**AUBURN UNIVERSITY**

**SYLLABUS**

1. **Course Number: CTEE 4040**

**Course Title: Curriculum Mathematics**

**Credit Hours:** 3 semester hours

**Pre/ Co-requisites:**  This section is restricted to Elementary Education majors enrolled in CTEE 4030: Natural Science

1. **Term** Summer 2018

**Day/Time** See Attached Schedule

**Room:** HC 2414

**Instructor** Dr. Megan Burton

**Office Address** 5020 Haley Center

**Contact Information (phone, e-mail)** 844-8141, megan.burton@auburn.edu

**Office Hours** Before and after class and by appointment

1. **Texts or Major Resources:**
2. **Required Texts:**  [**Elementary and Middle School Mathematics: Teaching Developmentally, Enhanced Pearson eText with Access Card, 9/E**](http://www.pearsonhighered.com/educator/product/Elementary-and-Middle-School-Mathematics-Teaching-Developmentally-Enhanced-Pearson-eText-Access-Card-9E/9780133999020.page)Van de Walle, Karp & Bay-Williams

**Required Materials**

Composition notebook,  school pouch with supplies (tape, mini-scissors, markers, pencil, black ink pen, white out, markers, index cards), COE name-button *[LRC for buttons.]* Materials needed to construct instructional charts, games, and other teaching resources.

**Alabama Course of Study 2016**

<https://www.alsde.edu/sec/sct/COS/2016%20Revised%20Alabama%20Course%20of%20Study%20Mathematics.pdf>

1. **Course Description:** Pedagogical content knowledge, principles, and standards in the major concepts and modes of inquiry for integrated study of mathematics for elementary learners. During this course the students will participate in part of the AMSTI precertification training for schools in the state of Alabama.
2. **Student Learning Outcomes:**
3. **Goal:** To critically analyze curriculum and the process of teaching and learning mathematics in the elementary grades.

**B. Objectives:** Student learning outcomes (SLO) for elementary education majors are based on the Alabama Quality Teaching Standards [state standards] (AQTS) and the Association of Childhood Education International (ACEI) [national standards]. After the completion of the course and the clinical based lab, the pre-service teacher should:

1. know, understand, and use the major concepts and procedures that define numbers and operations, algebra, geometry, measurement, data analysis, and probability. In doing so they will engage in problem solving, reasoning, proof, communication, connections, and representation. This includes understanding current reforms efforts and technological resources that enhance the learning experience for K-6 students. (AQTS 1.A 1, B. 1; 4.A. 3) (ACEI 2.3)

2. Have knowledge of techniques for using manipulative materials and play as instruments for enhancing development and learning. Recognize and develop lessons that use techniques such as mathematical recreation, manipulative materials, and technology to enhance development and learning. (AQTS 1.A v, 1.B. iii) (ACEI 2.3, 3.1)

3. demonstrate in-depth knowledge and understanding of how the major concepts and themes of mathematics are integrated across academic fields (AQTS 1.A v, 1.B. iii) (ACEI 2.3, 3.1)classroom that reflect meaningful mathematics and build on prior knowledge.

4. plan and implement engaging learning experiences based on the Alabama Course of Study for Mathematics and the National Council of Teachers of Mathematics standards in which K - 6 students are challenged to problem solve, analyze, and evaluate real world situations and are able to demonstrate their competence and build on prior knowledge. (AQTS 1. A. ii, iii,iv,v; B. ii,iii; 2.A. v, vi, vii) (ACEI 2.3, 3.3., 3.4)

5. use the major concepts and modes of inquiry from mathematics to promote elementary students' abilities problem solve, reason, communicate mathematically, make connections and represent their thinking in a clinically based lab placement (AQTS 4.A. iii, iv, v) (ACEI 2.3)

6. Recognize the importance of communication skills in themselves and in the children they teach, including strategies for reasoning, problem solving, inquiry and debate in new settings in a clinically based lab placement (AQTS 2.D. i, ii, vi, vii, ix, x; 3.A v, vi, vii) (ACEI 2.3)

7. plan and implement a variety of individual and group activities that emphasize student participation. Plan and analyze appropriate assessments in order to monitor K-6 student learning and progress (AQTS 2.E.i, ii, v, vii, viii, ix, x, xi)(ACEI 4.0)

8. demonstrate an understanding of the teaching professional codes of ethical conduct (AQTS 5.E. i, ii, iii, iv F.i, ii, iii, iv) (ACEI 5.1)

9. reflect on their own teaching practices and consult with other professionals in order to grow professionally (AQTS 5.B iv, v, vi, vii) (ACEI 5.1)

10. Use clinical based lab placement's observation and practice of teaching and learning as a basis for experimenting with, reflecting on, and revising professional practice (AQTS 2.D. v, vi, vii, viii, ix, x) (ACEI 5.1)

1. **Course Content Outline: *Instructor reserves the right to change schedule/ modify experiences***

**\* All homework listed is due at the beginning of the class period.**

* May 17 AMSTI All Day 8-3:30
  + *HW- Read chapter 2 & 4 Bring composition book, 2” binder, & supply pouch*
  + *Write in your journal 2 entries with a paragraph which describes 3 big “take aways” from each chapter. This can be things you learned, wonder, question, disagree with, want to remember, etc..*
* May 18 AMSTI All Day 8-3:30
  + *HW- Read chapter 3 & 6*
  + *Write in your journal 2 entries with a paragraph which describes 3 big “take aways” from each chapter. This can be things you learned, wonder, question, disagree with, want to remember, etc..*
* May 21 AMSTI All Day 8-3:30
  + HW read chapter 5 & 7
  + *Write in your journal 2 entries with a paragraph which describes 3 big “take aways” from each chapter. This can be things you learned, wonder, question, disagree with, want to remember, etc..*
* May 23-8-11am -Introductions, Teaching Principles & Standards & Literature &

Data Analysis & Geometry

* + HW read chapter 20 & 21
  + *Write in your journal 2 entries with a paragraph which describes 3 big “take aways” from each chapter. This can be things you learned, wonder, question, disagree with, want to remember, etc..*
* May 24 12-3:00 Number sense, Counting, Computation, and math games
  + HW Read chapter 8, 9, or 10 (Early number sense- Fact Fluency) assigned in class. Also Watch the video Mingle and Count from Teachingchannel.com*.*
  + *Write in your journal what resonated with you from each of the sections in your chapter. This could be a question, observation, concern, disagreement, or "ahaa" moment. This can be things you learned, wonder, question, disagree with, want to remember, etc..*
  + *Write one thing that resonated from the video*
* May 29 8-11 Place Value, Manipulatives, and Lesson Planning
  + HW Read chapter 11 (Place value)
  + *Write in your journal what resonated with you from each of the sections in your chapter.*
* May 30 STEM PD 8-3
* May 31 STEM PD 8-3
* June 1 STEM PD 8-3
* June 4 12-3 Strategies for Computation and Lesson Planning
  + HW Read chapter 12 or 13 (Computation)
  + *Write in your journal what resonated with you from each of the sections in your chapter.*
* June 6 8-11 Measurement: Time and Money, Differentiation
  + HW Read chapter 19
  + *Write in your journal what resonated with you from each of the sections in your chapter.*
* June 7 12-3 Fractions Chapter 15
  + HW Read chapter 15
  + *Write in your journal what resonated with you from each of the sections in your chapter.*
  + Due on Canvas by 5pm- **Take Home** **Pedagogy test** **Part 1**
* June 8 Orientation/ Camp Set Up 8-3
* June 9 (SAT) Robot Exploration 8-2
* June 13 1:30-3 Math Games
  + **Math Games Due**
* ***\*\*\*\*\*\*\* Elementary Camp June 11-29 \*\*\*\*\*\*\*\*\*\*\*\****
* ***\*\*\*\*\*\*\* Teaching 7:30-12 & Class 1:30-3:00\*\*\*\*\*\*\*\*\*\*\*\****
  + **Lesson plans/ observations are due during camp**
* June 18- 1:30-3 Fractions
  + HW Read chapter 16
  + *Write in your journal what resonated with you from each of the sections in your chapter.*
* June 21 1:30-3 Decimals and Percents
  + HW Chapter 17 (Jigsaw)
  + *Write in your journal what resonated with you from each of the sections you were assigned*
  + **Journal Due**
* June 26 1:30-3 Pulling it together
* July 2 Due on Canvas by 5pm- **Take Home** **Pedagogy test** **Part 2**
* July 9 ZOOM Conference Debriefing (this will not be a time to discuss assignments, because it will pulling together the entire summer and all 3 courses). Questions about assignments need to be addressed by contacting individual professors at least 2 days prior to assignment due date.
* **Lesson Plan, lesson plan reflection, and kidwatching reflection are all due on Canvas July 13 by 5pm**

1. **Assignments/Projects:**

**1. Class Activities, Field Placement:** This course is designed to allow opportunities to ask questions, contribute to class discussion, and share relevant experiences. Therefore, *participation and professionalism are extremely important.*  Requirements for acceptable participation include prompt, timely, and consistent attendance; attentiveness; verbal contributions to small group and whole class discussions; reflection of a positive attitude about learning and class participation; and respecting and supporting the needs of others, including the professor. Participation includes completing all assignments which facilitate the class and or cohort experience including displaying materials, sharing teaching ideas and examples of classroom incidents, writing productively and correctly in all written assignments, and bringing in other materials/information as requested.  Actively participate in class in ways that reflect your preparation including thoughtful completion of required readings. At times this may also involve assignments that you need to complete during your fieldwork and bring back to class. Information about each assignment will be shared in class. You will also complete math journal entries that are related to your experiences in the field, readings, activities, and class discussions. They are designed to help you make connections between the readings, mathematical content and your fieldwork.

In addition, you will be responsible for the curriculum, lesson planning, teaching and assessing of students during elementary camp. You must demonstrated the professional dispositions, an understanding of the content, an understanding of pedagogical content knowledge, the ability to learn from constructive feedback, the ability to work with colleagues, peers, & supervisors, and an ability to effectively support the diverse students in your classroom.

**2. Student Mathematics Games (June 13):** Games develop familiarity with the number system, provide opportunity for practicing computation, encourage strategic thinking, develop fluency with numbers, allow students to communicate with each other, and provide a school to home link. While students play games, the teacher is free to observe student’s work or to work with few students individually. You will find 2 math games according to constructivist guidelines developed by Kamii (2000) that are based on the computational skills needed in your grade level. These games must be able to be played with 2-4 players independently, without a student serving as “teacher” instead of player. These games should have a way to win and an element of chance (so the fastest child or student strongest with content doesn’t always win). These games may deal with numbers, place value, addition, subtraction, multiplication, division, or fractions. You will then prepare two copy of both games (for a total of 4 games) with all materials and clear directions included. You will bring all games to class, because you will be using them during summer camp if they are approved.  Because you will use these games in your summer classroom, you will write a 4 paragraph description of for each game sharing how it could be used in the camp. Share a summary, the purpose, how your will introduce the game to the class, how you will first implement it, and how you will close the lesson the first time they play the games (the two summaries may be very similar). **You will post this reflection on Canvas before class June 13.**

Summary:

1) Bring two copies of both games along with directions and materials to be played in class.

2) Post summaries for implementing both games in Canvas under Assignment.

**3. Lesson Plans and observations (Due during camp)-** Many of your lesson plans for summer camp may be write as a group. However, you are responsible for clearly identifying what portion of the work, research, and writing you did. In addition, you will be responsible for clearly identifying what portion of the teaching you are doing. It is essential that you are teaching and contributing to planning at a balanced and appropriate weight to that of your peers. Be sure to list a specific way you can assess how every student did on the objective that is measurable. Also include a brief reflection of a concern you have about implementing this lesson. *Highlight elements that you taught related to mathematics and your reflection related to mathematics in green. When observing students and teachers, provide concrete specific examples that relate to mathematics. Highlight these notes in green.*

**4. Lesson Plan and Lesson Plan Reflection (due July 13 at 5pm)-** You will reflect upon the success and challenges of your lesson. What went well? Cite specific student examples to support this. What would you change about the lesson? Using specific student examples is important. You may include photographs or samples of student work. *You will need to create a chart or table demonstrating student achievement on your assessment*. Use your observation forms, your own reflections, anecdotal notes, and data to support your perspectives. Share what the most difficult part of teaching this lesson and gathering data was for you. Identify a small group that you would like to follow up for future instruction (based on data taken during the lesson). This group could be for remediation or to extend the lesson, but you need data to support why you are pulling this group. Write a brief reflection of what content you would address with the small group. See rubric on Canvas to guide the planning and reflection for this assignment.

**5. Math Journal (due June 21 in class)**- During this class you will be required to keep a math journal. This will contain notes from class as well as homework assignments. You will keep this journal with you whenever you come to class or summer camp. Dr. Burton will score the readings and notes taken before summer camp begins. Therefore you will bring your journal to camp and she will circulate between rooms during this time to score journals.

In addition, during camp you will collect anecdotal notes about the role of planning, teaching, and observing. This can include elements that don’t directly relate to mathematics (such as car line), but you should have at least 1 reflection each day related to mathematics (things you observed from students, peers, you found in planning, etc..). When in the classroom, take notes of the ways students think about the math, their reactions to assignments/ activities, the ways they communicate about mathematics, how they use manipulatives, and how they think about different mathematical problems. You will also complete various assigned activities related to student thinking, such as an interview/ reflection (when you are not teaching), discussions with your peers about these students, a lesson observation, an observation during independent work, etc.. Refer to the rubric on Canvas for specific scoring criteria (specific student examples, references to literature, etc…). Remember to avoid being general, show that you can communicate as a professional teacher.

**6. Math Pedagogical Content Knowledge Test (In class June 7 and July 2):** By the end of this course, you should have a firm grasp of the pedagogical content knowledge that you will teach. This course is designed to build upon this and help you see how children understand and develop awareness of mathematical skills. Research shows that in order to effectively teach elementary mathematics, you must have conceptual understanding (Ball, 2006). This test will demonstrate your understanding of common elementary strategies and representations related to teaching mathematics.

1. **Kidwatching reflection (Due July 13 at 5pm)-** During the time you are watching students, you will focus on how they think, work together, problem solve, work through confusions, etc… This includes strategies, specific conversations, use of manipulatives, confidence, attitudes, etc… You will write a reflection about what you learned about 2-3 students as a mathematician from this experience. Cite specific examples to support your conclusions. While you may bring in instances beyond those recorded on your student observation form and student work from that time, you must focus on the specific examples, data and artifacts you collected during that time.
2. **Lab Professionalism and Observation Forms:** Document your attendance, professional dispositions, and planning and teaching abilities for summer camp (your field placement). You must meet professional expectations in the field in order to pass this course. You must also demonstrate your abilities in teaching at the emerging level (Approaching Competency) on all standards in order to pass this course. ***See the Laboratory Placement Handbook for details.*** Field experience hours in this course are linked to certification standards. You must complete the minimum number of field experience hours as stated in laboratory handbook to receive credit for this course.

\*\* The only electronic forms for placement are the weekly forms and preplanning portions of teaching artifacts and lesson plans before they are taught

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| **Date Due** | **Requirement** | **Value** |
| All class sessions | Class Activities, professionalism, & field placement | 10 points |
| June 7 | Pedagogy Test 1 | 10 points |
| June 13 | Math Games Assignment | 10 points |
| June 21 | Journal | 20 points |
| During Camp | Lesson Plans, Student Observations, Teacher Observations | 10 points |
| July 2 | Pedagogy Test 2 | 15 points |
| July 13 5pm | Lesson Plan and Lesson Plan Reflection | 15 points |
| July 13 5pm | Kidwatching and Kidwatching Reflection | 10 points |
|  | **Total** | **100 points** |

**^All assignments must be completed in order to get credit for this course, even if turned in late for less credit.**

**\*Students MUST have satisfactory marks on all areas of the COURSE AND FIELD PLACEMENT by the end of this course in order to receive credit for this course.** Students will be counseled throughout the course by written notification (email), and for more serious matters in person (signed letter or contract), if they are not meeting SATISFACTORY expectations on indicators before the end-of-course conference.

\*\*Meeting weekly attendance, planning, teaching, and professional dispositions in the classroom is required for all field students in this course to show readiness for internship. Students who are not continuously meeting all of these expectations may fail their lab placement and this course. **See Lab Placement Handbook.**

\*\*\*Students must meet the total required lab hours and Standards on the *Final Lab Placement Form* in order to pass this course. **See Lab Placement Handbook.**

* Use of *Canvas* system, internet, and email for communication and instruction. All assignments must be submitted in either rich text or Microsoft word format unless directions were given to use PowerPoint or Excel. It is the students’ responsibility to check the assignment, once submitted, to ensure it went through properly. Please save all files with your last name and assignment type in the filename.
* Students will be expected to demonstrate basic skills in reading, writing, speaking, and mathematics. Assignments that have multiple mathematical, grammatical, or spelling errors will have to be revised correctly at a letter grade point loss.
* Graded course assignments are due on the assigned date and must be completed in a thorough manner. Major assignments that are incomplete or not done on time will lose points equal to one letter grade for each day late up to three days. All assignments must be completed, whether or not credit is given, in order to pass this course. **Late weekly assignments will not receive credit.**

1. **Rubric and Grading Scale:**

All rubrics are posted on Canvas. The Auburn Standard Grading Scale will be used to determine grades for this course.

A   =  90-100          B   =  80-89           C   =  70-79

D   =  60-69            F    =  below 60 points

1. **Class Policy Statements:**
2. Participation: Students are expected to participate in all class discussions and participate in all exercises. Assignments are due on announced dates. Unexcused late assignments are unacceptable. It is the student’s responsibility to contact the instructor if assignment deadlines are not met. Students are responsible for initiating arrangements for missed work. Students must satisfy all course objectives to pass the course.
   1. **At one absence from class students will be required to meet in conference to discuss continuing in this course.** [See Lab Manual for similar lab attendance policy]. With the limited number of classes each absence is essentially 2 class periods missed. Students will be counseled and placed on an attendance contract in order to continue in the course. Expected professional dispositions and performance competencies in this field-based course require students to meet attendance requirements.
   2. Five points will be deducted from the final grade for any unexcused absence from class or lab. Ten points will be deducted for missing a full day math class. **At 2 unexcused absences students will be referred to the Office of Student Affairs to be withdrawn from the course.** Three unexcused tardies will be counted as one unexcused absence. Leaving class early counts as an absence without prior (not same day) approval.
3. **Excused Absences**:  Students are granted excused absences from class for the following reasons:  Illness of the student or serious illness of a member of the student’s immediate family, the death of a member of the student’s immediate family, trips for student organizations sponsored by an academic unit, trips for University classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays.  Students who wish to have an excused absence from this class for any other reason must contact the instructor in advance of the absence to request permission.  The instructor will weigh the merits of the request and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence.  Appropriate documentation for all excused absences is required. Please see the [Student Policy eHandbook](http://www.auburn.edu/student_info/student_policies/) for more information on excused absences (<http://www.auburn.edu/student_info/student_policies/>).
4. **Make-Up Policy:**Arrangement to make up missed major examination (e.g. hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week from the end of the period of the excused absences.  Except in unusual circumstances, such as continued absence of the student or the advent of University holidays, a make-up exam will take place within two weeks from the time that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.  The format of the make-up exam will be (as specified by instructor).
5. **Disability Accommodations:** Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. To set up the meeting, please contact the instructor by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).
6. Honesty Code:  All portions of the Auburn University student academic honesty code (Title XII) found in the [*Student Policy eHandbook*](http://www.auburn.edu/student_info/student_policies/) will apply.  All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee. Some assignments will involve integrating readings & websites into your reflections & lessons. **Plagiarism is the act of representing words, data, works, ideas, computer program or output, or anything not generated by the student as his or her own.** Plagiarism may be inadvertent or purposeful; however, plagiarism is not a question of intent.  Please be sure to cite any outside sources used in work.  Also all work is to be done individually unless otherwise specified. All submitted assignments are subject to a plagiarism check.
7. Course contingency: If normal class and/or lab activities are disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, and addendum to your syllabus and/or course assignments will replace the original materials.

*In addition to the university recommended statements noted above, College of Education syllabi are to include the following statement:*

1. Professionalism: As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College’s conceptual framework. These professional commitments or dispositions are listed below:

* Engage in responsible and ethical professional practices
* Contribute to collaborative learning communities
* Demonstrate a commitment to diversity
* Model and nurture intellectual vitality

     Each student is expected to exhibit courteous, mature, responsible, and professional behavior. This includes not texting messages during class, doing work for another class, and talking when someone else – a peer or instructor – is speaking. Students are expected to participate in all class discussions, exercises and readings. It is the student’s responsibility to contact the instructor if assignment deadlines are not met.  Students are responsible for initiating arrangements for missed work.

Teaching is a field that requires professional reading and reflection. Your thoughtful reading before class, your engaged participation in class discussions and activities, and the positive stance you take in interacting with your instructor and with others in the group are expected. Attend carefully to class presentations and discussions.  Professionalism is more than just showing up for class.  In this course you will be expected to treat the others in our group with respect and to support their successes. Respect does not mean always agreeing with others.  It means actively and courteously listening to what others say and responding with your own perspective.  It means taking an active role and enhancing others’ thinking by sharing your own rough draft thinking as it develops, and by clarifying the reasons that you might “agree to disagree” with others.  Developing strong relationships with colleagues is one of the most important things we do as a teachers.

Cell phones, laptops, and personal iPads need to be turned to off during class and lab experiences unless otherwise instructed by the professor. Smart watches should only be used for time, recording steps, and a calculator unless otherwise approved. If technology becomes a distraction, the student will no longer be allowed to bring it toclass. In addition, students should not work on university course assignments that are not field based during their lab experience. During lab experiences students are expected to be fully and actively involved in the classrooms in which they are placed.