content and apply mathematical skills. As a result, the SCCCR Mathematical the process standards should be integrated within the content standards for each grade level and course. The process standards drive the pedagogical component of teaching and serve as the means by which students should demonstrate understanding of the content standards.
   2. Format: In grades K – 8:
      - GradeLevel.KeyConcept.StandardNumber (e.g., K.NS.1) or, if applicable,
      - GradeLevel.KeyConcept.StandardNumberStandardLetter (e.g., K.NS.4a)

3. **Mathematically Literate student can/ AKA Process standards**
   1. Make sense of problems and persevere in solving them.
   2. Reason both contextually and abstractly.
   3. Use critical thinking skills to justify mathematical reasoning and critique the reasoning of others.
   4. Connect mathematical ideas and real-world situations through modeling.
   5. Use a variety of mathematical tools effectively and strategically.
   7. Identify and utilize structure and patterns.

   The content standards for K-5 are:

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Grade 1</th>
<th>Grade 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Sense</td>
<td>Number Sense and Base Ten</td>
<td>Number Sense and Base Ten</td>
</tr>
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</tr>
<tr>
<td>Algebraic Thinking and Operations</td>
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<td>Algebraic Thinking and Operations</td>
</tr>
<tr>
<td>Geometry</td>
<td>Geometry</td>
<td>Geometry</td>
</tr>
<tr>
<td>Measurement and Data Analysis</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Sense and Base Ten</td>
<td>Number Sense and Base Ten</td>
<td>Number Sense and Base Ten</td>
</tr>
</tbody>
</table>

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3 These skills are similar to the common core mathematical Practices. The SCCCR explains how these skills look like in practice.
2. Examine and save the standards for K-5 and 6-8 grades. Read the overviews very carefully (pp.1-58).
3. Select two consecutive grade level standards. Example, K and 1 or 2 & 3 or 4 etc. Comment on the coherence of content within the grade levels.

   Example: You can take standards from number sense and base 10 content (K-1)-see specific standards

<table>
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</tr>
</tbody>
</table>

4. Answer the following questions:
   a. List three mathematical content skills & three mathematical practice/process skills that elementary OR middle school teachers need to develop in order to ensure that their students develop procedural fluency, a deep conceptual understanding, and are able to apply their knowledge to solve problems as expected in the SCCCR?
   b. Provide two reasons (in a paragraph format) justifying why the knowledge and process skills you have identified are important.
   c. Identify at least three issues that might hinder the successful implementation of the SCCCR.
   d. Plan a six minute lesson to teach the selected content from the SCCCR. Use the lesson format and rubric provided in this syllabus
      i. For the selected grade level, choose a content area, a domain and one or two standards associated with that grade level.
      ii. Outline the activities that you will engage your students in to develop the skills and practices noted in the SCCCR.
      iii. Use manipulatives/visual models and communication in the lesson. Make sure you use these visuals/manipulatives appropriately.
      iv. Ensure all students are engaged. Please note that calling one student to come to demonstrate their understanding of the problem on the smartboard is good. However, NOT all students are engaged.
      v. Include assessments for the lesson you are teaching. How will you assess your students’ understanding of the concepts that you are teaching? Formal and informal assessments are important.

3. Journal Article Critique. You will write a critique of an article from Teaching Children Mathematics. The college of Charleston library has copies of this journal. Your argument should focus on important contemporary issues in mathematics education relevant to schools in South Carolina. As you may know, 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, as you will see, the journal contains many articles with ideas that are directly applicable to the classroom. Individuals with an interest in upper elementary and middle grades education should also look at Mathematics Teaching in the Middle School (MTMS) and are welcome to complete a critique from an article in that journal. You may join NCTM online at http://www.nctm.org/membership/content.aspx?id=7618. You will be able to receive either journal online.

The objective of having you look at the journals is to get you familiar with them as resources for teaching elementary school mathematics and middle school mathematics. You are to critique an article from either TCM or MTMS. The critique should be from a "main" article -- one that is at least 3 pages long and focuses on an issue (example, math strategies that work etc, this is just an example). There are very many important math issues, best practices etc. (Editorials, reviews, and other short essays are informative but I want you to look at more extensive articles.) The journals are available in the library and you may select any main article from the last 4 years. The May issue each year contains a subject index and you are welcome to select an article on a topic that is of particular interest to you. The critique should be approximately two pages in length (word processed, double-spaced or the hand written equivalent) and focus on a (or the) major issue raised in the article. Remember to clearly state which article you are reviewing and include the volume and issue number of the journal.

Submit your written critique and a copy of the article on dropbox in oaks. Do not email the paper to the instructor. The dropbox has a due date after which you will not be able to submit your assignment.

When reading your critique, I will look for the following three components:

1. A brief summary of the message the author wishes to convey (provide enough detail to allow the reader of your critique to understand your comments – it is better to fully describe key points and omit lesser points than it is to mention lots of points and leave the reader wondering which of those were the most important)
2. Your opinions about the strengths and/or weaknesses of the message (be careful to note which of the comments you make are from the author and which are your reactions to the author)
3. How you will think or teach differently after reading the article (or reasons why the article will have no effect on your teaching).

Grading criteria for this assignment:

**Substance of the critique:**

Does the critique
- show evidence that you have understood the central message contained in the article?
- identify strengths and/or weaknesses in the article, or at least comment on the author’s ability to portray her or his message?
- show in-depth reflection on the author's message and the implications of that message for you?

**Composition skills:**

6
Does the critique
- communicate your ideas clearly?
- contain carefully formed sentences and paragraphs?
- contain a well-structured flow of ideas?

Preparation of manuscript:
Does the critique
- show evidence that you read and carefully revised your work?
- show that you took care to eliminate spelling and grammatical errors?
- indicate care in the general appearance of the paper?

Points will be assigned as follows:
1. 31-32 points: An unusually insightful critique which includes a very clear summary, easy to follow reaction to the key points, and clear, honest commentary about the implications of the article for you.
2. 29-30 points: A thoughtful and carefully prepared critique showing some very keen insights and reflections.
3. 27-28 points: A well prepared paper that captures the essence of the ideas in the manuscript and provides reasonable reaction to them.
4. 25-26 points: A critique which is on the right track but misses important details or shows only minimal insight into the implications of the article.
5. 12 or fewer points: A critique that fails on more than one of the above criteria.
4. **Lesson Presentation**

Plan a short lesson (5 minute maximum) to teach your peers. This should be presented as you would teach it to the students in the selected grade cluster. Plan to organize and implement the lesson using all of the appropriate materials necessary.

**Lesson plan Format**

Name___________________________________  
Date_________________  
Grade level__________

**Standards:** Clearly state the domains, standards and clusters that are being addressed (using the state of South Carolina College and Career Ready Mathematics Standards).

**Concepts and Mathematical practices:** Clearly state the concepts/skills and mathematical practices that the lesson will address and or enhance.

**Source of idea:** Textbook or resource used for your lesson.

**Objective:** Clearly state what students will be able to do at the conclusion of the lesson.

**Materials:** List all manipulative, tools, or other materials needed by the teacher and by the students.

**Motivational activity:** Describe the introductory experience that will quickly engage students in the lesson.

Possible activities: a real word problem that connects topic to something relevant; questions: What if? What if-not? Ex. Tell me everything you know about quadrilaterals. **Be creative and/Look up other ideas online.**

**Main lesson activity:** Describe the significant elements of the lesson. Include what you will be doing (including examples you plan to use), what the students will be doing, and what mathematical concepts you will be addressing.

**Assessment activity:** Describe/provide assessments (at least two) formal and informal that you will use to assess students’ achievement of the goals/objectives.

**Closing activity:** Describe a summarizing experience that will enable the students to consolidate what they have learned and for you to determine the extent to which they have achieved your objective.  ). **Note:** Each lesson should actively involve the students.
SPRING 2015

Lesson Plan

**Scoring Form**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Date</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Name</td>
<td>Name</td>
</tr>
</tbody>
</table>

Lesson Plan

1. Grade level (1p) 
2. Standards/benchmarks (3p) 
3. Content & Objectives (2p) 
4. Materials (2p) 
5. Motivational activity (2p) 
6. Lesson body (4p) 
7. Assessment(s) Appropriate (4p) 
8. Closing activity (2p) 

**Total** (20p)

Teaching experience

1. You arrived in the classroom on time. (2p) 
2. You exhibited familiarity with the lesson plan. (4p) 
3. You exhibited knowledge of the content. (5p) 
4. Materials were attractively prepared and/or well organize. (4p) 
5. Students were actively involved in the lesson. (8p) 
6. Students were engaged in mathematics for the time allotted. (8p) 
7. You continuously assessed students understanding (5p) 
8. You exhibited enthusiasm and interest in students’ learning. (4p) 
9. You were able to ask good questions of the students. (3p) 
10. Your instructions for the students were clearly articulated. (3p) 
11. You displayed professional behavior. (4p) 

**Total** (50p)
5. Homework:
There will be 5 HW covering the material assigned; some of which will be done during the class time.

6. Journals:
You should maintain a journal throughout the semester. The journals should be posted before the beginning of the class on the class wiki.

7. Tests:
You will have 4 tests and one final test. Tests will be based on content for the Praxis as well as warm-ups, content, class discussions, the NCTM and SC Standards, and any other material designated by the instructor.

Due Dates: All assignments must be turned in at the beginning of class and/or online through WebAssign or On OAKS on the due dates. Late assignments will be assessed a penalty of one letter grade per 24 hours they are late. DO NOT give assignments to School of Education personnel. No credit will be given for homework assignments completed during class time UNLESS the homework is to be completed in class. Assignments will NOT be accepted via email.

EDEE/TEDU Attendance Policy
- Allowable absences: 3 absences
- Students will be tardy if they arrive in class within the first 10 minutes after class has started.
- Three tardies result in one absence.
- Students will be absent if they arrive after 10 minutes or if they leave class early for any reason.
- Students who exceed allowable absences will be dropped with a WA. WA becomes an F on a transcript.
- 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 must see the professor within the first two weeks of the course if they wish special accommodations.
- 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: You 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. Electronic guidelines may be found on Web. The Owl at Purdue is an excellent APA resource. http://owl.english.purdue.edu/owl/resource/560/01/ The Writing Lab is located on the first floor of Addlestone Library (M-R: 9 to 9 and F: 9 to noon). Further, it is imperative that you use correct grammar in all oral communication, especially during field experience. Classroom teachers, your student peers and I will all collaborate to eliminate all oral grammatical errors, using an approach of constructive criticism.
### Evaluation Scale

<table>
<thead>
<tr>
<th>Letter Grades</th>
<th>Percentage Range</th>
<th>Grade Points</th>
<th>Letter Grades</th>
<th>Percentage Range</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
<td>4.0</td>
<td>C</td>
<td>79-81%</td>
<td>2.0</td>
</tr>
<tr>
<td>A-</td>
<td>91-92%</td>
<td>3.7</td>
<td>C-</td>
<td>77-78%</td>
<td>1.7</td>
</tr>
<tr>
<td>B+</td>
<td>89-90%</td>
<td>3.3</td>
<td>D+</td>
<td>75-76%</td>
<td>1.3</td>
</tr>
<tr>
<td>B</td>
<td>86-88%</td>
<td>3.0</td>
<td>D</td>
<td>72-74%</td>
<td>1.0</td>
</tr>
<tr>
<td>B-</td>
<td>84-85%</td>
<td>2.7</td>
<td>D-</td>
<td>70-71%</td>
<td>0.7</td>
</tr>
<tr>
<td>C+</td>
<td>82-83%</td>
<td>2.3</td>
<td>F</td>
<td>≥69%</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**CofC Honor System:** Academic honesty and integrity are highly regarded in this class and are assessed on several levels. As a student at the College of Charleston you have agreed to uphold the policies outlined in the Student Handbook: A guide to civil and honorable conduct both in your coursework and as a representative of the College in field experiences and clinical practice situations. Violations to the Code of Conduct outlined on pages 10-11 in the Student Handbook will be reported to the Honor Board. Additionally, violations may affect course grade. As EDEE is a dual program, in that we recommend candidates for teacher certification, professors reserve the right to document violations that would impact student certification (e.g., attendance problems in field experiences and clinical practice, professionalism in schools).

**ADA Accommodations:** In compliance with the Americans Disabilities Act (ADA), all qualified students are entitled to “reasonable accommodations.” The instructor must be notified during the first week of class of any accommodations needed.

**Course Outcomes:** All teacher preparation programs in the School of Education (SOE) are guided by a commitment to Making the Teaching Learning Connection through three Elements of Teacher Competency which are at the heart of the SOE Conceptual Framework: 1) understanding and valuing the learner, 2) knowing what and how to teach and assess and how to create an environment in which learning occurs, and, 3) understanding themselves as professionals. These three competencies underlie all learning and assessment in this course, helping you develop the knowledge, skills, and dispositions necessary to become an effective teacher.

Course outcomes are derived from the standards set forth by NCME (National Council of Measurement in Education). The standards listed in parentheses at the end of each course outcome relate to those of the SOE, NAEYC (National Association for the Education of Young Children), NCATE (National Council for the Accreditation of Teacher Education), and NMSA (National Middle School Association). These standards define, respectively, expectations for the School of Education, early childhood teachers, elementary teachers, and middle grades teachers. The following outcomes are organized by the Elements of Teacher Competency:
**Course Requirements:**

<table>
<thead>
<tr>
<th>1. Demonstration of SOE Dispositions and how they are expressed in this course:</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Belief that all students can learn (participation and attitudes expressed about students and learning)</td>
</tr>
<tr>
<td>● Value and respect for individual differences (inclusions/accommodations included in unit and plans)</td>
</tr>
<tr>
<td>● Value of positive human interactions (participation in class, group discussion &amp; other collaborative work)</td>
</tr>
<tr>
<td>● Exhibition and encouragement of intellectual curiosity, enthusiasm about learning, and willingness to learn new ideas (participation in class and group discussions; performance on formative and summative assessments)</td>
</tr>
<tr>
<td>● Dedication to inquiry, reflection, and self-assessment (performance on formative and summative assessments; active participation in class and group discussions)</td>
</tr>
<tr>
<td>● Value of collaborative and cooperative work (provision for thoughtful, constructive critiques of others’ work)</td>
</tr>
<tr>
<td>● Sensitivity toward community and cultural contexts (inclusions &amp; modifications of lessons &amp; in long and short range plans)</td>
</tr>
<tr>
<td>● Engagement in responsible and ethical practice (performance on formative and summative assessments)</td>
</tr>
<tr>
<td>● Development of professional mastery over time (performance over time on formative and summative assessments)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Completion of all assigned readings and projects/assignments on time</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Responsibility for all course content (lecture, text, outside reading, handouts, research)</td>
</tr>
<tr>
<td>4. Responsibility for all missed assignments/notes from someone in class, not the instructor</td>
</tr>
</tbody>
</table>

<p>| 5. Utilization of internet, word processing, email (edisto account). Computer applications are available in the cofc managed computer labs located in Education Center, library, and other campus sites. Please consult with instructor to arrange tutoring if you are unfamiliar with any of these applications. |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading/ Texts</th>
<th>Assignment and due dates</th>
</tr>
</thead>
</table>
| Jan 11    | • Introductions to EDEE 323-review. Go over assignments for clarification  
            • Beliefs about mathematics and how they compare to the mathematical practices those students should develop.  
            • Math anxiety article by Sparks (2011) Join Class wiki on pbworks | Bassarear & Moss Text  
            O’Daffer et al & Principles and Strategies (available on OAKs)  
            Detailed discussion of assignments/expectations  
            Discuss Articles on beliefs and attitudes about mathematics and on math anxiety—adaptive and maladaptive beliefs  
            Read Bassarear chapter 1 and complete beliefs table 1.1 (p.2) | Journal#1  
            Post on wiki- 2-3 paragraph about your beliefs about math and how they influence your learning & teaching. Give at least two strategies that you will use to change these beliefs for yourself & your students (be brief) |
| Jan 13    | Standards-based Mathematics: National Council of Teachers of Mathematics Standards (NCTM) and South Carolina College and Career Ready Mathematics standards | Chap. 1. A vision of school mathematics-pp. 1-8 (available on OAKs)  
            1. Why learn mathematics?  
            2. Why are standards important  
            Principles to actions: ensuring mathematical success for all (p.6-52) | Journal #2  
            a) Briefly describe two main opportunities and (2) challenges of implementing the SCCCR.  
            b) Begin working on Journal Article Critique  
            c) Download the South Carolina College and Career Ready state standards for mathematics |
| Jan 18    | Martin Luther King Jr. Holiday—No classes                                                                                                                                  |
| Jan 20    | Foundations for learning mathematics                                                                                                                                          | Read Bassarear Chapter 1: HW#1 (Start work in class)                             |
| Jan 25    | Sets and numerations number operations                                                                                                                                           | Read Bassarear Chap. 2 Sections  
            2.1 & 2.2                                                                 | HW#1 due  
            Find article to critique                                                                                         |
| Jan 27    | Addition and subtraction and properties  
            • Base ten blocks  
            • Mental math                                                                                                       | Read Bassarear Chap 3 section 3.1  
            & 3.2  
            Start working on HW#2                                                                                                 | Begin Work on lesson  
            Journal #2 due (see above for description)                                                                          |
| Feb 1     | Multiplication and division and properties                                                                                                                                       | Read Bassarear Chapter 3 sections  
            3.3 and 3.4                                                                                                           | HW#2 due |

Please note that the schedule is subject to change
### Mental math

**Feb 3-Feb 8**
Understanding integers: operations and properties
- Addition, subtraction and order properties
  - Modeling with counters and charged fields
  - Multiplication & division: modeling with counters/charged fields/numberline

Read O’Daffer et al Chap 5. section 5.1 & 5.2

*Article Critique Due*

**Feb 10**
**Test #1**

**Feb 15**
- Multiplication and division with manipulatives (base ten blocks, counters)
- Standards Project-review

Read O’Daffer et al Chap 3 section 3.4

**HW#3**

Draft of standards project-to be shared in class

**Feb 17**
Number theory—
- Factors & divisibility
- Prime and composite numbers
  GCF & LCM

Read O’Daffer et al Chapter 4

**Due HW# 3 due**

**Feb 22**
*Number theory
*Prime and composite numbers GCF & LCM (continued)

Read O’Daffer et al Chap. 4

**Review for Test #2**

Review for test #2 individually or collectively. Post any questions on pbworks

**Feb 24**
**Test #2**

**Feb 29**
Standards project

Work on the project in your groups

This work will be done in class

### March 6th to March 13th: Spring Break

### Mar 14 ONLINE IN OAKS
Rational number operations
- Adding & subtracting fractions.
- Base ten blocks/pattern blocks

Read O’Daffer et al Chapter 6: 6.1 & 6.2 &
Read Bassarear Chapter 4 sections 4.1 and 4.2 (Bassarear)

Watch Videos on OAKs

### Mar 16 ONLINE IN OAKS
Rational number operations:
- Multiplying & dividing fractions
- Operations with decimals
- Comparing, ordering and connecting rational numbers
- NO FACE TO FACE CLASS

Read O’Daffer et al Chapter 6 section 6.4 & 6.5
Read Bassarear Chapter 4 section 4.3 & 4.4

Online Quiz (HW#4) to be taken after online instruction. The quiz will be available to you only after you have viewed the videos. It is available for a limited time!
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 21</td>
<td>Ratio and Proportion, Percentages, Review for test #3</td>
<td>Read Bassarear Chapter 5 section 5.1 and 5.2</td>
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<tr>
<td>Mar 23</td>
<td>TEST #3</td>
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<tr>
<td>Mar 28</td>
<td>Lesson presentation in groups</td>
<td>All lessons will be presented this day. Prepare a five min. lesson</td>
<td>Standards project check</td>
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<tr>
<td>Mar 30</td>
<td>Geometry as shape, basic ideas and building blocks: Points, segments &amp; lines Angles Measurements—systems of measurements</td>
<td>Read Bassarear Chapter 8 section 8.1 Read Bassarear Chapter 9 section 9.1</td>
<td>Standards project check</td>
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<tr>
<td>Apr 4 &amp; 6</td>
<td>Geometry as shape: 2-dimensional figures and measurements Area and perimeter Geometer Sketchpad (Lab) and or Geoboard</td>
<td>Read Bassarear Chapter 8 sections 8.2 &amp; Read Bassarear Chapter 9 section 9.2</td>
<td>Standards project check</td>
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<tr>
<td>Apr 11 &amp; 13</td>
<td>Three dimensional figures and measurements Polyhedra, prisms, cones, spheres Surface area and volume</td>
<td>Read Bassarear Chapter 8 section 8.3 Read Bassarear Chapter 9 section 9.3 HW#5 (start working on it)</td>
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<tr>
<td>Apr 18</td>
<td>Transformations Data &amp; chance</td>
<td>Read Bassarear Chapter 10 section 10.1 Read Bassarear Chapter 7 section 7.1</td>
<td>HW#5 due</td>
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<td>Apr 18</td>
<td>Course Evaluations (20 minutes)</td>
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<td>Apr 20</td>
<td>Algebraic thinking, Review for Test #4</td>
<td>Read Bassarear Chapter 6 section 6.1</td>
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<td>Apr 25</td>
<td>TEST #4</td>
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<td>Date</td>
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<td>Apr 27</td>
<td>• Standards Project presentation (in groups)</td>
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<td>• Overall course review and review for final test</td>
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<tr>
<td>TBA</td>
<td><strong>Final Exam</strong></td>
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<td>(8:00 AM-11AM) Room</td>
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